THE UNIVERSITY of EDINBURGH
Estates Department



Estates Design Guidelines No. 18

Asset Management

Important Comment on Estates Design Guidelines, Assets & Standards

These Design Guidelines, Assets and Standards and the associated suite of documents have been produced in order to furnish external design consultants and contractors with guidance on required University standards for inclusion within their proposed project design.

These guidelines are to be used as supplementary information during project design stage, and as such, detail the minimum standards expected from the University Estates Department.

Please note, these guidelines do not absolve the project design team including, sub-consultants and sub-contractors of their legal and contractual obligations under, design liability, statutory regulations and health and safety legislation.

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Estates Design Guidelines No. 18 – Asset Management Check and Approval – Head of Building Services.	Name: Sheila Scott Date: Feb 2026
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THE UNIVERSITY *of* EDINBURGH
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1.0 Introduction

1.0 Introduction

The University of Edinburgh (hereby referred to as UoE) Design Guidelines (as a whole), have been developed for employees of the UoE, Design Teams, Architects, Engineers, Project Managers, external consultants and contractors. This documentation has been developed to enable Design Teams and Contractors to have a broad understanding of the principles that the UoE will require to be adopted for any future developments. The guide is primarily designed to be used in conjunction with Royal Institute of British Architects (RIBA) stages.

The actual extent and scope of the Design Guide to be incorporated for any future development will be based upon the specific project requirements. The UoE Design Guidelines, aim to discuss strategic matters and does not provide an exhaustive treatment of statutory or best practice design and compliance requirements; its primary purpose is to establish a starting point for design briefs, support the consultation process and outline existing assets and standards. It is the responsibility of Design Team readers/duty holders to ensure subsequent designs are complete, compliant and able to meet the final approved brief when measured in use.

1.1 Important Notice – Essential Prior Reading

It is essential for readers of this document to first refer to Design Guideline No.1 entitled “Estates Design Guidelines (Assets & Standards) Introduction and Application”, which serves to provide the principles and overview with vital information and context that will apply to all projects.

1.2 Purpose of the University of Edinburgh Estates Design Guidelines (Assets and Standards)

The purpose of this document is to set out the guidelines and standards that apply to UoE Estate and its design requirement for Asset Management (AM) as set out by the Building Services Group (BSG) in the AM Strategy and other specific UoE documentation. This document will apply to newly constructed buildings and infrastructure, as well as existing buildings and infrastructure scheduled to be refurbished and/or replaced. In some cases, this standard exceeds the Building Regulation requirements, as it represents good practice in the Higher Education sector.

The Building (Scotland) Regulations set out to ensure that new buildings and works achieve the objectives of the Building (Scotland) Act 2003 in terms of health, safety, welfare, convenience conservation of fuel, power, and sustainable development, and the purpose of this guide will be to provide a standard policy specifying the standard that is required by the UoE.

This UoE Design Guideline No 18 is for designers, engineers, specifiers, installers and commissioning and maintenance engineers of Asset Management for UoE Estates from the Concept Design Stage (RIBA Stage 2) to when the building is in use (RIBA Stage 7).

To provide an indication of non-prescriptive preferred solutions and appropriate standards. The content is not a statement of requirements or intended to replace existing British or European technical standards or national guidance; reference to these will still be necessary.

If due to the nature of the project, certain aspects of buildings, assets, systems, etc. are not covered in these guidelines and standards, the relevant codes of practices, British Standards and Building Regulations are to be applied and followed. For any general and specific queries, advice is to be obtained from the BSG. In the event those documents referred to within this document, which have been superseded, then most recent versions are to be referred to.

Any other doubts, concerns or points of clarification, please contact the BSG – Asset Manager (asset.management@ed.ac.uk).

This document applies to all buildings and infrastructure managed or owned by the UoE Estates Department. Any tenanted buildings must not have any works, adaptions, change any asset or part thereof, which will affect the operational output or any associated building, system, asset usage without first receiving permission from the BSG, Project Manager and the Landlord of the property or nominated agent and written in the respective lease.

This document indicates the University's Estates Department AM Client requirements. Consultants must also refer to specific project requirements identified by the University's Project Manager and they must fully integrate the Asset Management requirements into respective projects. Consultants and contractors must obtain approval in writing for any variation from these requirements.

Any other doubts, concerns or points of clarification, please contact the BSG Asset Manager, Engineers or Project Manager(s) directly- and refer to the suite of Estate's Design Guides.

1.3 Interpretation of UoE Estates Design Guidelines, Assets and Standards

Any part of the Estates Design Guidelines may be referenced in project contractual documentation (Terms & Conditions) in order for the UoE to control quality across the Estate portfolio. The following interpretations apply:

1.3.1 Enforced Requirements

The use of the word(s) 'shall', 'are required', 'is required', 'must' or 'will' denotes a requirement that is non-negotiable and shall be used as the basis for designs, technical submissions and/or activities. If such a statement conflicts with a statutory obligation, then a technical submittal shall be issued to the University project representative for liaison with the BSG in their final decision regarding compliance with the documentation.

1.3.2 Requirements Needing Confirmation

The use of the word 'may', denotes a negotiable requirement or indication of a solution, where innovation and further calculation, design and discussion may be required to arrive at an optimised solution.

1.3.3 Quality

The Design Guide aims to arrive at the UoE's highest design aspirations and standards. It may be that, at the UoE's sole discretion, solutions are value managed and then value engineered during subsequent design iterations. Design Teams and Contractors are encouraged to consider where value management and subsequent value engineering may result in an improved financial performance should funding constraints occur. All mechanical and electrical value management and value engineering exercises carried out shall be forwarded to the BSG for review.

Where value management is applied, a full life approach would be expected and the associated costings applied and shown for each phase of the lifecycle.

1.3.4 Currency of Third-Party Documents

Where superseded standards and regulatory documents are referred to in the text, the reader shall apply current revisions and amendments to their project. Should there be any ambiguity, the BSG should be contacted for clarity.

1.3.5 Proof

Where the word 'proof' is used, e.g., 'proof is required', a written report or installation certificate must be produced for approval depending on context.

1.4 Review Design Data (RDD) Process

All proposed designs shall be submitted to the Project Manager, respective Estates Teams and Building Services Group for review and comments, the response will be categorised as follows:

A. Design Team to acknowledge comments and continue to develop the design to the next stage.
B. Design Team to acknowledge comments and update the design in accordance with comments and resubmit for consideration before proceeding to the next stage.
C. Design Team to acknowledge comments and completely review and update the design in accordance to the agreed design principles and resubmit for consideration before proceeding to the next stage.

In addition to the above, the UoE may request specific technical submission to support the RDD and may include the request setting out with proof, e.g., calculations, drawings, etc. The purpose of the RDD is to ensure designs meet the strategic requirements of the UoE and do not compromise the future operations and maintenance provision. The obligations owed by external architects, consultants and contractors to UoE and their liabilities to UoE is not in any way diminished or otherwise reduced by the RDD.

1.5 The Obligations Owed

By external Design Teams, consultants and contractors to UoE and their liabilities to UoE is not in any way diminished or otherwise reduced by the approval process. UoE is not taking over the roles and duties of the external Design Teams, consultants and contractors who will remain legally responsible for the design and/or works carried out by them or on behalf of their staff, agents, sub- consultants and/or sub-contractors.

1.6 Version Control and Updates

The Estates Design Guidelines, Assets and Standards will be updated annually. The anticipated date of issue being January each calendar year. This is subject to change.

The version number will, using 2018 as an example, move from 2018 V1.0 at the end of January to 2019 V1.0 for the following year. The picture or colour of front cover of each new version will be changed to simplify referencing.

Any new or amended content is highlighted in yellow so readers can easily identify changes from previous versions. If there are no further revisions, a guidance note will accompany the issue.

1.7 Legislation and best practice standards for reference

The University will comply with all relevant legislation and regulations relating to the design and structure of the building and infrastructure. Academic, administrative buildings and all residential property are subject to the requirements of the Technical Standards (Scotland) Regulations / Building Regulations and all other current relevant legislation and regulation.

These allow detailed professional knowledge and judgement to be applied in order to develop a final design solution, which will satisfy all complexity of projects.

Reference to the ISO 55000 suite of standards and technical guidelines is also recommended, as is the IAM Anatomy and GFMAM landscape.

The above recommendations will allow an understanding of the requirements for infrastructure assets and ensure continued alignment with the UoE AM Strategy.

1.8 Design Consultation and Notification Process for Projects

The University's BSG must be consulted by the Project Manager and Design Teams in regard to comments on the proposed AM and design proposals at an early stage and throughout the Plan of Work stages. The BSG or other competent persons acting under the BSG and authorised to do so, must approve the AM related submissions at appropriate stages of the design and construction process.

If any building, system, asset or part thereof undergoes a change of use that might affect the AM and Asset Tagging strategy. The BSG must be consulted, to ensure that all proposals are reviewed and to confirm that they remain appropriate to apply and deliver the AM Strategy and Asset Tagging Specification.

The selection of appropriate options at design stage, through consultation with key stakeholders. I.e., Architect, Consulting Engineer, M&E Engineers and the UoE BSG, may serve to mitigate unacceptable functional risks to users or unacceptable on-going cost and managerial issues. Addressing issues at a late stage is likely to cause conflict, delay, additional expense or management burden and have a negative impact on environmental conditions and operation of the building, system or asset.

Early and comprehensive consultation with the BSG is key to achieving good cost-effectiveness and compliance with relevant regulation, legislation and good practice. The BSG and other relevant persons shall be consulted on a regular basis throughout, in an open transparent manner. Effective consultation should ensure that the potential negative operational legacy issues are mitigated and improvements can be considered for inclusion. Consultation should not cause any delay and is likely to reduce cost and abortive work

1.9 Obsolescence Management

Designs should take cognisance of the availability of spares and ongoing support to systems and assets. Designs should **not** include building elements (including building fabric and fixtures & fittings), plant and equipment, that are at or near end of line with no ongoing support from manufacturer in terms of both maintenance, replacement and spare parts.

1.10 Purpose of UoE Design Guideline Number 18

The UoE Estates Department is responsible for the repair, maintenance and development of the building fabric in all University buildings, hard landscaped areas and supporting building infrastructure for the whole of the University's operational estate.

The purpose of this document is to provide guidance to Design Teams and Contractors on the specification and installation of building fabric elements and components for all buildings; that are owned, operated and maintained by the University Estates Department.

The principles referred to in this document have been influenced by maintenance and operational requirements, the resources available within the University Estates Department are finite and limited, and therefore for efficiency and effectiveness gains, there is a need to standardise building elements throughout the circa 1 million m2 of building stock.

The Design and Contractor Teams must familiarise themselves with the requirements of the documents, they are expected to comply with their contents and shall provide relevant information at the various work stages to the Estates Department to enable future operation and maintenance to be carried out.

1.11 Standards, Assets & Responsibilities

All building elements (including building fabric and fixtures & fittings), plant and equipment shall be designed and installed in accordance with the appropriate current: British Standard or European equivalent, Codes of Practice, relevant Statutory Instruments and Regulations, and University Health & Safety Policy.

Building fabric, system and asset choices shall take into consideration value for money, here defined as 'the optimum combination of whole life cost and quality (or fitness for purpose to meet the users' requirement).' The Design Team must consider the choice of materials not only within the context of a project but through the life of maintaining the asset. All parties in the supply chain shall provide reliable data on full lifecycle costs of products including operation, maintenance (inc. repair, refurb,

etc) and disposal and highlight elements, which will be prohibitive to maintain in the long term. i.e., a living wall with a disproportional annual maintenance cost compared to the benefits to be realised.

The UoE Estates Department is working towards implementing sustainable building practices on all its building projects (Please reference Design Guidelines No. 11). Issues, which the Design Team will be expected to address, include energy efficiency and specification of materials for whole life cycle, i.e., sourcing through to recycling and ultimate demolition/disposal.

All proposed new buildings and infrastructure refurbishment of existing buildings and infrastructure shall be designed to allow easy and safe access for cleaning and routine maintenance regimes including window cleaning, roof maintenance, façade cleaning, Planned Preventative Maintenance (PPM) tasks and gutter and drain clearance.

Materials must be suitable and sufficient in respect of performance, robustness and fitness for purpose, together with compliance with current legislation, including to the supply installation and bringing into service processes. All major fabric elements must have an Agrément Certificate or equivalent. Bespoke or special building, system, or asset elements such as windows made using a non-standard system type, which has not been tested and certified, will not be acceptable.

Building, system or asset elements, which require specialist, annual, monthly, or weekly maintenance or inspection programmes from day one, such as inflatable (PTFE) roofs or oversized doors, shall be avoided and any consideration dispensed with during early design stages.

Nothing contained within this document shall override the requirements of the M&E Design Guidelines or any other guidelines. Where conflicts are noted between this Guideline and or any of the other Design Guidelines, they should be brought to the attention of the BSG Asset Manager.

1.12 Principles

It is a requirement that all buildings, systems and assets shall be designed in such a way that they can be inspected, maintained, repaired, refurbished and replaced or removed/disposed of with minimum disruption to building users. The Design Team must develop and agree with BSG Project Engineers (Mechanical and Electrical), Asset Manager and Project Manager(s), a maintenance and access strategy early in the design process of the project, which demonstrates that client long term objectives are being met and they are not creating maintenance, repair, refurbishment, replacement, or disposal issues and unnecessary costs throughout the full lifecycle of the asset.

The Design Team shall consider the following issues:

- Building fabric elements including walls, roof coverings, window types, sanitary installations, floor finishes, ceilings etc;
- The future maintenance of the building and surrounding area to anticipate and comply with the requirements of the CDM regulations;
- Information on routine and regular maintenance, e.g. cleaning regimes for floor finishes, testing/inspection of other fabric items;
- Accessibility and egress from the building and its environs;
- Resilience of critical facilities and infrastructure on the estate from fire, flood, vandalism and unauthorised access;
- Information on replacement methodologies for key items such as glazing, curtain walling etc., that will potentially have a significant impact on end users and Estates;
- Access information for maintenance regimes, e.g., access plans for roof maintenance and window cleaning, access to high-level elements such as lights, brise soleil, electric blinds in atria etc (also refer to clause 3.3);
- Asset information, including the expected life of building fabric elements, fixtures /fittings and equipment;
- Information on insurance backed warranties / guarantees for particular products, and data on operational costs for products over the life cycle of the building;
- Information on acceptable loadings for internal and exterior parts of a building e.g., live/dead floor loads, axle/wheel loads to external hard standings to facilitate maintenance and building operations e.g., events, asset replacement;
- Asset information will be collected at the end of the project and the Contractor will be required to complete a spreadsheet with asset and life cycle information for all assets. The Equipment Schedule Handover spreadsheet template will be issued and is to be used to capture this detail;
- Information on future use, potential for expansion and flexibility of the building, e.g., provision for new plant and equipment, and designed in elements that allow for flexibility, extensions/additions and changes to be made in the future.

The University, as a property owner and the custodian of a large and diverse estate, inevitably has some buildings built or refurbished using asbestos containing materials. The Estates Health and Safety Management Team must be consulted on each RIBA Stage on all projects and items of work.

In the event of value management/engineering or requests for changes by the Contractor during the course of a contract, any proposed changes are to be

documented, discussed and agreed with the Project Manager and in consultation with The Building Services Group.

Clarification/Deviation/Exception must be notified and signed off, please see Estates Guidelines No. 1 Introduction and Application.

Any proposed refurbishment work on existing historic premises shall be preceded via the University Estates consultation process.

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2.0 Asset Management

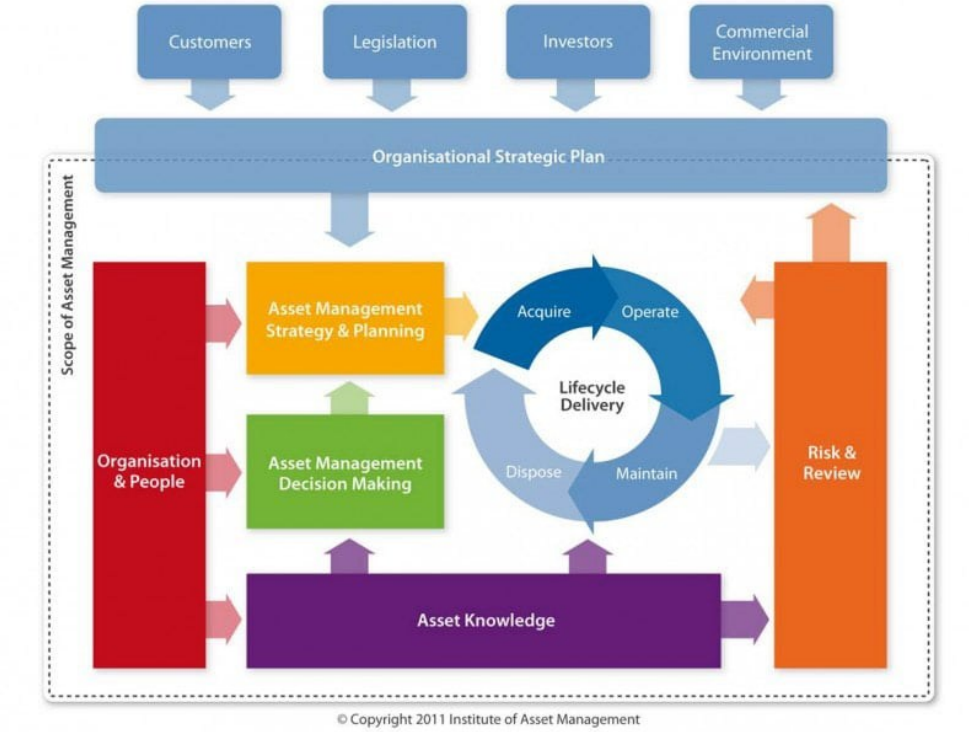
2.0 Asset Management

2.1 Asset Management Principles

Asset Management is a strategic approach to managing Estates owned assets to enable the achievement of business objectives. It enables realisation of value from assets by translating business objectives into asset-related decisions, plans and actions. The BS ISO 55000 standard series defines asset, asset management and asset management system, and specifies what processes and capabilities should be in place for effective asset management.

Asset Management seeks to optimise cost, risk and performance over the whole asset lifecycle, at portfolio, system, and individual asset levels. The built asset lifecycle covers everything from the initial identification of need to its end of life, including activities such as planning, design, construction, O&M, renewal, enhancement, decommissioning and disposal.

The core elements of Asset Management have been defined in the below diagram, showing that Asset knowledge and information underpins effective asset management.



A method of establishing what is in the estate and, effectively, what requires to be maintained, the Estates department needs to undertake an exercise of capturing assets within its portfolio and this is typically done via projects and surveys.

Identification of assets are thereafter captured through a process called Asset Tagging. This is further discussed in the Section 3.

2.1.1 Whole Life / Lifecycle Requirements

When costing assets and elements as part of the Design, the following should be included to detail Pricing and Special requirements (Install, Commission, Operate, Maintenance, Dispose) as per Appendix 1 –Lifecycle process and with reference to the current versions of RICS Life Cycle Costing Standards or ISO 15686-5 - Buildings and Constructed Assets – Service Life Planning (Life-cycle Costing):

- Purchase cost,
- Installation Cost,
- Commissioning/ Training,
- Maintenance (incl recommended tasks and timings, cleaning, parts & support and the obsolescence timelines for these (if applicable)),
- Replacement/Disposal, as well as; Definition of normal use,
- Life expectancy of the asset (under normal use).

2.1.2 Elemental Cost Plan

Cost Plan detail provided as part of a project/ design, should align with the RICS Elemental Cost Plan which is vital in the early design stages of a construction project, providing a more refined breakdown of costs than an initial budget estimate. It provides the design team with a clear financial overview, supporting informed and cost-effective design decisions. It further allows for risk-cost analyses, shedding light on potential cost uncertainties and offering insight on mitigation strategies.

For the BSG, an Elemental Cost Plan is a strategic tool in financial planning. It will offer early cost certainty, critical in budget allocation and overall financial decision-making. The cost plan will enable the BSG to see the cost implications of different design choices, helping to align project objectives with budget. It provides a transparent view of the expected cost.

2.1.3 Assets and Standards

The Design Guidelines endeavours to set out Assets and Standards that will maximise the benefits realisation for the UoE to achieve its strategic objectives and maximise value for money. This will involve coordinated and optimised planning in conjunction with Procurement, robust asset selection with particular reference to existing legacy assets and standards on the University Estate, for reasons of utilisation and continuity of maintenance, replacement of parts, renewal and ultimate disposal.

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3.0 Asset Capture and Tagging

3.0 Asset Capture and Tagging

The Estate's Department has focussed attention on management processes to operate more efficiently. A key element of improvement is to operate and maintain an effective Computer Aided Facilities Management system (CAFM) for allocating, monitoring, recording and reporting the completion of planned maintenance work schedules and remedial/reactive repairs arising from the programme.

Assets requiring Tagged, align to the RICS NRM 3 elemental listing and following the specific coding, the CAFM system can be revised when surveys or works are undertaken.

The objective of this document is to ensure that those responsible for acquiring, recording, registering, maintaining, and disposing of assets understand the asset tagging and data collection requirements and procedures.

NRM detail and asset types to be tagged, is included within clause 3.3.7.

3.1 Asset Tagging Outline Scope

The asset tagging service can be undertaken via three main routes.

1. Via a Project (Small Works/ Capital), where the main contractor will be responsible either directly or indirectly through installation sub-contractor (the Contractor);
2. Via an Asset tagging Estate wide procured service, where the successful Company(s) will undertake (the Contractor);
3. In house, when individual assets are identified, and the BSG Asset Manager will coordinate.

As part of the Asset Tagging Estate wide scope, the data capture company (the Contractor) shall either provide a fully customisable asset collection platform which shall be developed for asset data exportation into the University's CAFM system. Or use the University's CAFM system' mobile application, for which access rights will be granted, to enable a streamlined transition and upload.

Any platform proposed by the Contractor, if different from University's CAFM system shall be a mobile asset gathering application which will allow for the collection of asset data directly into a holding platform via tablets or mobile phones. The data will be verified before being exported into the CAFM System. The data required for collection is further defined in Appendix 2.

Within the platform/application a Barcode/QR code will be scanned or a number manually entered before the relevant asset data is captured.

3.2 Asset Tag Types

There will be four types of asset tags which shall be free issued to the Contractor from the Estate's Department, Building Services Group Asset Manager.

3.2.1 Asset Tag Type 1 - Default

Type 1 asset tag will be a tamper evident ultra-destructible vinyl asset label.

The label will be 51mm x 25mm with a black and dark blue colour scheme. The dark blue will be as close to RAL colour 282 aligned with the University's branding requirements.

The label will consist of the University of Edinburgh Estate's Department logo, a barcode and a unique barcode number. The number will be 8 digits. Figure 1, below shows the required aesthetic:



Figure 1: Asset Tag Type 1 Aesthetic

A unique asset tag will be placed onto an asset in a location which is clean, dry, prominent and accessible. Ideally the asset tag will be placed at the bottom right or left on the front face of the equipment. This asset tag is for general use and is the default system.

3.2.2 Asset Tag Type 2 – Non-Standard

Type 2 asset tag will be an Aluminium label with text and unique number. The number will be 8 digits.

The label will be 40mm x 20mm with a drilled hole.



Figure 2: Asset Tag Type 2 Aesthetic

The label will consist of the University of Edinburgh Estate's Department details and unique number with black engraved detail.

A unique asset tag will be fixed to an asset via a chain a location which is prominent, accessible and free from affecting moving parts or people. Ideally the asset tag will be directly connected to the asset or immediately adjacent. This asset tag should be used where:

- No clear space to fix a Type 1 asset tag;
- Excessive fluid, heat fluctuations or impact may affect the type 1 asset tag;
- A surface cannot be easily cleaned to a suitable level for the type 1 asset tag to be properly fixed.

3.2.3 Asset Tag Type 3 – Multiple Floor Assets (Smoke Vent, Dry Riser, etc.)

Type 3 asset tag will be a tamper evident, ultra-destructible and UV resistant vinyl asset label. This tag has the same aesthetic as type 1, however it is duplicated over a number of components of the same asset.

The label will be 51mm x 25mm with a black and dark blue colour scheme. The dark blue will be as close to RAL colour 282 aligned with the University's branding requirements.

The label will consist of the University of Edinburgh Estate's Department logo, the Estate's Department details, a QR code. The number will be 8 digits. Figure 3 below shows the required aesthetic:



Figure 3: Asset Tag Type 3 Aesthetic

A unique asset tag will be placed onto an asset in a location which is clean, dry, prominent and accessible.

This asset tag is for dry risers, smoke vents and the like. The asset tag will be placed at the bottom right or left on the front face of the equipment at the inlet and each floor landing valve. The asset tag will be identical on each system which is present on multiple floors with the exception of lifts.

3.2.4 Asset Tag Type 4 – Multiple Floor Lifts

Type 4 asset tag will be a tamper evident ultra-destructible vinyl asset label.

The label will be approximately 130mm x 25mm with a black and dark blue colour scheme. The dark blue will be as close to RAL colour 282 aligned with the University's branding requirements.

The label will consist of the University of Edinburgh Estate's Department logo, the Estate's Department details, a QR code and a replicated unique barcode number. The number will be 8 digits and the building number shall be displayed along with the lift number in line with the record drawing. Figure 4 below shows the required aesthetic:



Figure 4: Asset Tag Type 4 Aesthetic

The unique asset tag with floor identifier will be placed above the lift car entrance at each floor.

3.2.5 Asset Tag Procurement Procedure

The asset tags each have an individual barcode number therefore avoiding duplication of asset numbers is essential to maintaining a quality dataset. The following procedures shall be followed by the Contractor:

Step 1:
The Contractor shall approach and inform the Asset Manager from the Estates BSG with the following information:

- The number of asset tags required;
- The type(s) of asset tag required.

The University shall allocate the asset tagging company with a range of QR code numbers with which their surveyors shall approach their proposed supplier.

Step 2:
The Contractor shall liaise with their supplier to produce a proof of the asset tags in line with Section 3.3.5, 3.3.6 and 3.3.7. The initial batch of asset tags were purchased from:

Label Source
P.O. Box 130, Cardiff CF14 7TX United Kingdom
Phone: 0800 3761 693
Email: sales@labelsource.co.uk
Phone (outside of UK): +44 1443 842769

Step 3:
The proof of the asset tag and assigned barcodes shall be checked by the Contractor and sent to the Estates BSG for final approval. The tags shall be purchased and the Contractor shall invoice the Estates BSG for the cost of the tags.

3.2.6 Contractor Access Procedure for Operational Buildings (Asset Tagging Procurement Phase)

Within an operational building the majority of equipment to be tagged is in plantrooms, however the Contractor will require full access to each building. The following procedure will be adopted for access:

- The Contractor will issue a programme at the start of the project identifying the predicted date of entry. This will be a live programme and if altered sent out to relevant building managers, clients and users;
- One week before programmed access the Contractor will contact the relevant building managers, clients and users to understand all access requirements and to arrange for access cards;
- Where access is only permitted when accompanied by a member of staff this will be arranged one week in advance with the relevant member of staff;
- On the day of the survey the Contractor will sign into the building and let the relevant building managers, clients and users know they are onsite;
- When the Contractor leave site, they will sign out and let the relevant building managers, clients and users know they are leaving site.

3.3 Asset Tagging Procedure & Data Capture (Projects)

NOTE: Please ensure that the Contractor responsible for asset tagging has the correct skills and authorisation prior to starting work. All work must be covered by a suitable and sufficient risk assessment. Speak to the BSG AM and/or PM, if there are any concerns.

3.3.1 Asset Tag Requisition

The Contractor responsible for asset tagging shall approach the Asset Manager of the BSG, requesting the quantity and type of asset tags required whilst following the detail within Section 3.2.5.

3.3.2 Building Access

The contractor(s) responsible for asset tagging will issue a programme at the start of the project, to the Project Manager/ Asset Manager, identifying the predicted date of entry. This will be a live programme and if altered, sent out to relevant building managers, clients and users. Contact details of key Building Managers will be issued at commencement of the project.

One week before programmed access the contractor(s) responsible for asset tagging, will contact the Project Manager/ Asset Manager asking for relevant building managers, clients and users to be made aware of the impending visit so they understand all access requirements and to arrange for access cards.

Where access is only permitted when accompanied by a member of staff, this will be arranged one week in advance with the relevant member of staff.

On the day of the survey, the Contractor, will sign into the building and let the relevant building managers, clients and users know they are onsite.

When the Contractor, leaves site they will sign out and let the relevant building managers, clients and users know they are leaving site.

3.3.3 Access for Maintenance

Detail will be provided to the Contractor, of location and specific requirements to locate and access assets.

For example, if above suspended ceilings, demountable tiles should be installed where the asset is situated, or a hatch constructed to provide sufficient access. If at height, plans should be made to reach the asset, whether by ladder, hoist or scaffold.

3.3.4 Data Capture

The following list shows the asset collection module fields & highlights the minimum data that shall be collected via a handheld mobile device on the CAFM mobile application (unless agreed otherwise).

Data Captured	Description
Survey Photo	Clear picture of front of asset with fixed reference point in picture to identify location
Equipment Code	Unique number from asset tag either scan the barcode for type 1 or manually type for type 2 asset tags.
Site Code	Dropdown of university campuses
Building Code	Dropdown of university buildings
Equipment Standard	NRM3 classification dropdown
Equipment Status	Dropdown, in service, out of service, in repair or in storage, default in service.
Equipment Condition	Dropdown of A, B, C, D & DX
Criticality	Dropdown selection of A, B, C or D
Use	Dropdown selection from: heating, cooling, water, gas, fuel, renewables, LV power or HV power. Default heating

3.3.5 Condition Survey

The equipment condition should be judged to the best of the Contractor' experience taking into consideration any indicators i.e., noise, leakage, vibration, heat, corrosion, completeness & wear and tear. See below for asset condition categories:

Condition	Replacement Period	Narrative
A	New	within 1 year of installation date & operating effectively
B	Fully Functioning	condition is acceptable & equipment is operating effectively
C	Poor Condition	condition is poor and should be programmed to be replaced
D	Immediate	Condition is very poor and needs to be replaced immediately.
DX	Immediate (statutory)	Does not comply with statutory regulations & needs to be replaced immediately.

NOTE: this is a visual non-intrusive condition assessment.

3.3.6 Asset Removal

What to do when you witness, maintain or replace an asset which has been tagged? In order to maintain the accuracy of our asset management system it is important that if:

a) a new piece of equipment being installed in a building which is on the list above,
b) a change in condition or performance of an existing asset,
c) or, a tagged asset is being removed,

For In-house staff, it should be reported to their Area Team Leader who is then asked to send this on to UoE Asset Management (asset.management@ed.ac.uk), Ross Stupart (ross.stupart@ed.ac.uk), Craig Marc (Craig.Marc@ed.ac.uk) or Stuart Bain (Stuart.Bain@ed.ac.uk), via the T24 form.

For Contractors, it should be reported to the BSG Engineer/Project Manager/Contract Services Coordinator, who is then asked to send on to UoE Asset Management (asset.management@ed.ac.uk), Ross Stupart (ross.stupart@ed.ac.uk), Craig Marc (Craig.Marc@ed.ac.uk) or Stuart Bain (Stuart.Bain@ed.ac.uk), via the T24 form.

The following table, contains the information, we expect to receive, if any changes from a previous state have been witnessed.

Data Required	Description	Mandatory
Photo	Clear picture of front of asset with fixed reference point in picture to identify location	Y
Equipment Code	Unique number from asset tag QR code	Y
Building Code	University's Building number	Y
Floor Code	Floor number, if available	
Room Code	Room number from Estates numbering system, if available	
Equip Status	Either: In Service, Out of Service, In Repair or In Storage	Y
Equip Condition	Either A, B, C, D and DX (see definitions above)	Y
Comments	Please describe the change witnessed. Provide as much information as possible. Reason behind the change, is old Asset now scrapped, or in use elsewhere?	

3.3.7 Asset Tagging Matrix

The following table is a complete list of the BCIS NRM3 classification system detailing which assets are required to be tagged and the data captured against the building criticality.

Sub-element	Component	Asset Tag	Clarifications
2.6.2 External Doors	2.6.2.1.4 Manual and Automatic Doors	Yes	Auto doors that have controls etc
5.1.1 Sanitary Appliances	5.1.1.1.8 Shower Booster Pumps	Yes	
	5.1.1.1.9 Shower Valves	Yes	
5.3.1 Foul Drainage above ground	5.3.1.2.7 Sump Pumps	Yes	
5.3.3 Refuse Disposal	5.3.3.1.3 Plant for Compacting/Macerating of Refuse	Yes	
5.4.1 Mains Water Supply	5.4.1.1.2 Valves	Yes	Stop Cocks/ Drain Valves/ RPZ Valves
	5.4.1.1.3 Water Meters, Internal	Yes	Considered external meters belonging to the University
	5.4.1.1.3 Water Meters	Yes	Tagged at control box
5.4.2 Cold Water Distribution	5.4.2.1.5 Pumps	Yes	
	5.4.2.1.6 Pressurisation Expansion Units	Yes	
	5.4.2.1.7 Pressure Booster Sets	Yes	
	5.4.2.1.8 Cold Water Storage Tanks and Cisterns	Yes	
	5.4.2.1.9 Trace Heating	Yes	Tagged at control box
	5.4.2.1.10 Instrumentation and Control.	Yes	Child of associated asset Tagged at control box or panel
5.4.3 Hot Water Distribution	5.4.3.1.5 Pumps	Yes	
	5.4.3.1.6 Heat Exchangers	Yes	
	5.4.3.1.7 Storage Cylinders and Calorifiers	Yes	
	5.4.3.1.8 Trace Heating	Yes	For critical services if installed.
	5.4.3.1.9 Hot Water Storage Vessels	Yes	
	5.4.3.1.10 Immersion Heaters	Yes	
	5.4.3.1.11 Insulated Combination Units	Yes	
	5.4.3.1.12 Water Softeners: Treatment	Yes	

Sub-element	Component	Asset Tag	Clarifications
	5.4.3.1.13 Instrumentation and Controls	Yes	Child of associated asset, tagged at control box or panel
5.4.4 Local Hot Water Distribution	5.4.4.1.1 Instantaneous Water heaters	Yes	
	5.4.4.1.2 Under-sink Multipoint and Over-sink Units	Yes	
5.4.5 Steam and Condensate Distribution (critical system)	5.4.5.1.1 Steam Distribution Pipelines System	Yes	
	5.4.5.1.2 Valve, Strainers, Pressure Reducing Sets	Yes	
	5.4.5.1.3 Steam Reduction Stations	Yes	
	5.4.5.4 Condensate Receivers and Storage Tanks	Yes	
	5.4.5.1.5 Condensate Pump Sets	Yes	
	5.4.5.1.6 Steam Connection Outlets	Yes	
	5.4.5.1.8 Heat Exchangers	Yes	
	5.4.5.1.9 Storage Cylinders and Calorifiers	Yes	
	5.4.5.1.10 Instrumentation and Controls	Yes	Child of associated asset, tagged at control box or panel
5.5.1 Heat Source	5.5.1.1.2 Boiler – gas/oil	Yes	
	5.5.1.1.4 Boiler – electric	Yes	
	5.5.1.1.5 Packaged steam generators	Yes	
	5.5.1.1.7 Central combined heat and power plant	Yes	
	5.5.1.1.8 Heat pumps	Yes	
	5.5.1.1.9 Ground source heating	Yes	
	5.5.1.1.10 Supplementary list (pumps) / 5.5.1.1.10.A Supplementary list (valves)	Yes	
	5.5.1.1.11 Step down/non storage cylinders	Yes	
	5.5.1.1.12 Solar thermal panels	Yes	
	5.5.1.1.13 Other heat sources (air source heating)	Yes	
	5.5.1.1.14 Water tanks (header tanks)	Yes	
	5.5.1.1.16 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel
	5.5.1.1.17 Forced draft fans	Yes	
	5.5.1.1.18 Gantries	Yes	

Sub-element	Component	Asset Tag	Clarifications
	5.5.1.1.19 Chimneys and flues	Yes	
	5.5.1.1.20 Forced draft extract	Yes	
5.6.1 Central Heating	5.6.1.1.4 Under Floor Heating	Yes	Controls
	5.6.1.1.5 Heating Ceiling Panels	Yes	
	5.6.1.1.6 Warm Air Heating	Yes	
	5.6.1.1.8 Fan Assisted Convection Systems	Yes	
	5.6.1.1.11 Off Peak Heating System	Yes	
	5.6.1.1.18 Plate Recuperator	Yes	If within AHU, child
	5.6.1.1.19 Thermal Wheel	Yes	If within AHU, child
5.6.2 Local Heating	5.6.2.1.1 Heat Emitters	Yes	Electric heaters
5.6.3 Central Cooling	5.6.3.1.1 Chilled Beams	Yes	
	5.6.3.1.2 Terminal units – fan coils	Yes	
	5.6.3.1.3 Terminal units - VAV	Yes	
	5.6.3.1.4 Terminal units - VRV Systems	Yes	
	5.6.3.1.5 Chillers	Yes	
	5.6.3.1.6 Central Refrigeration Plant	Yes	
	5.6.3.1.7 Cooling Towers	Yes	
	5.6.3.1.11 Pumps	Yes	
	5.6.3.1.14 Air handling units	Yes	As mother, child for each section component
5.6.4 Local Cooling	5.6.4.1.1 Air conditioning units	Yes	External and internal unit tagged separately
	5.6.4.1.6 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel
5.6.5 Central heating and cooling	5.6.5.1.3 Reverse cycle heat pump systems	Yes	
	5.6.5.1.4 Chillers	Yes	
	5.6.5.1.7 Supplementary list (pumps)	Yes	
	5.6.5.1.10 Air handling units	Yes	
	5.6.5.1.13 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel
5.6.6 Local Heating and Cooling	5.6.6.1.1 Split systems / DX systems	Yes	External and internal unit tagged separately
	5.6.6.1.8 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel

Sub-element	Component	Asset Tag	Clarifications
5.6.7 Central Air Conditioning	5.6.7.1.3 Humidifiers / Dehumidifiers	Yes	
	5.6.7.1.6 Hybrid Air Conditioning Systems	Yes	
	5.6.7.1.7 Chillers	Yes	
	5.6.7.1.8 Air Handling Units	Yes	
	5.6.7.1.12 Supplementary list (Pumps)	Yes	
	5.6.7.1.15 Instrumentation and Controls	Yes	Child of associated asset, tagged at control box or panel
5.6.8 Local Air Conditioning	5.6.8.1.1 Self-contained Air Conditioning Units	Yes	
	5.6.8.1.2 Separate Clean-room or Other Local Air Conditioning Systems	Yes	
	5.6.8.1.5 Pumps	Yes	
	5.6.8.1.9 Instrumentation and Controls	Yes	Child of associated asset, tagged at control box or panel
	5.6.8.1.11 Air Curtains	Yes	
5.7.1 Central Ventilation	5.7.1.1.1 Air Extract Systems / Fans	Yes	
	5.7.1.1.2 Air supply and extract	Yes	
	5.7.1.1.3 Extract units/terminal units	Yes	
	5.7.1.1.4 Fan units	Yes	
	5.7.1.1.9 Supplementary list (pumps)	Yes	
	5.7.1.1.11 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel
5.7.2 Local and Special Ventilation (inc. LEV)	5.7.2.1.1 Toilet extract system	Yes	
	5.7.2.2.2 Kitchen ventilation units	Yes	
	5.7.2.3.3 Safety cabinet and fume cupboards	Yes	Microbiological cabinets should not be tagged
	5.7.2.4.4 Fume extracts	Yes	
	5.7.2.5.5 Dust collection units	Yes	
	5.7.2.8.8 Unit extract fans	Yes	
	5.7.2.10.10 Roof-mounted ventilation units	Yes	
	5.7.2.11.11 Car parking ventilation	Yes	
	5.7.2.12.13 Grilles and diffusers	Yes	Element to be split with fans and HEPA filters tagged, one asset for others
	5.7.2.12.15 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel

Sub-element	Component	Asset Tag	Clarifications
5.7.3 Smoke Extract/Control	5.7.3.1.1 Smoke extract	Yes	
	5.7.3.1.2 Automatic smoke compartmentalisation	Yes	
	5.7.3.1.3 Supplementary list (fans)	Yes	
	5.7.3.1.4 Ductwork systems	Yes	Including Fire Dampers
	5.7.3.1.7 Instrumentation and controls	Yes	Child of associated asset, tagged at control box or panel
5.8.1 Electric Mains and Sub-mains Distribution	5.8.1.2 HV Switch Gear	Yes	
	5.8.1.1.3 LV switchgear and distribution boards	Yes	
	5.8.1.1.6 Busbar Trunking	Yes	
	5.8.1.1.7 Earthing and bonding	Yes	
	5.8.1.1.8 Transformers	Yes	
	5.8.1.1.9 Fuse pillars, base units, etc.	Yes	
5.8.2 Power Installations	5.8.2.1.3 DC installations	Yes	
	5.8.2.1.4 Distribution boards (PDUs)	Yes	
	5.8.2.1.5 UPS system	Yes	
	5.8.2.1.8 Earthing and bonding	Yes	
	5.8.2.1.11 Specialist power installations	Yes	Unless departmental
	5.8.2.1.12 Final Connections to Specialist Equipment where not Carried out by the Equipment Installer	Yes	Unless departmental
5.8.3 Lighting Installations	5.8.3.1.4 LV switchgear and distribution boards	Yes	
5.8.4 Specialist Lighting Installations	5.8.4.1.6 LV switchgear and distribution boards	Yes	
5.8.5 Local Electricity Generation systems	5.8.5.1.1 Standby generator	Yes	
5.8.5 Local Electricity Generation systems	5.8.5.5.2 Photovoltaic Devices	Yes	Invertors should be tagged per system.

Sub-element	Component	Asset Tag	Clarifications
5.9.1 Fuel Storage	5.9.1.1.1 Fuel systems – oil, petrol, diesel and liquified petroleum gas, biomass and others	Yes	
	5.9.1.2 Fuel Storage Tanks and Vessels	Yes	
5.9.2 Fuel Distribution Systems	5.9.2.1.1 Fuel systems – oil, petrol, diesel and liquified petroleum gas, biomass and others	Yes	
	5.9.2.1.3 Supplementary list (pumps)	Yes	Emergency shut off valves
	5.9.2.1.5 Gas distribution components (Manifolds, Local Meters and the like)	Yes	
	5.9.2.1.8 Monitoring equipment	Yes	Child of associated asset, tagged at control box or panel
5.10.1 Lifts and Enclosed Hoists	5.10.1.1.1 Complete lift installations (state type)	Yes	One asset tag per lift car with lift number identifier as per specification Figure 4: Asset Tag Type 4 Aesthetic – duplicate tag per landing. (1 in car, 1 for each landing)
	5.10.1.1.2 Firefighting lifts	Yes	One asset tag per lift car with lift number identifier as per specification Figure 4: Asset Tag Type 4 Aesthetic – duplicate tag per landing. (1 in car, 1 for each landing)
5.10.3 Moving Pavements	5.10.3.1.3 Stair lifts	Yes	
5.10.4 Powered Stairlifts	5.10.4.1.1 Complete powered stair lift installations	Yes	One asset tag per floor with lift number identifier as per specification Figure 4: Asset Tag Type 4 Aesthetic
5.10.10 Other Lift and Conveyor installations	5.10.10.1.2 Hoist for moving people with disability	Yes	
	5.10.10.1.3 Other transport systems	Yes	
5.11.1 Fire Fighting Systems	5.11.1.2.2 Dry risers	Yes	One asset tag per system with floor identifier – duplicate tag per landing. (1 at external, 1 for each landing (internal))
	5.11.1.3.3 Wet risers	Yes	One asset tag per system with floor identifier – duplicate tag

Sub-element	Component	Asset Tag	Clarifications
			per landing. (1 at external, 1 for each landing (internal))
	5.11.1.4.6 Control components	Yes	
	5.11.1.4.7 Fire and smoke protection curtains	Yes	
5.11.2 Fire Suppression Systems	5.11.2.1.1 Sprinklers – inc. control devices and sprinkler heads	Yes	
	5.11.2.2.2 Deluge systems	Yes	
	5.11.2.3.3 Gas firefighting systems	Yes	
	5.11.2.4.4 Foam fighting systems	Yes	
	5.11.2.5.6 Water tanks and cisterns for firefighting	Yes	
	5.11.2.5.8 Control components	Yes	
5.11.3 Lightning Protection	5.11.3.1.1 Bonded steel frame/tape-based systems (Lightning Protection)	Yes	One asset number per building
5.12.1 Communication Systems	5.12.1.7.1 Fire detection and alarm systems	Yes	Main panel only (if repeater panels are tagged, they must match the QR/ barcode number of the main panel)
	5.12.1.8.1 Smoke detectors	Yes	Main panel only (if repeater panels are tagged, they must match the QR/ barcode number of the main panel)
5.12.2 Security Systems	5.12.2.2.2 Security detection	Yes	Main panel only (if repeater panels are tagged, they must match the QR/ barcode number of the main panel)
5.13.1 Specialist Piped Supply installations	5.13.1.3.3 Treated water systems – including ancillary components (e.g., raw sewage storage tanks, chemical storage and vessels, etc.)	Yes	
	5.13.1.5.5 Compressed air systems – including compressors and other ancillary components	Yes	Unless departmental
	5.13.1.6.6 Vacuum installations – including ancillary components	Yes	
5.13.5 – Water Features	5.13.5.1.2 Water filtration equipment	Yes	
8.7.7.– Fuel Storage and piped distribution systems	8.7.7.1.10 Meters	Yes	

THE UNIVERSITY of EDINBURGH
Estates Department

4.0 Appendices

4.0 Appendices

4.1 Appendix 1

Lifecycle Process – shows the end-to-end process of an asset (system or component), from initial concept through to its operational and maintenance phase and subsequently end of life.

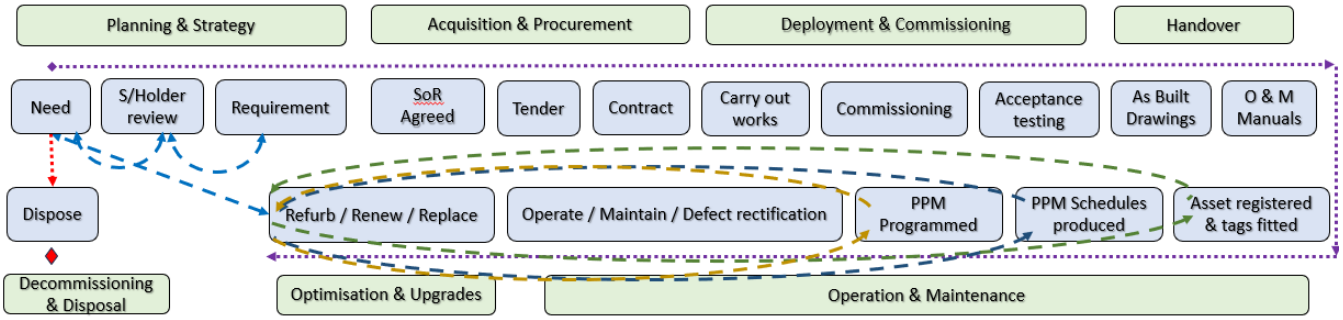


Figure 5: Lifecycle Process

4.2 Appendix 2

The data required for asset collection is:

Data Required	Archibus Field Name
Y	Building Name
Y	Building Code/Number
Y	Floor code
Y	Room Number
Y	Equipment Code/ Barcode (8 digits)
Y	Sub component of (8 digits), if applicable
Y	Asset Description
Y	Equipment Status
Y	Equipment Category
Y	Condition
Y	NRM code
Y	Equipment Use/Asset Type
Y	Serial Number
Y	Model
	Manufacturer ID
Y	Manufacturer
Y	Location description
Y	what3words Location
Y	Purchase Price

This will be provided in an excel template, named, T24 Equipment Asset Schedule and Upload Template, which also is a subsidiary part of the Project T90 form and will enable all ‘new’ and ‘old’ assets (i.e. ones that have been replaced and therefore to be deleted), to be documented.