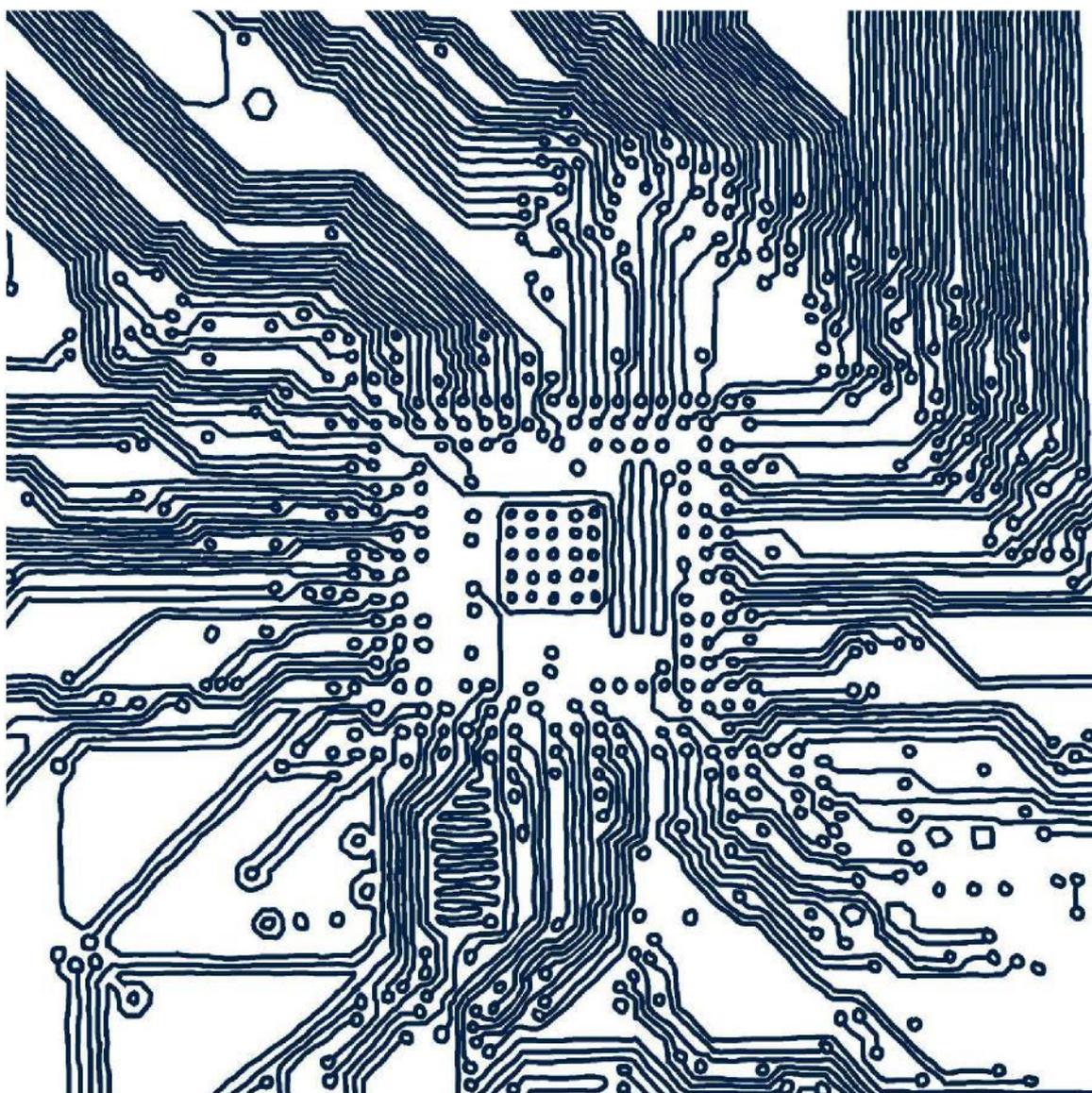




UNIVERSITY OF
OXFORD

Estates Services

O&M Philosophy Document



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Contents

1. Definitions and terms	4
2. Guidance for the Production of Project Documentation	6
2.1 Purpose of this Project Documentation guidance	6
2.2 Scope and limitation of this document	6
2.3 Revision history	6
3. University Departments' and Estates Services' Teams overview of requirements	7
4. CAD Drawings and BIM	8
4.1 General information	8
4.2 Process	8
4.3 Drawings required	8
4.4 BIM	9
5. Hardcopy drawings	10
6. Electrical Access database (ElecFM)	11
6.1 General information	11
6.2 Process	11
7. Estates Services Building Database (Planon)	12
7.1 General information	12
7.2 Process	12
8. Operation and Maintenance Manuals documentation	14
8.1 General information	14
8.2 Type of OMM for a project	14
8.3 Naming conventions for sites and buildings	16
8.4 General Requirements for the OMM	16
8.5 Specific Requirements for the OMM	17
8.6 Process, Programme, Roles and Responsibilities for the OMM	22
Appendix A Roles and Responsibilities Matrix for EOMM	25
Appendix B Operation and Maintenance Manual Process Flow	26

1. Definitions and terms

The following definitions of terms and acronyms shall apply:

BMS	Building management system
BREEAM	Building Research Establishment Environmental Assessment Method guidance as per Issue MAN4 Building User Guide
Building	This refers to the building name and number as stipulated in the University Building List which shall be used as a basis for the name of the EOMM
Building stakeholders	Asbestos Management, Asset & Space Management, Building Services, Communications, Conservation & Buildings, Equality & Diversity, Finance & VAT, Fire Safety, Insurance, IT Services, Legal Services Office, Parks, Project Administration, Purchasing & Tenders, Safety Office, Security Services, Strategic Facilities Management, Sustainability, the Department, the Division.
CAD	Computer-Aided Design drawings
CDM	Construction (Design and Management) Regulations 2015
CIBSE	Chartered Institution of Building Services Engineers
Client	Both Estates Services and the occupying Department(s)
COSHH	Control of substances hazardous to health
Design Consultants	Includes the architect, structural, mechanical, electrical engineers/consultants and other specialist designers.
EOMM	Electronic operation and maintenance manuals. Unless otherwise stipulated, the EOMM shall be provided by the University's designated EOMM Supplier
EOMM Supplier	The company designated to provide the University with electronic operation and maintenance manuals
Equipment	Any engineering plant, machine or component
ES	Oxford University Estates Services
FM	Estates Services Facilities management team who carry out departmental maintenance responsibilities.
Handover	The process carried out at the end of RIBA Stage 6 to transfer responsibility for the building from the project team to the occupying Department and Estates Services

H&S	Health and safety
HV	High voltage
Installation	A specific system placed in position and set up for use
LV	Low voltage
M&E	Mechanical and electrical engineers
OMM	Operation and maintenance manuals, also known as 'O&M'
OMM Programme	The schedule for delivering an OMM
POMM	Paper-based operation and maintenance manuals
PPM	Planned and preventative maintenance
Project	A project which creates or changes the fabric, structure or equipment in a building
Project Team	Comprises the Project Manager, civil, mechanical and electrical and other technical consultants, architects, mechanical and electrical installers, and Main Contractor
R&M	Repairs and maintenance
RIBA Stage	The 2013 RIBA Plan of Work stages are 0 Strategic definition, 1 Preparation & brief, 2 Concept design, 3 Developed design, 4 Technical design, 5 Construction, 6 Handover & close out, and 7 In use.
SET	System Engineering Tools, effectively the control program for the Building Management System in logic block format
Site	This refers to the site as stipulated in the University's Building List which shall be used as a basis for the name of the EOMM
System	Associated or independent equipment or appliances which, when connected, form a complex unit
SysAdmin	ES Systems Administration team
Technical Author	The people and/or organisations that write, collate and present OMM information

2. Guidance for the Production of Project Documentation

2.1 Purpose of this Project Documentation guidance

The University's Estates Services teams and Departments require complete and current information for a building from when Estates Services hands over a project to the Department, through the life of the building for the operation, repair and maintenance, modification and finally at the end of the life of the building for decommissioning and disposal. The main goals of this guidance are to:

- Set out the requirements at Handover for project documentation of all University stakeholders to effectively manage a building's repairs, maintenance and disassembly.
- Remove the use of all paper-based operation and maintenance manuals (POMM).
- Rectify the issues associated with incomplete electronic operation and maintenance manuals (EOMM) at the time of Handover.
- Ensure records management and documents are produced to a high standard.

Consultation with the ES Head of Building Services is strongly recommended for **all** projects before commencing an OMM to agree the type of OMM and the responsible party for the approval of the final release of documentation.

2.2 Scope and limitation of this document

This O&M Philosophy Document defines the specification and provision of documents and processes associated with a building project post-construction, i.e. at RIBA Stage 7, for these teams:

- ES Operations (Building Services, Conservation & Buildings, Direct Labour Organisation)
- ES Information Management
- ES Systems Administration (SysAdmin)
- Occupying University Departments' Building maintenance teams or Estates Services Facilities management team

This guidance shall not detail project documentation required by ES Capital Projects during the construction and refurbishment of buildings undergoing RIBA Stages 0 to 6.

2.3 Revision history

Section 8.6 Project manager and Main Contractor roles clarified to resolve contradiction to JCT contract and CDM regulations. Note that Issue 1 was revised to Rev01.

3. University Departments' and Estates Services' Teams overview of requirements

Departments or Estates Services Facilities Management (FM)

Occupying Departments or FM require suitable and sufficient documentation to operate the building both in normal modes and in an emergency situation. Users of the OMM post-Handover shall typically have a very broad range of technical skills and a high level understanding of building systems.

Building Services, Conservation & Buildings, Direct Labour Organisation, Security Services

These teams use the OMM to set up the maintenance programme, to carry out fault finding and assist with reactive maintenance. OMM are also used to inform plant replacement and as a source of safety-related information to manage risks.

ElecFM is a Microsoft Access database of electrical information that is used by the Electrical section to manage all electrical records and the electrical programme of testing and inspection.

Capital Projects

Capital Projects requires complete project documentation at the time of Handover to the Department.

Environmental Sustainability

The Environmental Sustainability team requires information to support the Environmental Management System (ISO 14001) and to deliver and meet the University's environmental sustainability policy and resulting strategies.

Information Management

The Information Management team holds project records in archive. Information Management also requires current AutoCAD floor plans and drawings for updating the data in the ES Space database and for other information management activities including space charging and planning.

System Administrators (SysAdmin)

SysAdmin requires asset information to upload to Planon to set up the PPM routines. It uses asset information in Concerto to drive the condition survey.

4. CAD Drawings and BIM

The Main Contractor is responsible for providing all electronic drawings in AutoCAD format to the Information Management team in accordance with the ES CAD Standards. These drawings shall be managed by the Information Management team and stored on the O Drive.

4.1 General information

Software:	AutoCAD, Revit
Key users:	ES Information Management
Providers of information:	Main Contractor

The O Drive stores:

- The latest CAD drawings uploaded to Planon in \Property Information\[building number and name]\Drawings\General Arrangement.
- Old and scanned POMM information in \Property Information\[building number and name]\Manuals.
- Asbestos records information in \Property Information\[building number and name]\Health and Safety\Asbestos.

4.2 Process

The Main Contractor shall provide CAD drawings to the Information Management team. The drawings shall comply with the ES CAD Standards (available from CAD@admin.ox.ac.uk or the Concerto Library).

4.3 Drawings required

Schematics

The drawings shall include but not be limited to:

- Each mechanical system or sub-system if large
- Each electrical system or sub-system if large
- Other systems, e.g. security, fire etc.

Layout

The drawings shall include but not be limited to:

- Architectural building
- Structural

- Mechanical
- Electrical
- Landscaping

4.4 BIM

For projects delivered using BIM the following are required.

- A 3D model
- Native drawings in Revit or equivalent to allow modifications to the model.

5. Hardcopy drawings

The Main Contractor shall provide full-size encapsulated and framed 'as built' drawings of schematics of mechanical and electrical services and install these in the relevant plant rooms.

The drawings shall include:

- Low voltage schematic / electrical distribution
- Boilers and heating systems
- Chillers and chilled water systems
- Domestic hot and cold water systems
- Laboratory / process hot and cold water systems
- Air handling and ventilation systems
- Ground source heat pumps
- Combined heat and power system
- Gas system

The M&E Consultant shall check these drawings are updated to 'as built' and are installed in the appropriate places.

6. Electrical Access database (ElecFM)

6.1 General information

Software:	Microsoft Access application
Key users:	ES Building Services Electrical team
Providers of information:	Main Contractor

ElecFM holds all electrical distribution board and statutory testing information for all buildings at the University. PDF versions of the test certificates shall be included in the EOMM but it is **not** necessary to reproduce all ElecFM data in the EOMM. The EOMM shall refer the reader to ElecFM database for the latest electrical information

ElecFM stores:

- All electrical test and commissioning reports
- Asset data for all electrical components from transformers to final circuits
- Distribution board charts to the required University labelling standards
- Circuit test data which are validated to the latest British Standards

6.2 Process

The required electrical information shall be discussed and agreed with the ES Electrical Engineer at contract award. The Electrical Design Consultant shall check the information provided in ElecFM for accuracy and return it to the ES Electrical Engineer with high level information for uploading to ElecFM (a blank template in Microsoft Excel is available from the ES Electrical team). The ES Electrical Engineer shall forward the revised template to the Main Contractor. The Main Contractor shall provide the schedule of distribution boards and statutory testing information and return it to the ES Electrical Engineer in the Microsoft Access format compatible with ElecFM.

7. Estates Services Building Database (Planon)

7.1 General information

Software:	Planon (cloud-based application)
Key users:	ES Information Management, ES Operations, ES Facilities Management Teams and building occupants of other Departments
Providers of information:	EOMM Supplier (from information provided from or via the Main Contractor)

Planon is used by many Departments in Estates Services to record property information and is used by the Repairs and Maintenance (R&M) teams to manage planned and reactive works, and by the Facilities Management teams to provide Helpdesk services including fault reporting, room reservations and hospitality for building occupants. It is the University's authoritative source for Space data including area, space usage, occupying Department and the data needed for space reporting and statutory returns such as TRAC (Transparent Approach to Costing), Space charging and EMR (Estates Management Record).

Planon is used to log asset information and associated planned and preventative maintenance (PPM) for the R&M teams. It provides information on the reactive and planned services carried out on the asset and the associated costs.

Planon stores:

- Building and space information including CAD floor plans
- Reactive and planned maintenance records
- Asset information
- Room booking and utilisation data

7.2 Process

The EOMM supplier shall provide a standard asset register in Microsoft Excel format stating the following:

- Asset Reference
- Asset Description
- Manufacturer
- Model No.
- Location

This information shall be provided for all assets which require PPM. SysAdmin shall import asset information from a Microsoft Excel template to Planon and set up the PPM routines.

8. Operation and Maintenance Manuals documentation

This section details the content, presentation and functionality of the OMM required for the safe, proper and efficient operation and maintenance of buildings managed by Estates Services. OMM are required for all projects but the complexity of the manual shall vary according to the size of the building and systems, and the amount of work undertaken on a building for which manuals may already exist.

The University shall almost always require an electronic OMM (EOMM) and shall only accept paper-based OMM (POMM) in exceptional circumstances. The approval of the type and supplier of OMM shall be at the discretion of the ES Head of Building Services.

8.1 General information

Platform: Edocuments Springboard web-based document management system

Key users: ES Building Services, ES Information Management, Occupying Department

Providers of information: Main Contractor

Edocuments Ltd is the University's chosen provider to compile and host a project's EOMM and shall be available to users via a URL post-project. Edocuments Ltd's role is to support the Project Team for gathering information to populate the agreed standard format for a project's EOMM.

Edocuments Springboard stores:

- A Health and Safety file
- A Building Log Book and user guides for building managers and occupants
- User guides for BREEAM, PassivHaus and other certifying bodies
- Manuals to repair and maintain the building fabric and structure, and its mechanical and electrical systems and external services.
- Drawings in PDF format (within relevant sections)

8.2 Type of OMM for a project

OMM shall be prepared as follows:

- 'New builds' shall have full and complete EOMM at Handover.
- Refurbishments of **any size** where an EOMM is already in place shall update the existing EOMM to ensure it is current as well as clearly show any modifications since Handover.

- Any project which has an incomplete or outdated POMM is required to order an EOMM.
- Only minor equipment changes for works valued under £20k with an up-to-date POMM may update a POMM. However, electronic documentation of the modified equipment shall be obtained for the purposes of creating an EOMM in the future when the building is next refurbished. This data shall be held by the Information Management team.

EOMM Supplier

Edocuments Ltd has been selected by the University for the provision of EOMMs. The Main Contractor shall place an order with Edocuments Ltd at contract award to ensure time for the production of high quality manuals.

Requirements for EOMM

The EOMM Supplier shall produce a full EOMM for main projects and a 'simple EOMM' for Intermediate Projects. A simple EOMM shall usually be the EOMM for an Intermediate project with a budget less than £250k but each EOMM shall be selected on the project's level of complexity and the value of individual assets.

Specific requirements regarding project information for EOMM

Where possible, hyperlinks to the same information within the EOMM is required. This is to avoid several copies being available in the EOMM. Where the same information applies to more than one area within the EOMM, hyperlinks and cross-referencing shall be inserted to draw the reader's attention to single place where the document has been uploaded to the EOMM.

User Guide for the EOMM

A 'How to' guide for Edocuments Springboard is available at <http://edocuments.co.uk/docs/SpringboardUserGuide.pdf>.

Requirements for POMM

Specific requirements regarding project information for POMM

As POMM shall be rarely used, please confer with the Head of Building Services for details of the information required. Even if POMM are provided, all information shall also be provided in electronic flat files.

Softcopies of paper-based documents

If a current POMM is no larger than 2 binders, all information shall be scanned as a PDF and provided in an electronic format to be uploaded to a 'dummy' project in the EOMM.

8.3 Naming conventions for sites and buildings

Site and building names and numbers for naming projects in the EOMM are found on the University Building List as provided by ES Information Management. For information on the numbering of individual spaces in a building, please contact the Information Records Manager and the CAD technical officers.

8.4 General Requirements for the OMM

Language and style

The aim of the OMM is to provide suitable and sufficient information in a clear and concise manner. All text shall be in English and in plain English where possible. The descriptive sections shall be concise, complete and unambiguous to minimise misunderstanding. Where possible, jargon shall be avoided. All new terms shall be defined when first introduced. Abbreviations may only be used if previously defined, their meaning is clear from the text or are in general use within the building services industry. The imperative mood (i.e. commands to undertake specific actions) shall be used for operation, maintenance and disassembly instructions.

Illustrations and drawings

Illustrations, drawings and diagrams incorporated in the OMM shall be easily understood when read with the relevant text. For EOMM, where possible, original artwork shall be used rather than second or third generation scans. If original artwork cannot be obtained, consideration shall be given to redrawing diagrams and illustrations. Copies of the 'as built' drawings shall be provided in the EOMM. Please see the ES CAD Standards document for drawing specifications.

User ability

The OMM will be used by people with different levels of technical competence. As a general guide, the personnel expected to use an OMM shall be:

- **Non-technical:** such as a Facilities Manager or caretaker (responsible for updating the Building Log book)
- **Generally technical:** with broad-based maintenance skills e.g. mechanical and electrical fitters
- **Specialist contractors:** the original equipment manufacturers and specialist maintenance contractors not from the original equipment manufacturers.

Copyright

Sole copyright shall pass to Oxford University ES. All the end of the defects period of each project the EOMM Supplier shall provide a DVD of all the final documentation.

Drawing files

Drawing files provided within the EOMM shall be in PDF format. Note that drawings are also required separately in AutoCAD format (please refer to ES CAD Standards).

Delivery of non-EOMM information

Where possible, an EOMM is preferred. However, if a POMM is updated, in addition to softcopies of all documentation, two hard copies of the POMM shall comprise loose-leaf, A4 pages on good quality paper. The paper weight shall be at least 100 gsm. All drawings shall be full-size prints folded to A4 in individual wallets. Loose-leaf, four-ring binders constructed from PVC-covered heavyweight card shall be used for binding. Dividers between sections and parts shall use stepped, overlapping, printed card. The binders shall be no more than three quarters full, allowing ES to add additional information at a later date.

All POMM shall include the electronic versions of all documents in Microsoft Word and PDF formats and forwarded in a DVD to the ES Information Management team.

8.5 Specific Requirements for the OMM

Sub-headings shall contain sub-folders with specific information at each system level e.g. heating, ventilation air conditioning, high and low voltage electrical distributions, small power lighting etc. The EOMM shall include but not be limited to the following.

Health and Safety File fully compliant with the CDM Regulations

The H&S File shall be fully compliant with the CDM Regulations and include but not be limited to:

- A brief description of the scope of work carried out and also what was out of scope where there is potential for confusion
- Residual hazards and how these were dealt with e.g. asbestos, contaminated land, water bearing strata, buried services, etc.
- Hazardous materials used e.g. lead paint, pesticides, application of special coatings which may not be burnt off etc.
- Key structural principles e.g. bracing, sources of substantial stored energy, roofs, particularly if these may hinder placing scaffolding or heavy machinery
- Removing, dismantling and disposing of information for the installed plant and equipment e.g. special arrangements for lifting, the disassembly order or other special instructions for dismantling etc.
- Cleaning and maintaining H&S information about equipment to clean and/or maintain the services and structure

- Services for the nature, location and markings of significant services including underground cables, gas supply equipment, fire-fighting and other emergency services
- Information and 'as built' drawings of the structure, plant and equipment e.g. the means of safe access to and from service voids, fire doors and compartmentalisation etc.
- Inter-related system dependencies (cause and effect) which highlight details of faults, alarms and other links which when activated have an impact on another system or building
- Maintenance and operability review documents updated to 'as built' status

Building Log Book (Part L2)

The log book is produced for the departmental building manager and shall be in accordance with the style and format of the templates provided in CIBSE publication 'TM31 Building Log Books' and include:

- Record of updates and annual reviews
- Purpose and responsibilities
- Links to key documents e.g. suppliers manuals in the mechanical or electrical sections
- A project directory stating all Sub-Contractors and suppliers stating the company name, address, contact person's email address and phone number and website
- Commissioning, Handover and compliance with Part L
- Overview of the building design
- Summary of area/occupancy
- Summary of main building services
- Overview of the BMS and other control systems
- Occupant information including passwords
- Metering, monitoring and targeting strategy
- Building energy performance records
- Maintenance and operability review
- Description of major alterations

Building

The building section manual shall include but not be limited to:

- Scope of building works and what is out of scope. This is expected to be more detailed than the H&S file
- A project directory stating all Sub-Contractors and suppliers stating the company name, address, contact person's email address and phone number and website
- Structural design including calculations
- Fire protection including detection and suppression systems
- All relevant design information and structural calculations, criteria, investigation reports, piling logs, etc.
- A breakdown of scope of works for Sub-Contractors
- Relevant building certificates including warranties
- Finishes schedules etc., paint colour and brand, carpets, ceiling tiles kitchen fittings, sanitary goods etc.
- Specification information for building materials which may need replacement or repair e.g. glazing, cladding, stone types to include colour, manufacturer, etc.
- Asset Register
- Planning approvals and consent including all submitted documentation (heritage statement, design and access statement etc.) including minor amendments non-material amendments and planning conditions
- Statutory inspections e.g. lifting equipment (please note, the lift shall appear in the Mechanical section)
- Photographic record of opening-up works where applicable (e.g. for historic buildings)
- Record drawings e.g. architectural and structural, fire, etc.
- Annotated drawings showing location of building materials

Electrical

The electrical section manual shall include but not be limited to:

- An asset Register
- Scope of electrical works and what is out of scope. This is expected to be more detailed than the H&S file

- A general overview of each electrical service listing all installed systems, the areas being served and the design conditions for each area.
- A project directory stating all Sub-Contractors and suppliers stating the company name, address, contact person's email address and phone number and website
- Design information stating all parameters and a description of the design intent
- All commissioning and other test results. The OMM is to refer the reader to the Electrical Access database (ElecFM) for current information
- Warranties
- RIBA Stage 3 report updated with tracked changes to 'as built' status (drawings shall be linked rather than included in the report)
- A register of and all record drawings split into schematic and layout sections
- Drawings of inter-related system dependencies (cause and effect) which highlights details of faults, alarms and other links which when activated have an impact on another system or building
- Access control
- Communication systems e.g. phone, radios
- Security systems
- Structured cabling
- Statutory inspections including electrical systems/appliances, emergency lighting and fire alarms etc.
- Note that testing and inspection data is not required as it shall be supplied as part of the ElecFM requirements

Mechanical

- Asset Register
- Scope of mechanical works and what is out of scope. This is expected to be at a higher level of detail than the H&S file
- A general overview of each mechanical service listing all installed systems, the areas being served and the design conditions for each area
- A project directory stating all Sub-Contractors and suppliers stating the company name, address, contact person's email address and phone number and website

- Design information which includes all parameters and a description of the design intent
- RIBA Stage 3 report updated with tracked changes to 'as built' status (drawings shall be linked rather than included in the report)
- All commissioning and other test results
- Warranties
- All record drawings and register split into schematic and layout sections
- Drawings of inter-related system dependencies (cause and effect) which highlights details of faults, alarms and other links which when activated have an impact on another system or building
- Public Health Systems
- Transportation (lifts)
- Statutory inspections of:
 - Hot and cold water services
 - Lifts
 - Pressure systems

Building Management System

The BMS information shall form part of the Mechanical manual and include but not be limited to:

- Record panel wiring diagrams
- System structure diagram
- LAN map
- Description of operation
- Points schedule and schedule of point sets
- Relevant commissioning information
- Component manuals
- 'As built' SET files (these files shall also be loaded to the head-end BMS computer).
- SET files as at Practical Completion in PDF format

Environmental Sustainability

Environmental and Sustainability Certification

In accordance with BREEAM, PassivHaus or other relevant certifying bodies. In addition to the Building Log Book, BREEAM requires a 'Building User Guide' in plain English stating the everyday operations of the building.

Without the provision of adequate information and guidance it is likely the building shall be used inappropriately, leading to dissatisfaction of occupants and wasted resources. The aim of this BREEAM issue is to ensure design features are used efficiently and changes to office space are managed in the most appropriate manner. For detailed requirements of the Building User Guide, refer to the latest issue of BREEAM guidance.

The Building User Guide requires the information in each section for general building users and the Facilities Manager.

8.6 Process, Programme, Roles and Responsibilities for the OMM

A process flow diagram for the EOMM showing the key responsibilities for each design and delivery team member is found in [Appendix B](#).

As most OMM shall be electronic, information below regarding EOMM shall apply to POMM unless otherwise stipulated.

The key steps for the production and delivery of the EOMM are as follows. Please see [Appendix A](#) for a matrix outlining the roles and responsibilities during the EOMM process.

Nominating the OMM Supplier

The ES Head of Building Services shall provide the Project Manager with the contact details for the EOMM Supplier. The default EOMM Supplier is Edocuments Ltd.

Ordering the OMM

The Project Manager shall check that the EOMM's production is included in the Main Contractor's scope. Assembly of the EOMM by the Main Contractor shall be commenced no later than 4 weeks after the award of the contract to the Main Contractor.

Hosting the EOMM

The EOMM Supplier shall be responsible for ensuring the EOMM is written, compiled, completed and hosted in accordance with the requirements of this specification. All authoring shall be carried out by the EOMM Technical Author. Consultants and contractors shall provide all necessary supporting material.

The EOMM Supplier shall meet the Main Contractor to brief on the project's scope and to produce an agreed detailed documentation delivery programme (the OMM programme). The EOMM Supplier shall set up the EOMM project on Edocuments Springboard (or equivalent) and carry out suitable and sufficient training to all members of the project team. The EOMM

Supplier shall sense check all documents are comprehensive, accurate and legible (as far as practical) and correctly uploaded. The EOMM Supplier shall continuously host and manage EOMM access both during the project and 12 months post-Handover.

The EOMM Supplier shall monitor Sub-Contractors' upload of information to meet the OMM programme including following up as required with Project Managers, Main Contractors and Sub-Contractors to meet the programme. To determine the status of all documentation, the EOMM supplier shall provide suitable dashboard, reporting and commenting tools for use by the Project Manager and other members of the Project Team. These people shall be kept continuously updated.

The EOMM supplier shall issue monthly reports to the project Team. The monthly reports shall include the general status of EOMMs and list of outstanding tasks (missing information not supplied to programme) and who has not reviewed the document as required.

Delivering the OMM Programme

The Main Contractor is responsible for meeting the OMM Programme schedule and for making the correct project documentation available to the EOMM Supplier. The Main Contractor shall employ the EOMM Supplier to produce electronic (and where stated elsewhere within this document, hardcopy) information for Handover.

For **all projects**, the EOMM shall be the responsibility of the Main Contractor from award of contract 4 to end of RIBA Stage 6. Documents shall begin being uploaded to Edocuments Springboard as early as reasonably practicable.

Each month, the ES Capital Projects Programme Support Officer shall provide an EOMM status report to Project Managers.

Uploading correct information to the EOMM

The Main Contractor's Sub-Contractors are responsible for uploading comprehensive, accurate, appropriate, legible documentation in the correct formats as described elsewhere in this O&M Philosophy Document in accordance with the OMM Programme. The Main Contractor shall monitor the progress of documentation uploaded.

Timely completion of EOMM

The Main Contractor is responsible for the timely delivery and execution of the EOMM programme. This responsibility includes monitoring the progress of the EOMM, following up with the Sub-Contractors where information is missing or inaccurate as well as the coordinating the approval by the Design Consultants.

The Project Manager shall maintain oversight of progress of the production of the manuals and if the EOMM is behind schedule, the ES Capital Projects Programme Manager shall contact the Contract Administrator to obtain a written rectification plan of how it will be delivered in line with the EOMM programme.

Checking and Approval

The Design Consultants shall check that all documentation is comprehensive and accurately reflects the 'as built' project. During RIBA Stage 5, the Design Consultants shall regularly check their section of the EOMM and make appropriate comments. Prior to Handover, the Design Consultants shall fully review and approve the final documents available in the EOMM.

Each building stakeholder is responsible for checking the relevant section of the final documentation in the EOMM in a timely manner to allow sufficient time for review and approval by the ES Section by the relevant owner. The programme for this must be defined before construction begins, i.e. prior to award of contract.

Handover documentation is expected to be 100% complete at Practical Completion. However, it is acknowledged that in some instances this is not always practical. Where information is not complete the Main Contractor must seek guidance from the Contract Administrator no less than five days prior to Sectional and/or Practical Completion as to whether this is required prior to Sectional and/or Practical Completion. The Main Contractor shall provide the final EOMM to the Head of Building Services for final review no later than 25 working days after Practical Completion.

Estates Services shall sign acceptance of the final EOMM no later than 40 working days after receipt of the final EOMM. The acceptance certificate shall be uploaded in the Concerto checklists by the Project Manager.

One year after Practical Completion, the SysAdmin team shall review who has access to the project and remove all contractors and consultants unless there is a specific requirement e.g. for seasonal commissioning.

Appendix A Roles and Responsibilities Matrix for EOMM

For details regarding the process see Section 8.6 above.

Responsibilities <i>(L: Responsible for leading team M: Member of responsible team)</i>	Roles	Main Contractor	Sub-Contractors	Design Consultants	CDM	Stakeholders	Project Manager	Programme Manager	Programme Support Officer	EOMM Supplier	Information Management	SysAdmin
Raise order for EOMM Supplier		L										
Instruct, train and advise in the operation of the system		M	M	M	M	M	M			L	M	
Develop the detailed scope of the OMM Programme		L		M			M			M		
Upload information in accordance with the OMM programme		L	M	M								
Production & distribution of progress reports									L	M		
Monitoring of progress		L		M		M	M	M		M		
Chasing uploading of information to programme		M	M	M			M			L		
Checking of relevant document content for 'completeness'		M	M	M						L		
Final checking prior to Handover		M		L			M			M		
Stakeholder checking prior to Handover		M				M	L					
Handover of EOMM		L					M	M		M		
1 month post-Handover completion works		L				M	M			M		
Release of retention related to EOMM						M	M	M				
Archival of a copy of the EOMM in Estates Services network O Drive											L	
Ongoing management of EOMM											M	L

Main Contractor. Responsible for the delivery of suitable and sufficient project final documentation and Edocuments Springboard. They shall engage the services of the EOMM Supplier to produce electronic and, where stated elsewhere within this document, hardcopy information for Handover to the University.

Sub-Contractors. Responsible for uploading comprehensive, accurate, appropriate, legible documentation in the correct formats.

Design consultants. Includes the architect, structural, mechanical, electrical engineers/consultants, and other specialist designers. They need to ensure all documentation is comprehensive and accurately reflects the 'as built' project. They must regularly check the documentation when it is added to Edocuments Springboard and make appropriate comments. Prior to Handover consultants shall review and approve the final documents available for the project in Edocuments Springboard.

Construction Design & Management (CDM). The coordinator of construction, design and management regulations.

University stakeholders for building security, safety, repairs and maintenance (Stakeholders). Each team is responsible for checking the relevant section of the final OMM documentation.

Project Manager. Responsible for monitoring and reporting on the performance of the Project Team in the delivery of the EOMM. Identify and agree a strategy with the Stakeholders and Main Contractor prior to the award of the Main Contract as to how the Main Contractor will obtain Stakeholder approvals prior to Practical Completion.

ES Programme Manager. Oversees multiple capital projects and ensure that documentation is produced in a timely manner.

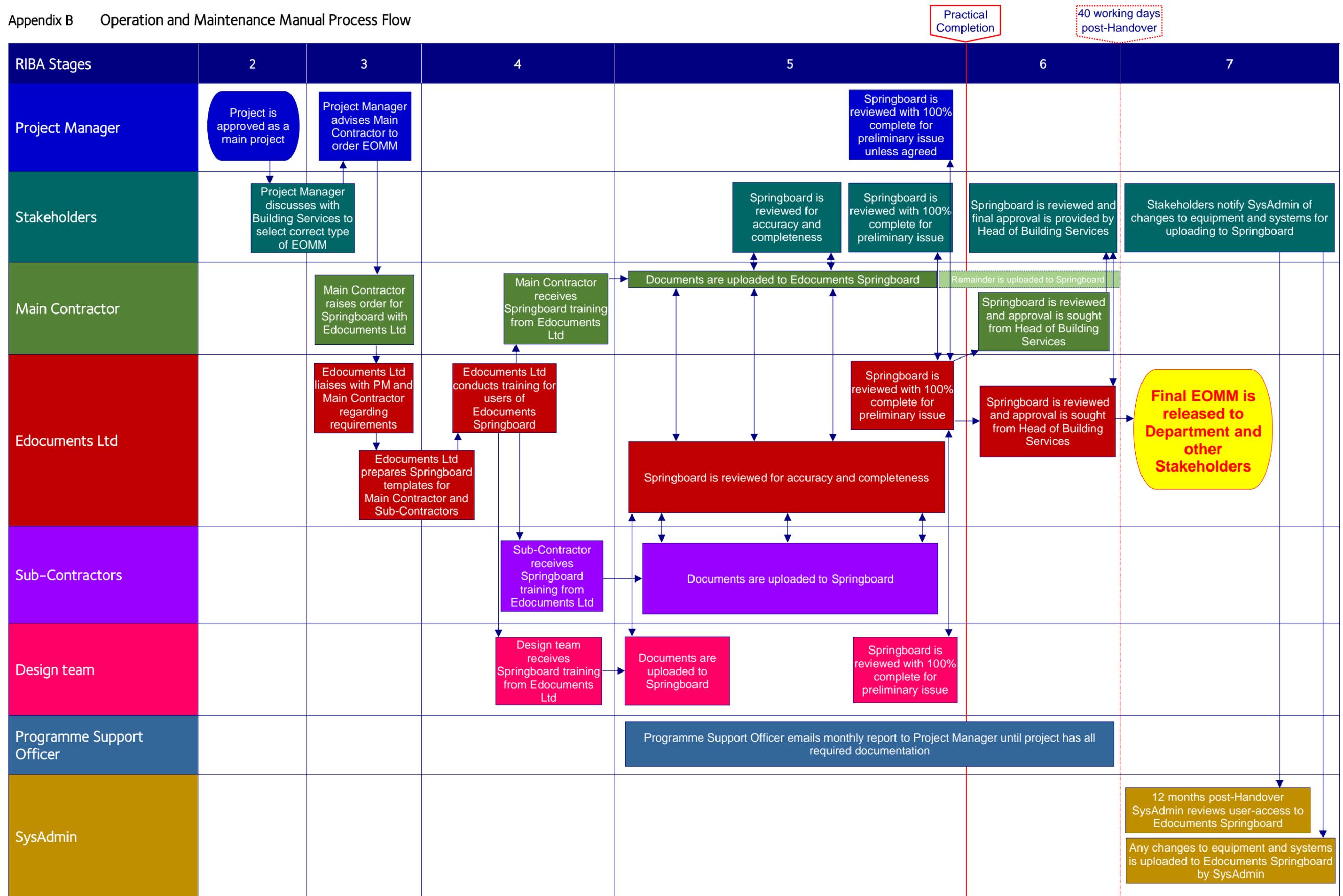
ES Programme Support Officer. Provides reports to Project Managers on the status of project documentation.

EOMM Supplier (Edocuments Ltd). Shall meet the Main Contractor for a briefing on the scope of the project and produce and agree a detailed documentation delivery programme. Edocuments Ltd shall set up the EOMM project on Edocuments Springboard and carry out suitable and sufficient training to all members of the project team. They shall check all documents are uploaded to the correct section and are comprehensive, accurate, and legible (as far as practical). They shall issue reminders to subcontractors to upload information to programme and follow up with Sub-Contractors and Main Contractors where deadlines are missed. They shall continuously provide suitable dashboards and reporting tools for use by the project team to determine the status of all documentation. They shall provide a system for members of the project team to comment on documentation. They shall host the manual and manage access for the project team for a minimum of 12 months after Practical Completion

ES Information Management. Is the ultimate owner of project documentation, shall hold the information on the DVDs of the final documentation and maintain all CAD drawings.

ES System Administrators (SysAdmin). 12 months after Practical Completion, SysAdmin shall review and manage access to Edocuments Springboard. At any stage, SysAdmin shall update documentation when informed of changes and provided with new information.

Appendix B Operation and Maintenance Manual Process Flow



Practical Completion

40 working days post-Handover

Final EOMM is released to Department and other Stakeholders