

DIRECTORATE OF ESTATES AND FACILITIES

PROCEDURE AND INFORMATION MANUAL

EPM FM1 – Maintenance Strategy

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1.0 Directorate of Estates and Facilities (DOEF) Mission Statement

- 1.1** To contribute to the aims and objectives of the University Mission Statement by providing excellence through best professional practice in relation to the management, operation and maintenance of the University estate, creating an environment which is fit for purpose.

2.0 Purpose of Document

- 2.1** The purpose of this Maintenance Strategy is to provide a clear statement of the objectives and methods to be employed by the University of Manchester to ensure its portfolio of buildings does support the institution's strategic/service delivery objectives whilst also preserving asset value.
- 2.2** The Maintenance Strategy aims to ensure that, so far as is reasonably practicable, the built estate is; fit for the purpose intended, complies with current legislation and is maintained, to provide a safe and secure environment. Revenue funded maintenance budgets are used for reactive and cyclical maintenance of existing building structure and fabric, core mechanical and electrical services, statutory inspections and testing of specialist installations and equipment, and grounds maintenance.
- 2.3** The strategy defines the framework on which all building maintenance, new capital works projects and management operations should be based to ensure a consistent approach in the planning, management and reporting of building maintenance.
- 2.4** In addition to supporting university strategic and visionary aims, the maintenance strategy seeks to protect the asset value of the built estate by optimising the life of building components and to minimise disruption as a result of unforeseen major defects or component failures, which may adversely affect the operation of the University.
- 2.5** The University is committed to a process of risk management including identification and management of key risks, protecting and making best use of assets, to ensure that the University is capable of delivering its core business objectives.
- 2.6** In the context of the maintenance strategy, risk management involves minimising the risk of unforeseen major defects or failures, which may adversely affect the operation of the University, or cause harm to students, staff or visitors. Correspondingly, an effective maintenance strategy mitigates the potential for claims against the University associated with negligence and statutory non-compliance matters.

3.0 Maintenance Objectives

3.1 The key maintenance objectives adopted by the University are to:

- 3.1.1 Return buildings to (and maintain them in) a condition which is consistent with Estates Strategy objectives, the maintenance standards set out in this arrangement and University service delivery needs.
 - 3.1.2 Ensure maintenance and capital works projects create suitable environments which enhances the staff and student experience.
 - 3.1.3 Ensure buildings, services and grounds comply with legislation and are kept in a safe condition thereby mitigating the University against potential claims in respect of negligence and statutory non-compliance matters.
 - 3.1.4 Ensure the planning, procurement and delivery of maintenance and capital works projects achieves value for money.
 - 3.1.5 Ensure projects minimise future life cycle and operating costs and protect the asset value for the University's built estate.
 - 3.1.6 Minimise the risk of unforeseen major defects or component failures which may adversely affect the operation of the University.
 - 3.1.7 Minimise disruption to staff and students through proper planning of works.
 - 3.1.8 Provide cost and other information to permit ongoing assessment of maintenance performance.
 - 3.1.9 Ensure design solutions and technical specifications comply with the University's Environmental policy.
 - 3.1.10 Protect the asset value of the University's built estate by optimising the life of building
 - 3.1.11 Ensure the University obtains a cost effective and professional maintenance service, which makes the best use of available funding.
 - 3.1.12 Establish robust planning processes that allow the prioritisation of maintenance programmes and enable the University to anticipate the future cost of associated expenditure, whilst understanding the risks where maintenance work is deferred.
- 3.2** The objective of the DOEF is to ensure the delivery of a comprehensive maintenance service that is aligned with the University's vision and character and the Estate Strategy. DOEF have adopted an approach which aims to ensure that the estate is maintained in a manner that provides a safe, reliable and secure environment, which is fit for purpose, complies with current legislation and demonstrates quality and value for money.

DOEF will, through consultation with stakeholders and by the development of benchmarks with comparable institutions and organisation, introduce where advantageous, service level agreements incorporating agreed service standards. Value for money, quality and sustainability will be evaluated through the continual monitoring of the services achievement against key performance indicators and customer feedback mechanisms.

DOEF will continually review the provision of maintenance and will seek to develop services through innovation, research and the development of staff and service providers.

4.0 Definition of Building Condition

4.1 The following categories of condition will be used for the purpose of analysis:

- **“A”** As new condition. Typically built within the last 5 year. Maintained/serviced to ensure fabric and building services replicate conditions at installation. No structural, building envelope, building services or statutory compliance issues apparent. No impacts upon operation of the building. The expectancy is that with proper maintenance the building will provide a satisfactory standard of service.
- **“B”** Sound, operationally safe and exhibiting only minor deterioration that can be dealt with within existing maintenance budgets. Maintenance will have been carried out during this period. Minor deterioration to internal/external finishes. Few structural, building envelope, building services or statutory compliance issues apparent. Likely to have minor impacts upon the operation of the building. (For example a roof is preventing water penetration apart from one or two slipped or broken slates)
- **“C”** Operational, but major repair or replacement will be necessary within a reasonably short period, with costs included within the current Long Term Maintenance Plan. Requiring replacement of building elements or services elements in the short to medium term. Several structural, building envelope, building services or statutory compliance issues apparent, or one particularly significant issue apparent. Often including identified problems with building envelope (windows/roof etc.) building services (boilers/chillers etc.). Likely to have major impacts upon the operation of the building, but still allow it to be operable. (For example, a roof where frequent repairs have been carried out but the condition continues to deteriorate indicating that it is approaching the end of its life)
- **“D”** Inoperable, unsafe, with the serious risk of major failure or breakdown requiring urgent expenditure. Building is inoperable due to statutory compliance issues or condition representing a health and safety risk or breach. May be structural, building envelope, or building services problems coupled with compliance issues. The conditions are expected to curtail operations within the building. (For example, a roof which is no longer

Weatherproof and is causing increasing damage to other elements of the building, electrical installations, structure and walls).

- 4.2** The policy for the DOEF is to bring all buildings greater than 5 years old, together with associated engineering services, to Condition “B”.

5.0 Building Condition Survey

- 5.1** The University will arrange for condition surveys to be undertaken in every 5th year to assess the physical condition of the estate, in order to inform strategy, planning, management and funding of maintenance works. An internal assessment will be undertaken by the DOEF Team to determine which premises should receive full condition surveys taking into consideration estate strategy objectives.

- 5.2** To maximise the benefits to the Institution the condition survey will:

- 5.2.1 Provide an informed and comprehensive assessment of the physical condition of the estate for all areas and elements
- 5.2.2 Provide an estimate of how many years from the date of review repairs/replacement will be needed.
- 5.2.3 Confirm the effectiveness of previous maintenance works undertaken.
- 5.2.4 Provide an elemental analysis of individual buildings, use the following condition priority ratings and provide costings for each element:

5.3

Condition Priority Ratings	
Priority Rating	Definition
Priority 1	Works cannot be deferred without breaking statutory obligations and health and safety regulations and, if not undertaken, will seriously affect the building occupants operations and functions
Priority 2	Works that cannot be deferred without risk of serious penalties, in terms of dilapidation and increased cost
Priority 3	Works that are highly desirable in order to maintain the value and functional utility of the estate
Priority 4	Works that are necessary to maintain or improve current standards, or show a saving in running or operational costs.

- Advise on Fire Risks, Health & Safety and Equalities

Act 2010 compliance.

- Provide input into the strategic planning framework of the University.

6.0 Organisation

- 6.1** On completion of the above surveys, the DOEF will organise the University's maintenance activities in accordance with the following maintenance work classifications:

Classification of Maintenance Work	
Planned Preventative Maintenance	Legislative Compliance Preventative & consequential
Cyclical Maintenance	Statutory Testing Scheduled Annual Maintenance
Reactive Maintenance	Unplanned Corrective and Emergency Maintenance
Long Term Maintenance	Elemental replacement of key building elements as per the 10 year LTM Plan

- 6.2** The Client Services Unit (CSU) will assess the criticality of repairs identified in the surveys and prepare a 5 and 10 year Long Term Maintenance Schedule which records all works identified for each building, ranked in order of importance/anticipated timescales with estimated costs attached to each repair element.

- 6.3** In prioritising and budgeting works CSU will particularly take account of the following and any other criteria which will ensure a value for money solution is achieved:

6.3.1 Legislative Compliance

Consideration will be given to whether maintenance identified is required to comply with H&S, Fire, EA, obligations under leases held and any other relevant legislation. If failure to carry out works places staff and students at risk then these works should be defined as Priority 1 works in undertaken as soon as is practicably possible. Student and Staff safety and health should be protected at all times.

In addition to the above the University is also required to comply with a wide range of statutes and regulations. The most relevant to maintenance are covered in EPM HS15 – Estates Ownership and Occupancy – Statutory Compliance Policy.

6.3.2 Other Activities

Account will be taken of other activities (such as Directorate Small Works Programmes, Environmental Sustainability Action Plans, Reactive Maintenance Requirements, and the main Capital Programme) in determining the most cost effective delivery of the maintenance schedule.

6.3.3 Opportunities to Integrate Work Packages

Opportunities to collate property related work will include identifying opportunities for assembling several work schemes into one package to achieve greater value for money and minimise disruption to staff and students.

6.3.4 Estates Strategy/Faculty Objectives

Prior to implementing maintenance works a review of estate/faculty/environmental/other new objectives will be undertaken to confirm the requirement for repairs is appropriate.

6.3.5 Material Life Expectancy

Consideration will also be given to the types and quality of materials to be used. These will reflect the future expected life/use of the premises and costs applied accordingly.

6.3.6 Frequency of Maintenance Work

Planned and Cyclical Maintenance will be undertaken at frequencies determined by manufacturers recommendations, relevant British Standards and Codes of Practice etc. but adjusted in the light of local experience, survey observations, anticipated weather and seasonal implications when appropriate.

Reactive Maintenance will also be undertaken as soon as practicable having due regard for financial implications, risks which will arise from failure and the degree of disruption caused to University activities which will be caused by undertaking the work. Through proper planning and financing of works it is expected that reactive work will be kept to a minimum.

6.3.7 Non Freehold Property

The University's lease obligations as a tenant for maintenance, periodic refurbishment, redecoration and dilapidations will be assessed and included within the 5 year Planned and Cyclical Maintenance Schedule.

6.3.8 Redecoration Cycles

In developing a 5 year Planned and Cyclical Maintenance Schedule the Client Services Unit will have regard to the following policy on redecoration for the Academic/Non-Academic property portfolio, subject to funding availability:

External Redecoration	Every 5 years
Internal Redecoration	Every 7 years in light use areas (such as conference rooms) Every 5 years in medium use area (such as catering areas) Every 3 years in heavy use areas (such as main receptions)

A programme will be prepared for residential accommodation properties and incorporated within the revenue Long Term Maintenance budget for residences.

All painting will be carried out by external contractors selected from an annual one off tender basis.

7.0 Day to Day Maintenance

- 7.1** Day to day maintenance is defined as a sensible and practical repair on a like for like basis for the continuance of preservation, protection, repair to and upkeep, generally lasting no longer than one person day.
- 7.2** All day to day maintenance will be carried out with minimum disruption to the academic activities of the University.
- 7.3** Priority will always be given to statutory and other health and safety requirements and any work relating to emergencies such as major electrical failures; persons stuck in lifts; floods; gas escapes etc. and these will be responded to within one hour of reporting. On attendance an assessment will be carried out and actions put in place to make safe and prevent further damage.
- 7.4** All other breakdown/reactive work will be responded to in accordance to an agreed priority list.
- 7.5** All day to day work shall be recorded on the DoFE helpdesk system, without exception.

- 7.6** The in-house engineering direct labour force or the building measured term contractor(s) will in general carry out day to day maintenance. Exceptions will generally be of a specialist nature when specialist contractors will be employed via annually or longer as appropriate, tendered contracts.
- 7.7** The Maintenance Services Unit Manager is responsible for the quality of the maintenance service provided and shall carry out an agreed percentage of post inspection to determine satisfactory completion and acceptable workmanship, both for in house and external contract labour.
- 7.8** All funds for day to day maintenance are devolved to and are the responsibility of the Maintenance Services Unit Manager.

8.0 Cyclical and Planned Maintenance

- 8.1** Cyclical and planned maintenance can be split into 3 categories:
- Statutory – the aim will be to carry these out to recommended timescales and standards.
 - Preventive – this will be done as necessary, at the discretion of the Maintenance Services and Client Services Unit Manager's in consultation with the Heads of Faculty Estates, to secure reliability based on condition to recommended standards.
 - Breakdown – will be done as identified.
- 8.2** Cyclical and planned preventative maintenance will be carried out at predetermined intervals with forethought, control and the use of records to an established plan. The Maintenance Service Manager is responsible for establishing and maintaining the individual PPM and Statutory regimes. All records of Statutory Testing are to be kept in a format to satisfy the Health & Safety at Work etc. Act 1974 and all associated subordinate legislation.
- 8.3** Frequencies for Cyclical and Planned Preventative Maintenance will be as recommended in the Building Health and Safety File together with good practice by relevant professional bodies such as RICS; CIOB; CIBSE; BRE etc. and in particular BS.8210: 2012.
- 8.4** It is the intention that Cyclical and Planned Preventative Maintenance work shall be transferred to / managed in the DOEF Oracle Enterprise Asset Management System. The maintenance of certain assets groups, as listed in Appendix D, may be directly by the MSU Specialist Services Manager.
- 8.5** All funds for Cyclical and Planned Maintenance are devolved to and are the responsibility of the Maintenance Services Unit Manager.

9.0 Small Scale Maintenance/Improvement Works

- 9.1** Small scale maintenance/improvement work is defined as work of a non- routine nature that is not considered day to day, generally costing no less than £5,000 or more than £50,000.
- 9.2** Small scale maintenance/improvement work will be carried out by engineering direct labour, measured term contractors or contractors on a one-off tender basis at the discretion of the Maintenance Services Unit Manager, whichever provides best value for money.
- 9.3** All small scale Maintenance/improvement work will either be entered on the DoFE Helpdesk system or the Directorate Project Management system, depending on the category of work, without exception.

10.0 Long Term Maintenance

- 10.1** Long term maintenance is defined as work of a non-routine nature generally costing £10,000 or more, where building or engineering elements have failed and are beyond economical repair by routine maintenance or do not comply with legal requirements. Work will not necessarily be on a like for like basis where it can be demonstrated that alternative solutions will give lower future maintenance or utility running costs.
- 10.2** A 10-year rolling maintenance programme will be prepared which will recommend investment levels to maintain the University estate at condition category B. This programme will identify each building and will be reviewed annually, by the preparation and upkeep of up-to-date condition surveys. The costs indicated are orders of cost inclusive of all overheads, professional fees and VAT valid at the date of the issue of the programme.
- 10.3** Two separate lists will be prepared – one for residential accommodation properties and another for non-residential.
- 10.4** Priorities will be decided by balancing statutory health & safety responsibilities, condition and expected life of building and engineering elements whilst at the same time considering academic needs. However where better value for money can be achieved work activities will be grouped to reduce costs and minimise disruption. Buildings facing major refurbishment or disposal will be considered in detail to avoid unnecessary expenditure and work may be held in abeyance until the future is determined. However it is expected, subject to funding, that where major refurbishment is carried out long term maintenance issues would be addressed at the same time.

- 10.5** The Heads of Faculty Estates may bring to the attention of the DoFE any items that they feel need replacing within the next 10 years. The approved programme will be issued to all faculties, schools and other customers for information.
- 10.6** Long term maintenance projects will be allocated to individual project managers within the Directorate. Each project will go through the DoFE Project Allocation process (EPM PM2) and be raised on the Project Management system, initiated by the CSU, without exception. All projects will be carried out with reference to the University's Policies and Procedures including the Design Team Code of Practice and other documents. External consultants will be appointed as necessary to supplement internal resources to meet timescales.
- 10.7** External contractors will in general, carry out long term maintenance work by one off tenders.
- 10.8** All funds for long term maintenance are the responsibility of the Head of Client Services.
- 10.9** Long Term Maintenance funds shall only be utilised for building/engineering assets or maintenance work that is of a non-routine nature, which is required where building or engineering elements have failed, are in imminent danger of failing, or no longer comply with legal requirements.

11.0 Grounds Maintenance and Public Realm Works

The general principles that should be considered for the management and maintenance of the Public Realm are:

- 11.1** Ensure that annual maintenance budgets reflect the standards invested in the public realm. The standard of maintenance should match the level of design implemented.
- 11.2** Maintenance regimes should reflect the function and intensity of use of the streets and spaces to ensure a regular and appropriate scheduling of work occurs.
- 11.3** Cleaning and repair should not only maintain high quality grounds and spaces but should ensure a safe and hazard free environment.
- 11.4** General cleaning - Cleaning of the public realm should be carried out frequently to maintain high standards of cleanliness. Litter should be collected on a regular basis, Graffiti should be removed when it occurs and damage caused by vandalism should be repaired immediately to the original specification.
- 11.5** Drainage Maintenance - All surface drainage elements should be inspected on a regular basis. Debris such as litter or tree leaves should be removed and disposed of and blocked gullies or drains cleared. Jetting should only be used after other techniques have been exhausted.

- 11.6** Street Lighting – Lighting levels should be checked annually including identifying lamp failures. Electrical testing should be undertaken at least every five years in accordance with BS 7671 Requirements for Electrical Installations.
- 11.7** Paving and Surfacing - Jetting should only be used where there is minimal risk of removing mortar jointing and subsequently damaging the sub base. Unwanted plant material in all hard areas should be controlled throughout the year. Hand weeding is the preferred technique for removing plant material and therefore the use of herbicide should be kept to a minimum. A record of paving and surfacing conditions should be kept at all times
- 11.8** Soft Landscaping – Inspection and maintenance of trees should be carried out on a regular basis to reduce the risk of personal injury and/or damage to buildings. A register of substantial trees should be maintained recording chronological actions and comments. Shrubs to be maintained for aesthetics and safety requirements.
- 12.0 Building, Electrical, Fire and Mechanical Services**
- 12.1** In order to assist in the Planned Preventative Maintenance of building, electrical, fire and mechanical services, all items of plant, equipment and systems shall be given a unique asset label. The asset label shall be used on all correspondence and documentation – Refer to Appendix A, B and C.
- 12.2** Generally asset identification labels shall be aluminium, Ivorine or similar material with 10mm Engraved Lettering. For subcomponents of certain systems such as fire alarms a barcode or similar unique labelling system may be utilised.
- 12.3** Planned Preventative Maintenance of building, electrical, fire and mechanical services shall be carried out to recommended timescales to comply with statutory compliance legislation.
- 12.4** In order to ensure maintenance is carried out in accordance with statutory legislation a monthly KPI report will be produced and audited on an annual basis.
- 12.5** The responsibility for maintenance of various building, electrical, fire and mechanical plant and equipment is shared between 'Directorate of Estates and Facilities' (DOEF) and the 'Occupier' (School/Faculty). This responsibility is defined in document; Health and Safety Arrangements, Chapter 23.
- 12.6** Where appropriate building, electrical, fire and mechanical PPM operations shall be carried out by in-house direct labour force operatives.

- 12.7** Specialist building, electrical, fire and mechanical PPM operations shall be carried out by an appropriate Specialist Contractor under the control and direction of MSU – Refer to Appendix D for range of specialist services.
- 12.8** A large percentage of PPM operations are related to legionella compliance; to avoid congestion of both the initial task and any remedial works these shall be carried out to an agreed programme. Refer to Appendix E.

Appendices

<u>Appendix</u>	<u>Title</u>
A	Asset Labelling Strategy
B	Building, Electrical, Fire and Mechanical Asset Groups
C	Asset Labelling and PPM Process
D	Specialist Contractor
E	Legionella Compliance Tasks – Two year cyclic management plan

Asset Labelling Strategy

All Mechanical and Electrical Assets to be labelled in accordance with the following strategy:-

Building No.	Block No.	Asset Group	Unique No.
Obtain from Archibus	Obtain from Archibus	Obtain from Asset Group List (Appendix B)	3 digits

Example

Building:	Wolfson	151
Block No:	Main	AA
Asset Group:	Air Conditioning Unit	AHU
Unique No:	005	005

ASSET IDENTIFICATION:

151AAAHU005

Notes

1. Generally asset identification labels to be aluminium, ivory or similar material with 10mm Engraved Lettering.
2. For subcomponents of certain systems such as fire alarms a barcode or similar unique labelling system may be utilised.
3. All labelling to be agreed with CSU to ensure conformity with the DoFE Computer Aided Facilities Management (CAFM) System and assessment management plan.

EPM – FM1 Appendix B Building, Electrical, Fire and Mechanical Asset Groups

Element	Sub Element	Asset Group
BUILDING	Abseil Rings	ABS
BUILDING	Anchor Points	ANC
BUILDING	Roof Exit Lift Motor Rm / Tank Rm Doors	BDD
BUILDING	Above Ground Drainage	BDP
BUILDING	Below Ground Drainage	BDU
BUILDING	Irrigation Systems (Drainage Watercourses)	BDW
BUILDING	External Fixtures (including Railings/Gates)	BEF
BUILDING	External Hardstandings	BEH
BUILDING	External Wall Fabric	BEP
BUILDING	External Windows	BEW
BUILDING	Green Roof	BGR
BUILDING	Service Risers (Switchrooms, Office Doors, Toilets and Auxillary Rooms)	BID
BUILDING	Internal Fixtures – including Folding Partitions, Mobile Racking, Retractable Seating	BIF
BUILDING	Building Internal Surfaces	BIS
BUILDING	Entire Building	BLD
BUILDING	Roof	BRA
BUILDING	Roof Drainage	BRD
BUILDING	Roof Safety Systems	BRS
BUILDING	Roof Lights – (e.g. NORTHLIGHT, ETFE etc..)	BRW
BUILDING	Eyebolt	EYE
BUILDING	Fixed Access Ladder Platforms and Gantries	FAL
BUILDING	Fall Arrest System	FAS
BUILDING	Fixed Lifting Beam	FLB
BUILDING	Building Floor	FLR
BUILDING	Gutters and Lightwells	GUT
BUILDING	Land Ditches	LDI
BUILDING	Central Teaching Spaces (CTS) rooms (e.g. Tiered Lecture Theatres, Seminar Rooms and Centrally Booked Meeting Rooms)	LEC
BUILDING	Life Line Systems	LLS
BUILDING	Ladder Ties	LTl
BUILDING	Moveable Wall Installations	MWI
BUILDING	Provision for Disabled	POD
BUILDING	Restraint and Isolation Post	POS
BUILDING	Road/Pathways Inspection	RPI
BUILDING	Roof Internal – Structural Frame - Roof Voids	RVI
BUILDING	Ramps, Walkways and Stairs	RWS

EPM – FM1 Appendix B Building, Electrical, Fire and Mechanical Asset Groups

Element	Sub Element	Asset Group
BUILDING	Runway Track (e.g. External Cradle Rails)	RWT
BUILDING	Stained Glass Inspection	SGI
BUILDING	Suspension Devices	SUS
BUILDING	Tunnel Inspections	TNL
BUILDING	Window (including opener)	WIN
BUILDING	Washrooms (common) Inspections	WRI
ELECTRICAL	Assistance Call Unit (Alarm for Disabled)	ASU
ELECTRICAL	Chandelier Lifting Gear	BCH
ELECTRICAL	Chandelier (lighting)	CHN
ELECTRICAL	Car Park Barriers	CPB
ELECTRICAL	CCTV System	CTV
ELECTRICAL	Door Access Control	DAC
ELECTRICAL	Auto Doors, Turnstiles, Gates and Contract Maintained Doors (If electrically driven)	DTG
ELECTRICAL	Access Control System (Electric)	EAC
ELECTRICAL	Lighting Controls	ELC
ELECTRICAL	Electrical System (Building)	ELE
ELECTRICAL	Emergency Batteries (General)	EMB
ELECTRICAL	Outdoor Lighting	EOL
ELECTRICAL	Photovoltaic Installation	EPV
ELECTRICAL	Refuse Alarm Communication System	ERS
ELECTRICAL	Escalator	ESC
ELECTRICAL	Generator	GEN
ELECTRICAL	High Voltage Switchgear	HVS
ELECTRICAL	Intruder Alarm System	IAS
ELECTRICAL	Accessibility Hoist	LAH
ELECTRICAL	Crane/Lift or Lifting Equipment	LCR
ELECTRICAL	Lighting Control System	LCS
ELECTRICAL	Lifts (Goods/ Passenger /Platform)	LIF
ELECTRICAL	Lightning Protection System	LPS
ELECTRICAL	Public Address System	PAS
ELECTRICAL	Portable Appliance Testing	PAT
ELECTRICAL	Power Factor Correction	PFC
ELECTRICAL	Stair Climbers and Stair Lifts	STC
ELECTRICAL	Substations (High Voltage)	SUB
ELECTRICAL	Switchrooms	SWI
ELECTRICAL	Uninterrupted Power Supply Unit	UPS

EPM – FM1 Appendix B Building, Electrical, Fire and Mechanical Asset Groups

Element	Sub Element	Asset Group
FIRE	Alarm Monitoring System (e.g. REDCARE ETC..)	AMC
FIRE	Back-up Emergency Lighting - (Local)	BEL
FIRE	Emergency Batteries – Central Battery Unit	CBU
FIRE	Deaf Alerter Systems	DAS
FIRE	Dorguard Devices	DGD
FIRE	Detent Devices (e.g. Door Magnets and Door Opening Systems)	DTD
FIRE	Dry/Wet Risers	DWR
FIRE	Emergency Lighting	EEL
FIRE	Fire Alarm System	EFA
FIRE	Evacuation Chairs	EVC
FIRE	Fire Fighting Equipment (including Portable Fire Extinguishers and Fire Blankets)	EXH
FIRE	Fire Damper Automatic (Motorised)	FDA
FIRE	Fire Damper Fusible Link	FDM
FIRE	Fire Escape (e.g. External Stairs Exposed / Covered)	FES
FIRE	Fire Pump	FPM
FIRE	Fire Alarm System	FRA
FIRE	Fire Doors (Internal)	FRD
FIRE	Fire Exits (External e.g. Door/Exit Point leading to outside / External Stair)	FRE
FIRE	Fire Suppression Systems	FRS
FIRE	Smoke Dampers	FSD
FIRE	CO2/Gas Fire Suppression	FSS
FIRE	Fire Hydrants	HYF
FIRE	Refuge Alarm System Communications	RFC
FIRE	RESQMAT (Fire Rescue Mat)	RQM
FIRE	Staircase Pressurisation	SCP
FIRE	Smoke Extract Fan	SEF
FIRE	Smoke Extract System	SES
FIRE	Fire Curtains (Smoke Curtains)	SKC
FIRE	Sprinklers (Maintenance)	SPR
FIRE	Voice Alarm System	VAS
MECHANICAL	Air Conditioning Unit (DX Indoor Unit – cassette)	ACC
MECHANICAL	Autoclave	ACL
MECHANICAL	Acid Collection Tank	ACT
MECHANICAL	Air Conditioning Unit (DX Outdoor Unit)	ACU

EPM – FM1 Appendix B Building, Electrical, Fire and Mechanical Asset Groups

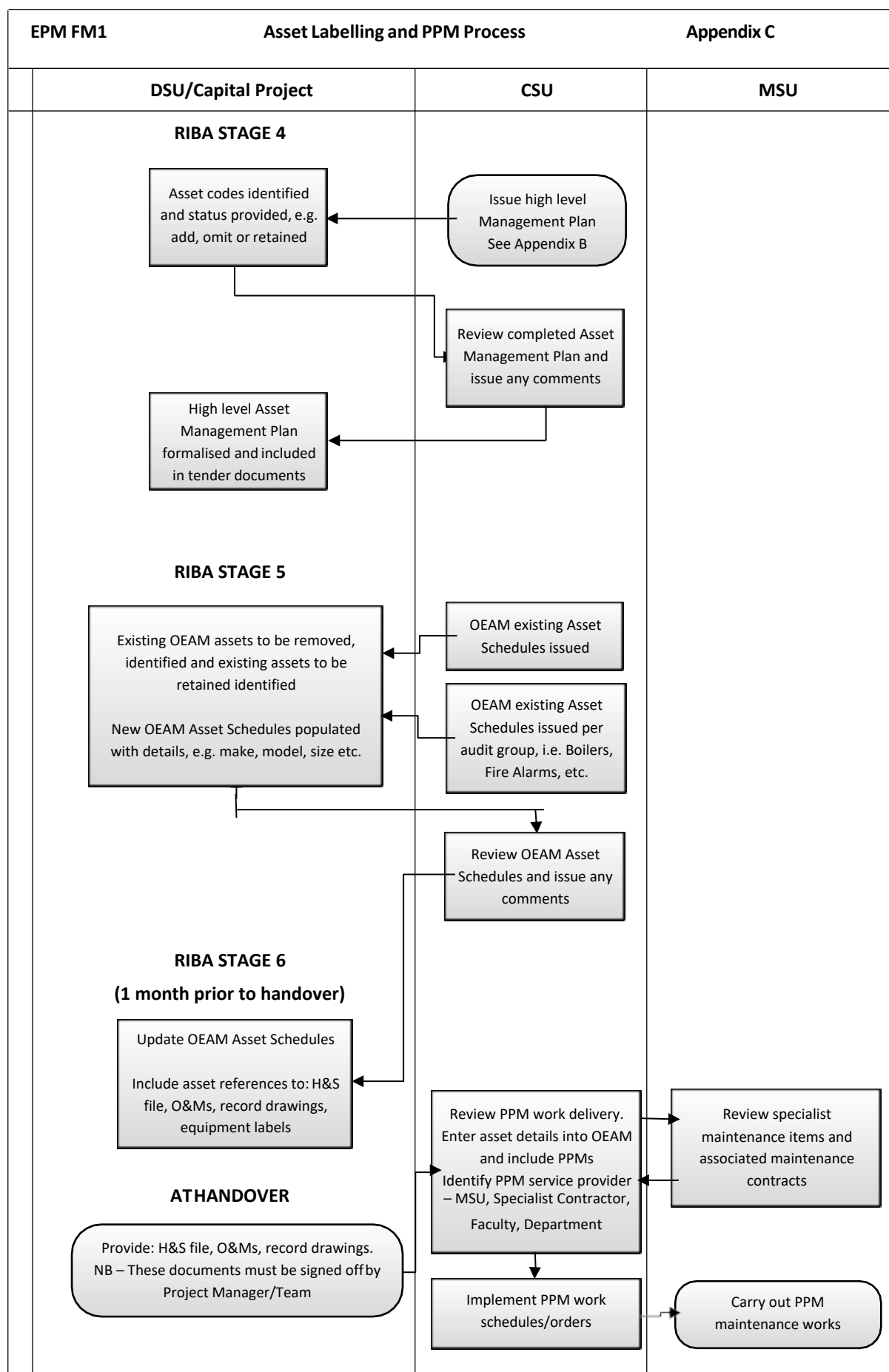
Element	Sub Element	Asset Group
MECHANICAL	Acid Discharge Pump	ADP
MECHANICAL	Air and Dirt Separator	ADS
MECHANICAL	Air Compressor	AEC
MECHANICAL	Air Receiver	AER
MECHANICAL	Air Handling Unit	AHU
MECHANICAL	Air Supply Fan - General	ASF
MECHANICAL	Blow Down Vessel	BDV
MECHANICAL	Buffer Vessel (Heating and Chilled Water)	BFR
MECHANICAL	Boilers	BLR
MECHANICAL	Control System - BMS	BMS
MECHANICAL	Cold Water Booster Set	BWS
MECHANICAL	Corrosion Coupon Rack	CCR
MECHANICAL	Chemical Dosing Pot	CDP
MECHANICAL	Condense Receiver	CDR
MECHANICAL	Cold Water Tank (Cold Feed Tank)	CFT
MECHANICAL	Chimney	CHI
MECHANICAL	Chiller	CHL
MECHANICAL	Combined Heat and Power Unit	CHP
MECHANICAL	Computer Room AC Unit System	CRC
MECHANICAL	Cold Rooms	CRM
MECHANICAL	Chilled Water Distribution System	CWS
MECHANICAL	Cooling Tower	CWT
MECHANICAL	Domestic Hot Water Calorifier	DCL
MECHANICAL	Dewer (Vacuum Flask for Cryogenics e.g. Liquid Nitrogen / Helium)	DEW
MECHANICAL	Deep Freezer	DFZ
MECHANICAL	Air Dryer (Compressed Air)	DRY
MECHANICAL	Ductwork Distribution System	DUC
MECHANICAL	Domestic Water Filter	DWF
MECHANICAL	Domestic Water Pump	DWP
MECHANICAL	Domestic Water Distribution System	DWS
MECHANICAL	Boiler Economiser	ECO
MECHANICAL	Emergency Cut-off Valve (Utilities)	ECV
MECHANICAL	Emergency Shower	EMS
MECHANICAL	Electric Water Heaters (Storage)	EWH
MECHANICAL	Eye Wash Stations	EWS

EPM – FM1 Appendix B Building, Electrical, Fire and Mechanical Asset Groups

Element	Sub Element	Asset Group
MECHANICAL	Expansion Vessels	EXV
MECHANICAL	Fan Coil Units (Low Pressure Hot Water and Chilled Water)	FCU
MECHANICAL	Fume Cupboard Extract Fans	FCX
MECHANICAL	Filtration System (Water Systems)	FIL
MECHANICAL	Urinal Flow Controls	FLO
MECHANICAL	Feed and Expansion Tank	FNE
MECHANICAL	Fuel Tank	FTN
MECHANICAL	Fume Cupboard	FUM
MECHANICAL	Gas Distribution System	GAS
MECHANICAL	Gas Booster Pump	GBP
MECHANICAL	Gas Detection Unit / System	GDU
MECHANICAL	General Extract Air Fan	GEX
MECHANICAL	General Air Heaters (Over Door, Space etc...)	GHU
MECHANICAL	Gas Storage Tank	GST
MECHANICAL	Grease Traps (Drains)	GTR
MECHANICAL	Gas Exhaust Fan	GXT
MECHANICAL	Steam Oil Heaters	HBO
MECHANICAL	Heating Calorifier (LPHW, MPHWP and Electric)	HCL
MECHANICAL	Heat Recovery Unit	HRU
MECHANICAL	Heating Distribution System	HTG
MECHANICAL	Energy Meters	HTM
MECHANICAL	Hydro Tap (Domestic Hot/ Chilled Water)	HTO
MECHANICAL	Steam Boiler Hotwell	HTW
MECHANICAL	Humidifiers	HUM
MECHANICAL	Hot Water Boiler (Potable Domestic Electric)	HWB
MECHANICAL	Kitchen Extraction Systems	KES
MECHANICAL	Liquid Detection Systems (Leak)	LDS
MECHANICAL	Louvres	LVR
MECHANICAL	Macerator	MAC
MECHANICAL	Meters - Gas, Electric and Water	MTR
MECHANICAL	Oil Tank Gauges	OIL
MECHANICAL	Oil Storage Tanks	OST
MECHANICAL	Oil and Water Separator	OWS
MECHANICAL	Primary Chilled Water Pump	PCP

EPM – FM1 Appendix B Building, Electrical, Fire and Mechanical Asset Groups

Element	Sub Element	Asset Group
MECHANICAL	Process Cooling System (Systems dedicated to Research Equipment and Teaching e.g. Electron Microscope, MRI Scanner etc..)	PCS
MECHANICAL	Plate Heat Exchanger	PHE
MECHANICAL	Primary Heating Pump	PHP
MECHANICAL	Pump (General)	PMP
MECHANICAL	Point of Use Domestic Water Heater (Low / Non Storage)	POH
MECHANICAL	Petrol/Oil Interceptors	POI
MECHANICAL	Plantroom Maintenance	PRM
MECHANICAL	Pressure Reducing Unit	PRU
MECHANICAL	Pressure Relief Valve	PRV
MECHANICAL	Pressure System - Steam Distribution	PSA
MECHANICAL	Pumping Station Equipment - Sewage	PSE
MECHANICAL	Pressurisation Unit	PSU
MECHANICAL	Pressure Pipework	PWK
MECHANICAL	Reverse Osmosis Plant	ROM
MECHANICAL	RPZ Valve	RPZ
MECHANICAL	Control System - Standalone	SAL
MECHANICAL	Steam Calorifier	SCL
MECHANICAL	Septic Tank	SEP
MECHANICAL	Steam Generator	SGR
MECHANICAL	Shower Heads	SHW
MECHANICAL	Steam Meters	SMT
MECHANICAL	Solar Thermal System	SOL
MECHANICAL	Sun Pipes	SPI
MECHANICAL	Sump Pump	SUP
MECHANICAL	Safety Valves	SVA
MECHANICAL	Steam Vent	SVT
MECHANICAL	Toilet Extract Fan	TEX
MECHANICAL	Trace Heating System	THS
MECHANICAL	Thermostatic Mixing Valve	TMV
MECHANICAL	Ultra Violet Steriliser / Ultra Violet Lamp	UVS
MECHANICAL	VAV Boxes	VAV
MECHANICAL	Water Treatment Plant	WAT
MECHANICAL	Water Softener Plant	WSO
MECHANICAL	Water Stop Valve	WSV
MECHANICAL	Welding Extract Fan	WXT



Specials	Maintenance Contractor	Address	Phone
Air Compressors			
Alarm Monitoring			
Autoclaves			
Automatic Doors			
Boiler Controls/Fume Cupboard Controls			
Boilers			
Chillers			
Chimney Inspection			
Data Installations			
Disabled Lifts			
Electrical Inspection			
Emergency Lighting			
Evacuation Chairs			
Facilities Management			
Fall Arrest			
Fire Alarms			
Fire Dry Risers			
Fire Extinguishers			
Fire Hose Reels			
Fire Hydrants			
Fire Suppression			
Gas Monitoring			
Generator Maintenance			
High Mast Lights			
Humidifiers			
Insurance Inspection			
Intruder Systems			
Lift Consultants			
Lifts			
Lightning Protection			
Overhead Cranes			
Pressurisation Units			
Pumping Stations			
Radio Licensing			
Refrigeration			
Refuge Alarms			
Sprinkler System			
Turnstiles			
Turntable Inspection			
Water Treatment			
Water Treatment Filters			

Service	Maintenance Contractor	Address	Phone
Access Control			
CCTV Systems			
Controls / BMS			
Electrical Appliance Testing			
Energy Services			
HV Sub Station Maintenance			
Membrane Roofs			
Refuge Alarms			
Uninterruptible Power Supplies			
Window Blinds+A36			

