

SFT Standard Information Management Plan

Disclaimer

The Standard information management plan resources consisting of the Standard information management workbooks (Project Information Requirements and Asset Register), appendices, templates and supporting guidance, have been developed by Scottish Futures Trust (SFT) (authors). The workbooks are used to outline the appointing party (*ISO 19650-1*) (*Client- NEC4*) information requirements at a project level, and to inform the detailed information deliverables for each lead appointed party (*ISO19650-1*) (*Information Provider – NEC4*) at each project information delivery milestone according to BS EN ISO 19650 parts 1 and 2. The resources are not intended and should not be used as the sole basis for the appointment of lead appointed parties and should be developed in parallel with other appointment documents. SFT have prepared the Standard information management plan as a resource available to Scottish public authorities in procuring the delivery and handover of infrastructure facilities. The resource(s) are issued so as to be consistent with applicable standards and guidance current as at the date of publication.

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STANDARD INFORMATION MANAGEMENT PLAN

Project Information Requirements Workbook between

[Appointing Party]

and

[Lead appointed party]

on

[Project Name]



This workbook defines the client information standards, production, methods and procedures, shared resources, information management task responsibilities, and information exchange requirements for the new project. The appendix information requirements are listed in accordance with the Uniclass Classification system (PM), which is managed and maintained by the NBS.

Master document control (Workbook and Appendices)

Master workbook reference: SIMP3-SFT-XX-XX-WB-Z-0001-S2-P01

Date: Mar-24 Contact: bimdeliverygroup@scottishfuturetrust.org.uk

Adopted Uniclass table versions: Project Management (PM) Vx_xx

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Load Reference Lists



> This workbook is pre-loaded with a Uniclass Project Management (PM) table, per the version noted in the above master document control section. This is used to help populate and check the PM values in sheet A1 - EIR.

> Use the below Load button to import in a new project specific table (.xlsx), and update the above master document control section to reflect any version change.

click:

Load new project Uniclass Project Management (PM) table

path:

tally: 948 Rows Loaded

Project document control (Workbook and Appendices)

Originator:	e.g. Contracting Authority name
Reviewer:	xx
Approver:	xx
Unique ID (name):	per BS EN ISO 19650-2, National Annex
Status Code:	per BS EN ISO 19650-2, National Annex
Date of 1st issue:	xx

Status	Revision	Originator	Reviewer	Approver	Date	Description of changes

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3.0	Document scope & purpose	xx
4.0	Project information standard	xx
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6.0	Project reference information and shared resources	xx
7.0	Information management assignment matrix	xx

Appendices	
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A1	Project and Exchange information requirements (EIR)
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Templates	Adopted on project?
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T1	Project Information Protocol	Y/N
T2	Appointing party information container hierarchy	Y
T3	FM data mapping requirement	Y/N
T4	Project handover checklist	Y/N
T5	Task Information Delivery Plan	Y/N
T6	Master Information Delivery Plan	Y/N

1.0 Project information

(Partial cell auto-fill from front cover)

1.1	Project Name <i>(auto-fill)</i>	[Project Name]
1.2	Appointing party (client) <i>(auto-fill)</i>	[Appointing Party]
1.3	Appointing party Information Manager	xx e.g. 3rd party xxx
1.4	Lead appointed party (LAP) <i>(auto-fill)</i>	[Lead appointed party]
1.5	LAP Information Manager	xx
1.6	Description	xx
1.7	Address	xx
1.8	Contract type	xx
1.9	Project delivery approach/ stages <i>select ></i>	Scotland Hub Process
1.10	Project stage commencement	xx e.g. Strategic Business Case/RIBA 0
1.12	Project stage end	xx e.g. Operation & Maintenance/RIBA 7

Clients Key Decision Points

Date

Hub Scotland stage (if applicable)	NPR-Brief	Project Delivery Stage (RIBA)	1	Clients Key Decision Points	1	12/01/2024
	1		2		2	xx/xx/xxxx
	2		3		3	xx/xx/xxxx
	2-FC		4		4	xx/xx/xxxx
	Const		5		5	xx/xx/xxxx
	Con-Han		6		6	xx/xx/xxxx
						NA



The Clients Key Decision Points dates are set before the end of stage dates, providing adequate time for Client review, comment and acceptance of all stage information. Points and Dates should be populated in the above table against RIBA delivery stages. Once entered, the date values will appear in Appendix 1, 'Key Decision Point Date' cells (Row 11). Hub Scotland stages (above) will automatically appear in Appendix A1 (Row 8) when the 'Scotland Hub Process' option is selected above (Row 73, G).

2.0 Glossary of Acronyms

AIM	Asset information model
AIR	Asset information requirements
AMS	Asset management system
BASIR	Built asset security information requirements
BASMP	Built asset security management plan
BEP	BIM execution plan
BIM	Building information modelling
CAFM	Computer-aided facilities management
CDE	Common data environment
COBie	Construction operations building information exchange
EAMS	Estates asset management system
EDMS	Electronic document management system
EIR	Exchange information requirements
FM	Facilities management
IFC	Industry foundation classes
MIDP	Master information delivery plan
OIR	Organisational information requirements
PIM	Project information model
PIR	Project information requirements
TIDP	Task information delivery plan

This workbook establishes the appointing party's (client) exchange information requirements (EIR) for each lead appointed party, the project delivery milestones for information planning and delivery, and the project's information standard, production methods and procedures to be adopted by all delivery teams. Refer to BS EN ISO 19650-2, figure 2 which illustrates the relationships and interfaces between project teams and various parties.

This Standard Information Management Plan workbook defines the basis for a lead appointed party to respond to the appointing party with their delivery team BIM execution plan (BEP). A pre-appointment BEP should be developed in accordance with BS EN ISO 19650-2, clause 5.3.2, and updated at the appointment stage in accordance with BS EN ISO 19650-2, clause 5.4.1.

The Standard Information Management Plan workbooks and their requirements do not relieve or reduce in any way the extent in which each lead appointed party (*e.g. contractor, consultant, designer*) or each appointed party (*e.g. sub-consultants, sub-contractors*) shall provide professional services and duties in accordance with their contract agreements. The duty of care and level of skill associated with quality design and information delivery should be overarching and firmly established by the contractual provisions within each appointment.

Other specific project requirements to be incorporated within all appointments are listed below:

[Any exceptions or exclusions must be agreed and contractually documented between the appointing party and each respective lead appointed party]

3.1 Applicable standards & guidance

BIM according to the UK BIM Framework. List of baseline standards to be adopted are:

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling, Parts 1-5:

- **BS EN ISO 19650-1:2018** – Part 1: Concepts and Principles.
- **BS EN ISO 19650-2:2018** – Part 2: Delivery phase of the assets, incorporating corrigendum February 2021.
- **BS EN ISO 19650-3:2020** – Part 3: Operational phase of the assets.
- **BS EN ISO 19650-4:2022** – Part 4: Information exchange.
- **BS EN ISO 19650-5:2020** – Part 5: Security-mined approach to information management.

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- **BS 8536:2022** - Design, manufacture and construction for operability. Code of practice.
- **PAS 1192-6:2018** – Specification for collaborative sharing and use of structured Health and Safety information using BIM.

[Any exclusion or deviance from the above baseline list should be agreed in advance with the appointing party (client) and documented within lead/ appointed party contracts]

Reference Standards and Guidance: [review and amend to suit project requirements]

Library objects for architecture, engineering and construction. Parts 1-5:

- **BS 8541-1:2012** - Part 1: Identification and classification. Code of Practice
 - **BS 8541-2:2011** - Part 2: Recommended 2D symbols of building elements for use in building information modelling.
 - **BS 8541-3:2012** - Part 3: Shape and measurement. Code of practice.
 - **BS 8541-4:2012** - Part 4: Attributes for specification and assessment. Code of practice.
 - **BS 8541-5:2012** - Part 5: Assemblies. Code of practice.
- +
- **BS EN 17412-1:2020** - Building Information Modelling. Level of Information Need - Concepts and principles.
 - **BS 7000-4:2013** - Design management systems. Part 4. Guide to managing design in construction.

- **SFT BIM Portal** - <https://bimportal.scottishfuturetrust.org.uk>
- **Standard Information Management Plan** - <https://bimportal.scottishfuturetrust.org.uk/simp/overview>
- **SFT Master asset database** - [Link](#)
- **UK BIM Framework: Standards and Guidance** - <https://www.ukbimframework.org>
- **UK BIM Framework: Information Protocol** - [Template download link](#)
- **NBS Uniclass classification** - <https://www.thenbs.com/our-tools/uniclass>

3.2 Project Information Protocol

In accordance with BS EN ISO 19650-2, clause 5.1.8, an information protocol should be established at the project outset and subsequently and appropriately incorporated into all project appointments. This includes appointments between the:

- Appointing party (client) and each lead appointed party (e.g. Architect, engineer, PM, or Tier one contractor)
- Each lead appointed party and their own appointed parties (e.g. sub-consultant, sub-contractor and any onward supply chain parties)

On this project the below information protocol has been developed for this appointment:

Document name/ reference	Status	Revision	Date
e.g. SchoolB-LA-XX-XX-IP-K-0001	e.g. S2	e.g. P01	xx/xx/xxxx



To support the BS EN ISO 19650-2 project delivery phase, an Information Protocol template has been published by the UK BIM Framework. A link to download it for development into an information protocol for this project is available above (section 3.1). If adopted, appropriate legal and professional advice should be sought to ensure the project information protocol meets the needs of the parties concerned and their appointments, to which English / Scots law applies.

3.3 Roles & Responsibilities

Project roles and responsibilities shall be assigned to ensure the effective management of project information and design coordination.

Information Deliverables: Refer to **Appendix A1** for the appointing party information deliverables for each project stage and Clients Key decision Point. **[This should be completed by the appointing party prior to issue]**

Information Management Assignment: Refer to **section 7.0 matrix** which sets out the project information management functions and party responsibilities. This is derived from BS EN ISO 19650-2, Annex A. **[The 7.0 matrix should be reviewed and agreed by all parties before commencement of information management activities for each appointment]**

Each lead appointed party shall agree and confirm their delivery team's high level responsibility matrix and the names of the individual(s) who will undertake the information management function within the BIM Execution Plan.

Reference BS EN ISO 19650-2, 5.1.4 this section outlines the information standards to be adopted by project delivery team(s)

Item	Description																												
4.1 Exchange of Information	<p>The information exchange requirements for this project include:</p> <ul style="list-style-type: none"> Information exchange formats (refer to section 5.2) Nomenclature: Information container naming, status and revisions codes should be in accordance with BS EN ISO 19650-2: 2018, National Annex. [specific and unique identifier project codes should be established and confirmed by the client at the outset. A full set of project identifiers and codes should be confirmed within the BIM Execution Plan (BEP) and updated as required e.g. when new organisations join the project] [Any maximum character naming and/or information container (file) path length limitations (e.g. Pre-Windows 10, MAX_PATH length is 256 Characters) should be noted at the outset by the client (appointing party) within this section, including a requirement to test exchange information containers between different parties CDE platforms or EDMS, prior to project exchange stages] Space / Room Naming and Asset Naming and/or Tagging. [project naming conventions should be established and confirmed by the client at the outset. A Project and Asset Naming Conventions resource is available via the SFT BIM Portal, if required] Model Element / Component Naming [project naming conventions should be established and confirmed by the client at the outset. e.g. windows, doors] <p>[Any other client information exchange standards for this project should be noted below]</p>																												
4.2 Project co-ordinate system	<p>The project coordinate system should be in accordance with the Ordnance Survey National Grid reference system, utilising standard easting and northing grid digits.</p> <p>Before the commencement of any 3D modelling site survey co-ordinates, project co-ordinates and an ordnance datum (OD) should be agreed by the delivery team(s) for use within all software applications. A record should be confirmed within the project BIM Execution Plan (BEP). The following or similar table format should be considered. [If existing site survey co-ordinates, project co-ordinates and OD/ AOD values are known include in the below table]</p> <table border="1" data-bbox="308 1384 1535 1691"> <thead> <tr> <th data-bbox="308 1384 718 1435">Project co-ordinates</th> <th data-bbox="718 1384 991 1435">Site survey</th> <th data-bbox="991 1384 1264 1435">Project 01</th> <th data-bbox="1264 1384 1535 1435">Project 02</th> </tr> </thead> <tbody> <tr> <td data-bbox="308 1435 718 1480">Easting (m)</td> <td data-bbox="718 1435 991 1480"></td> <td data-bbox="991 1435 1264 1480"></td> <td data-bbox="1264 1435 1535 1480"></td> </tr> <tr> <td data-bbox="308 1480 718 1525">Northing (m)</td> <td data-bbox="718 1480 991 1525"></td> <td data-bbox="991 1480 1264 1525"></td> <td data-bbox="1264 1480 1535 1525"></td> </tr> <tr> <td data-bbox="308 1525 718 1570">Grid intersection reference</td> <td data-bbox="718 1525 991 1570">NA</td> <td data-bbox="991 1525 1264 1570"></td> <td data-bbox="1264 1525 1535 1570"></td> </tr> <tr> <td data-bbox="308 1570 718 1615">Angle to true north (deg)</td> <td data-bbox="718 1570 991 1615">NA</td> <td data-bbox="991 1570 1264 1615"></td> <td data-bbox="1264 1570 1535 1615"></td> </tr> <tr> <td data-bbox="308 1615 718 1659">OD (m)</td> <td data-bbox="718 1615 991 1659"></td> <td data-bbox="991 1615 1264 1659">NA</td> <td data-bbox="1264 1615 1535 1659">NA</td> </tr> <tr> <td data-bbox="308 1659 718 1691">AOD (m) (Above)</td> <td data-bbox="718 1659 991 1691">NA</td> <td data-bbox="991 1659 1264 1691"></td> <td data-bbox="1264 1659 1535 1691"></td> </tr> </tbody> </table>	Project co-ordinates	Site survey	Project 01	Project 02	Easting (m)				Northing (m)				Grid intersection reference	NA			Angle to true north (deg)	NA			OD (m)		NA	NA	AOD (m) (Above)	NA		
Project co-ordinates	Site survey	Project 01	Project 02																										
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OD (m)		NA	NA																										
AOD (m) (Above)	NA																												

4.3 Structuring and classification of information

Classification of information within information containers should be in accordance with Uniclass (Reference BS EN ISO 19650-2 NA.4.4). As a minimum Uniclass classification is to be applied to each information container (ideally as metadata) and included as alphanumeric information within the BIM model objects, to define the container identify and position within the breakdown structure. A source link to the NBS Uniclass classification website is provided in section 3.1.

Uniclass for COBie delivery:

Refer to Standard Information Management Plan: Asset Register Workbook, 03B: COBie data requirements for correct use of Uniclass classification tables and values on this project. Classification tables noted in the tab 03B 'Comment' column shall be adopted on the project. Refer to below section 4.8 for further information on COBie data information exchanges.

Uniclass Project Management (PM):

Codes shall be adopted for classification of information container types. PM codes are used in:

- Appendix A1 - Project and exchange information requirements.
- Project Asset Register Workbook - Sheet 03A
- Templates T2, T5 & T6

All exchange information / documentation shall be assigned a 3-tier PM code and description, when available on the NBS table. *e.g. PM_80_10_10 : Asset register.* 2-tier classifications should only be applied to folder containers or information/ documentation without an available 3-tier value.

Uniclass Systems (Ss) and Products (Pr):

Codes shall be adopted and added for assets identified in the:

- Project Asset Register Workbook - Sheets 03A, 05 - 08

As a minimum the following tier levels of System (Ss) and Product (Pr) classification assignment shall be applied to all project BIM model objects:

Ss_xx_xx ; Pr_xx_xx (2-tier codes and descriptions by end of RIBA stage 2)

Ss_xx_xx_xx ; Pr_xx_xx_xx (3-tier codes and descriptions from RIBA stage 3 onwards)

Project BIM model objects identified as **maintainable assets** shall adopt the following tier levels of System (Ss) and Product (Pr) classification assignment, when available on the NBS tables or the SFT Master asset database. A source link to the database is provided in section 3.1.

Ss_xx_xx_xx_xx ; Pr_xx_xx_xx_xx (4-tier codes and descriptions from RIBA stage 3 onwards)

4.4 Level of information need framework

In alignment with BS EN 17412-1:2020, the level of information need framework is used on this project to specify how information will be delivered through established:

- **purposes** for the use of the information being delivered. (*refer to this workbook Appendix A1, Columns C-E*)
[Prior to release of this workbook, the client should identify and record the information purposes]

- **information delivery milestones** (*refer to this workbook Appendix A1, Row 12 x each project stage*)
[Prior to release of this workbook, the client should record the information delivery milestones, and party responsibilities for information delivery]

- **objects organised into one or more breakdown structures** (*refer to this workbook Appendix A1 and the Asset Register Workbook, Asset list (Uniclass Product_Pr)*)
[Prior to release of the workbooks, the client should review, confirm or evolve the breakdown structure and baseline objects]

On this project, the level of information need framework is further used to define the extent and granularity of the information to be exchanged for specific purposes, across three sub-divisions, namely:

Geometrical information

The specification of objects, or sets of objects geometry using **detail, dimensionality, location, appearance, parametric behaviour** aspects. The:

- **Detail** of an object can be different dependant on its required purpose or information delivery milestone. Below are a series of high-level complexities and descriptions for adoption in Appendix A1 (via the picklist sheet).

[Requirements for specific purposes and objects should be defined and scheduled via a separate table]

Complexity	Description
Generic (Gen)	graphical representation of system or object, dimensionally inaccurate.
Developed (Dev)	graphical representation of specific system or object, location and dimensionally accurate for measurement and other model coordination.
Detailed (Det)	graphical representation of specific system or object, location and dimensionally accurate for measurement, detailed coordination with other models, and fabrication purposes.
Constructed (Con)	graphical representation of installed system or object, location, orientation and dimensionally accurate per agreed construction and project model handover tolerances.

- **Dimensionality** default value for model objects is three-dimensional - 3D (e.g. body, volume), and for two-dimensional - 2D (e.g. surface, face) for drawings. [Any other dimension references used for specific purposes and objects should be scheduled via a separate table]

- **Location** default for all model objects is absolute against the Project Co-ordinates noted in section 4.2 above. [Objects required to be positioned or orientated relative to another object should be defined and scheduled via a separate table]

- **Appearance** default for model objects is to follow the colour of the material used. [Objects requiring specific appearances for specific purposes should be defined and scheduled via a separate table e.g. different colours to represent hot/ cold water systems, realistic material finish for statutory approval or presentations]

- **Parametric Behaviour** default for the project model objects is N/A. [Objects requested to remain dependant on other information associated to the object, or its placed context, to allow full or partial reconfiguration should be defined and scheduled via a separate table]

Alphanumerical information

The specification of identification (the positioning of an object within a breakdown structure) and information content requirement (properties list) for an object, or sets of objects.

- **Identification.** On this project, Uniclass Product (Pr) and System (Ss) codes and descriptions have been used to identify and classify model objects within the project Asset Register workbook and baseline asset list. Uniclass Project Management (PM) codes and descriptions have been used to classify the information deliverables within appendix A1 and the Asset Register Workbook, Sheet 03A, O&M Manual Requirements. Refer to section 4.1 above for other naming conventions to be adopted on this project.

- **Information Content.** On this project, alphanumerical asset information requirements for model objects have been outlined in the Asset Register Workbook, Sheet 03B: COBie Data Requirements and 04: Asset Information Grades. Refer to section 4.1 above for other naming conventions to be adopted on this project.

Below are high-level values which can be assigned within Appendix A1 (via the picklist sheet) to indicate what information deliverables require object-based alphanumeric content.

[Alphanumerical information required for specific client purposes, objects, project information and delivery milestones should be defined and scheduled via a separate table e.g. acoustic/ fire rating.]

Assignment Value	Description
Yes- Project	alphanumerical project information requirements in model objects
Yes- Asset	alphanumerical asset information requirements in model objects
Yes- Both	alphanumerical project and asset information requirements in model objects

Documentation

The specification of required documentation for an object, or sets of objects to support processes, decisions, approvals etc.

On this project the baseline documentation deliverables have been scheduled within appendix A1 and the Asset Register Workbook, Sheet 03A, O&M Manual Requirements. **[Prior to release of this workbook, the client should review, evolve and confirm the document delivery requirements]**

Each lead appointed party should adopt and evolve the above when establishing their own and each appointed party exchange information requirements, and when defining the federation strategy and information container breakdown structure. The agreed level of information need for each information container should be recorded in the Task Information Delivery Plan's (TIDP).

4.5 CDE and collaboration

The platform to manage the appointing party project common data environment (CDE) is confirmed in section 4.9 below. The project CDE solution and workflow requirements for parties are included within the Project Information Protocol, noted in section 3.2 of this workbook.

[With reference to BS EN ISO 19650-2, 5.1.7, it is highly recommended the project CDE requirements are established prior to issuing any invitation to tender. A specification should be developed to outline the strategic and technical needs for quality, project information exchange, e.g. when an appointing party intends to appoint a third-party to establish, host or manage a project CDE on their behalf, or when the use of a lead appointed party CDE platform and an appointing party (Client) CDE/ EDMS will require information transfer at the end of each project stage. The client should establish their strategy and any support requirements (periods of aftercare)to manage and maintain the record and asset information post project handover, and include these in the specification.

Many public sector organisations do not own or manage their own CDE platform solutions, and will therefore require copies of all approved project information for storing and up-keep on local hard drives and/or central servers. Whenever this is the case, a secure 'client's shared area' should be established within a lead appointed party (e.g. a contractor) CDE platform for clients to access, review and approve the project information. At the end of each project stage, copies of the approved information will need to be exported from the 3rd party CDE and transferred to the clients system.

It is important to conduct sample documentation and metadata transfer between the lead appointed party and the client information management platforms ahead of each project information delivery milestone. (see appendix A1) An agreed test transfer strategy should be included in the lead appointed party's BEP.

To ensure the information deliverables are exchanged in a structured and consistent manner the 'Standard Information Management Plan; Template T2: Appointing party information container hierarchy' should be adopted and refined to reflect any specific project or delivery requirements.]

Details of the project CDE collaboration process must be provided in the BEP, including the:

- Process of sharing information between delivery team/ task team members
- Quality assurance process and publishing information to the appointing party
- How the EIR and AIR deliverables will be met and tracked
- Process of model coordination and federation strategy
- Frequency of information exchanges for coordination exercises and/or meetings
- Details of information model review workshops and other collaborative working practices e.g. utilisation of 3D model(s) at design team and/or site meetings

The following meeting types, frequencies and dates aligned to key project stages, should be outlined in the BEP:

- Mobilisation/ kick-off
- Federation strategy reviews
- Model coordination reviews
- Look ahead, handover and project close out

4.6 Co-ordination and clash avoidance

The delivery teams shall provide details of the spatial coordination process in order to meet the project information standard. The following should be detailed in the BIM Execution Plan:

- Clash avoidance process including:
 - o Software
 - o Process overview
 - o Responsibilities
 - o Outputs
- Technical query workflow
- Tolerance strategy
- Coordination resolution process
- How the spatial coordination process aligns with periodical design/ technical reviews, the established breakdown structure, federation strategy and the information model(s) review and acceptance process.

4.7 Health & Safety and CDM

[Appointing party should review and amend the following text as required]

The Appointing party expects the utilisation of PAS 1192-6:2018 to support the project Health & Safety (H&S) / CDM management process as required under the Construction (Design and Management) Regulations 2015.

[The following is related to PAS1192-6 – delete if not applicable]

With reference to PAS1192-6:2018 a H&S risk management strategy will be established across the project lifecycle, with required tasks, responsibilities and information requirements clearly identified and recorded within the BEP for delivery via the project information exchanges. Utilising PAS1192-6:2018, Section 5 guidelines, the supply team shall adopt the 4-element Risk Information Cycle approach to 'Identify, Use, Share and Generalise' project risk and associated information.

[The following is related to integrating H&S information within 3d model geometry – delete if not applicable]

Project H&S information should be integrated in the BIM process, models and objects, thus enabling wider stakeholder engagement and collaboration in relation to optimum design and operational risk identification, mitigation and management.

The integration of H&S and BIM shall enable the output of the Health & Safety file (HSF) as part of the Asset Information Model (AIM) transferred to the Employer or Operator pre project handover. It is recommended H&S risk information is exchanged across the project using COBie, an non-proprietary data format. When using COBie to capture and exchange H&S Issues, it should be in accordance with PAS1192-6:2018, Clause 9 and the requirements set out in the Standard Information Management Plan, Asset Register Workbook, 03B: COBie data requirements sheet.

The BEP shall include the following to demonstrate an agreed approach for the project:

- Schedule of project stages and overview of key H&S deliverables and responsibilities against each stage.
- Confirmation of how H&S information shall be captured, shared, and stored.
- Approach to coordinated H&S design and construction risk management including identification, communication, mitigation and recording of related information.
- Strategy for H&S commissioning and operational risk management including the information requirements relating to legislation and emergency planning (reference PAS 1192-6:2018, Clause 7.4)

4.8 Operational and asset information delivery

Asset information requirements for this project should be in accordance with the populated Standard Information Management Plan, Asset Register Workbook. As a minimum the information deliverables are:

- Operation & Maintenance Manual inc. as-constructed record and health & safety information (sheet 03A)
- COBie asset data (sheet 03B)
- Final handover document register
- Final asset register and key maintenance frequencies (sheets 07 & 08)

COBie data shall be embedded within native project 3D models and validated prior to information delivery milestones 3,4 and 6. Copies of the COBie excel workbook and QA reports shall be provided at each project exchange point.

Non native model exchanges shall be via Industry Foundation Class (IFC) 2x3 schema.

Reference should be made to the Standard Information Management Plan, template **T3** which outlines any mapping requirements for onward population of existing AMS or CAFM systems. (refer to 4.9 below)

A project information model (PIM) will be delivered at the final information exchange point by the relevant lead appointed party, with support from the project delivery team(s) and Information Manager. The BEP should set out a clear, detailed methodology to deliver the required asset information for every project information delivery milestone.

4.9 Software requirements

The appointing party (client) requires the delivery team(s) to utilise the following software applications:

- [State required design and analysis software if applicable]
- [State any other specific software the delivery team will be required to utilise]
- [State any model viewers used for internal federation or visualisation of 3D models, drawings etc]
- [State N/A if not applicable]

The following software applications and versions are currently utilised by the appointing party (client):

Existing	Software Application	Version
e.g. AMS / CAFM		
e.g. EDMS / CDE		
e.g. Model Viewer		
[other]		

4.10 System Performance

To support the appointing party internal IT system and / or policy requirements and limitations, the following shall to be considered when developing the BIM Execution Plan:

- *Individual model size: Practically native models should typically not exceed [200mb is the recommended limit]*
- *Federated model: The federated model(s) should be regularly purged of old information and should typically not exceed [500mb is the recommended limit]*
- *Drawing documentation: The stipulated 2D drawing formats to be delivered on this project is .dwg and .pdf. Typically, these files should not exceed [20mb]*
- *Software uses: The Project Information Model (PIM) should be accessible by the appointing party using free model viewing platforms.*
- *Access to free viewers: The appointing party should be able to view models, reports etc on portable handheld device e.g. iPad, tablets,*
- *Security considerations: refer to section 5.3 herein.*

5.0 Project information production methods and procedures

Reference BS EN ISO 19650-2, 5.1.5 this section outlines specific information production methods and procedures to be adopted by project delivery team(s)

Item	Description
5.1 Information delivery - generation, review or approval	<p>Each prospective lead appointed party shall establish their team(s) information delivery approach and include the following within their tender response:</p> <ul style="list-style-type: none">• A pre appointment BIM execution plan, which will include a high-level responsibility matrix and proposed information delivery and federation strategies.• Capability and capacity assessment summary.• Mobilisation Plan.• Information delivery risk assessment. <p>At appointment stage the lead appointed party shall refine and update the above documentation and include agreed exchange information requirements for each appointed party. Information delivery plans should be developed, in alignment with the Level of Information Need framework, and shared to ensure all information is provided by the right party at the right time for the required needs.</p> <p>Each task team shall establish and maintain their own task information delivery plan (TIDP) which the lead appointed party shall aggregate with other task team TIDP's to establish the delivery team master information delivery plan (MIDP).</p> <p>TIDP's and MIDP's should be kept up to date throughout the appointment period. Information delivery plan templates T5 and T6 are available for adoption on this project.</p> <p>[The following outlines BS EN ISO 19650 part 2 activities to be undertaken at various stages of the information delivery and approval process. Any additional appointing party (client) information delivery requirements should be added to the most appropriate section below]</p> <p>Generate information</p> <p>Each task team shall generate information in accordance with their respective TIDP and the requirements outlined in BS EN ISO 19650-2:2018 clause 5.6.2. Native model production and associated data delivery should enable the creation of an IFC 2x3 models and COBie data exports where applicable.</p> <p>High-level information exchange formats are noted in section 5.2 below, and detailed against each information deliverable in appendix A1 - Project and exchange information requirements.</p> <p>Undertake quality assurance check</p> <p>In accordance with BS EN ISO 19650-2:2018 clause 5.6.3 each task team shall undertake a quality assurance check of <u>each information container</u>, prior to undertaking a review of the information within it. The check should be in accordance with the project information standard. Based on the check outcome the appropriate action in clause 5.6.3, a) or b) should be undertaken.</p> <p>Review information and approve for sharing</p> <p>In accordance with BS EN ISO 19650-2:2018 clause 5.6.4 each task team shall undertake a review of the information <u>within each information container</u> prior to sharing within the project common data environment. In doing so the task team needs to consider:</p> <ul style="list-style-type: none">• the lead appointed party's information requirements.• the level of information need.• information needed for coordination with other task teams. <p>Based on the review outcome the appropriate action in clause 5.6.4, a) or b) should be undertaken.</p> <p>Information model review</p> <p>In accordance with BS EN ISO 19650-2:2018 clause 5.6.5 the delivery team shall undertake timely information model reviews to ensure continual coordination of information across each model object / element. The review should be repeated as necessary until the information model is ready for authorisation by the lead appointing party and should therefore also check against the exchange information requirements, acceptance criteria and the MIDP. Only compliant information containers will be accepted by the appointing party.</p>

5.2 Information Exchange Formats

Refer to appendix A1: Project and Exchange information requirements and the project Asset Register Workbook for details on the information deliverables and exchange criteria.

[Prior to release, the client should populate both the project information requirements workbook and the project Asset Register Workbook]

Information containers shall be delivered per the **Information Type & Format** section in appendix A1. An overview table is provided below.

[Prior to release, the client should populate the below table using the cell pick-lists to confirm the required information formats for each RIBA stage / Key Decision Point]

RIBA stages	Key Decision Points	Unstructured				Structured		
		JPEG (or other)	.PDF (2.0+)	MS word (.doc)	2D DWG (from model)	3D Model (Native)	3D Model (IFC 2x3)	MS Excel (.xlsx)
Preparation & Brief	1	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Concept Design	2	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Spatial Coordination	3	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Technical Design	4	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Manufact & Construct	5	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Handover	6	TBC	TBC	TBC	TBC	TBC	TBC	TBC

5.3 Security considerations

The security triage process outlined in BS EN ISO 19650-5:2020 – Part 5: Security-minded approach to information management has determined the following classification for this project:

[Assess and determine suitable security classification with reference to BS EN ISO 19650-5:2020 – Part 5: Security-minded approach to information management. Select one from the following security triage ST1-S4]

ST1: protect sensitive information regarding initiative, project, asset, product or service as well as third-party sensitive information. Apply BS EN ISO 19650-5:2020 – Part 5, Clauses 5 to 9.

ST2: protect sensitive information regarding initiative, project, asset, product or service. Apply BS EN ISO 19650-5:2020 – Part 5, Clauses 5 to 9.

ST3: protect third-party sensitive information. Protect any sensitive commercial and personal information. Apply BS EN ISO 19650-5:2020 – Part 5, Clauses 5 to 9.

ST4: protect any sensitive commercial and personal information within the CDE and models as required.

[On a typical new build school designed without sensitive or security related zones, systems or departments baseline security measures may only be required. The appointing party should seek specialist security advice if any triage outcome other than ST4 has been determined. Information deliverables with specific security exchange requirements should be identified in Appendix A1, Column I. e.g. Client EIR Ref: 001_ST3]

Refer to Appendix A1, Column I for any information deliverables specific security exchange requirements.

6.0 Project reference information and shared resources

Reference BS EN ISO 19650-2, 5.1.6 this section establishes the reference information and shared resources to be adopted by project delivery team(s)

Item	Description																																																															
6.1 Existing Asset information	<p>The following existing asset information shall be adopted by the delivery team(s): [Reference BS EN ISO 19650-2, 5.1.6, list information container unique ID's for any existing asset information to be shared with the delivery team(s). This information should be accessible via an existing CDE platform / EDMS. Any relevant security classification and sharing protocols should be identified in section 5.3 of this workbook]</p> <table border="1" data-bbox="445 461 1399 884"> <thead> <tr> <th colspan="7" style="background-color: #2c3e50; color: white; text-align: center;">Information container unique ID (per BS EN ISO 19650-2 National Annex)</th> </tr> <tr> <th style="background-color: #bdc3c7;">Project Code</th> <th style="background-color: #bdc3c7;">Originator Code</th> <th style="background-color: #bdc3c7;">Volume/ System</th> <th style="background-color: #bdc3c7;">Level/ Location</th> <th style="background-color: #bdc3c7;">File Type</th> <th style="background-color: #bdc3c7;">Role</th> <th style="background-color: #bdc3c7;">Number (4 to 6 digit)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p style="text-align: center; color: red;">[add additional rows as required]</p>	Information container unique ID (per BS EN ISO 19650-2 National Annex)							Project Code	Originator Code	Volume/ System	Level/ Location	File Type	Role	Number (4 to 6 digit)																																																	
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6.2 Shared Resources	<p>The following shared resources shall be adopted by the delivery team(s) for information production and delivery: [Reference BS EN ISO 19650-2, 5.1.6, list information container unique ID's for each item of shared resources including templates, style libraries, object libraries etc.]</p> <table border="1" data-bbox="445 1050 1399 1559"> <thead> <tr> <th colspan="7" style="background-color: #2c3e50; color: white; text-align: center;">Information container unique ID (per BS EN ISO 19650-2 National Annex)</th> </tr> <tr> <th style="background-color: #bdc3c7;">Project Code</th> <th style="background-color: #bdc3c7;">Originator Code</th> <th style="background-color: #bdc3c7;">Volume/ System</th> <th style="background-color: #bdc3c7;">Level/ Location</th> <th style="background-color: #bdc3c7;">File Type</th> <th style="background-color: #bdc3c7;">Role</th> <th style="background-color: #bdc3c7;">Number (4 to 6 digit)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p style="text-align: center; color: red;">[add additional rows as required]</p>	Information container unique ID (per BS EN ISO 19650-2 National Annex)							Project Code	Originator Code	Volume/ System	Level/ Location	File Type	Role	Number (4 to 6 digit)																																																	
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7.0 Information management assignment matrix

[Project Name]

This matrix sets out project information management tasks and party responsibilities

Appointing Party - [Appointing Party]
 Third Party - **xx e.g. 3rd party xxx**
 Lead Appointed Party - [Lead appointed party]
 Appointed Party - **e.g. Sub-contractor**

R - Responsible for undertaking activity
A - Accountable for activity completion
C - Consulted during activity
I - Informed following activity completion

Delivery Phase		Insert R, A, C, I as required			
BS EN ISO 19650-2 clause:	Task	Appointing party	Third party	Lead appointed party	Appointed party
5.1.1	Appoint individuals to undertake the information management function	R - A			
5.1.2	Establish the project information requirements	R - A			
5.1.3	Establish the project's information delivery milestones	R - A			
5.1.4	Establish the project's information standard	R - A			
5.1.5	Establish the project's information production methods and procedures	R - A			
5.1.6	Establish the project's reference information and shared resources	R - A			
Note	<i>Consider existing asset information</i>				
Note	<i>Consider shared templates, object, style libraries</i>				
5.1.7	Establish the project's common data environment	R - A			
Note	<i>Establish CDE strategy for project</i>				
Note	<i>Provide details of Appointing Parties information management/CDE system.</i>				
Note	<i>Provide details of Lead Appointing Parties information management/CDE system.</i>				
5.1.8	Establish the project's information protocol	R - A			
5.2.1	Establish the appointing party's exchange information requirements	R - A			
Note	<i>Include data requirements and inputs for existing estate management system</i>				
Note	<i>Include data requirements and inputs for existing CAFM system</i>				
5.2.2	Assemble reference information and shared resources	R - A			
Note	<i>Assemble/collate existing asset drawings and associated information.</i>				
Note	<i>Assemble and collate existing design and all performance/briefing information.</i>				
5.2.3	Establish tender response requirements and evaluation criteria	R - A			
5.2.4	Compile invitation to tender information	R - A			
5.3.1	Nominate individuals to undertake the information management function			R - A	
5.3.2	Establish the delivery team's (pre-appointment) BIM execution plan			R - A	I
5.3.3	Assess each task team's capability and capacity			I	R - A
5.3.4	Establish the delivery team's capability and capacity			R - A	
5.3.5	Establish the delivery team's mobilization plan			R - A	
5.3.6	Establish the delivery team's risk register			R - A	
5.3.7	Compile the delivery team's tender response			R - A	
5.4.1	Confirm the delivery team's BIM execution plan	I		R - A	I
5.4.2	Establish the delivery team's detailed responsibility matrix			R - A	I
5.4.3	Establish the lead appointed party's exchange information requirements			R - A	
5.4.4	Establish the task information delivery plan(s)			I	R - A
5.4.5	Establish the master information delivery plan	I		R - A	I
5.4.6	Complete lead appointed party's appointment documents	R - A			
5.4.7	Complete appointed party's appointment documents			R - A	
5.5.1	Mobilize resources			R - A	I
5.5.2	Mobilize information technology	I		R - A	I
5.5.3	Test the project's information production methods and procedures			R - A	I
5.6.1	Check availability of reference information and shared resources			I	R - A
5.6.2	Generate information			I	R - A

5.6.3	Undertake quality assurance check				R - A
5.6.4	Review information and approve for sharing				R - A
5.6.5	Information model review			R - A	R - A
5.7.1	Submit information model for lead appointed party authorization			I	R - A
5.7.2	Review and authorize the information model			R - A	
5.7.3	Submit information model for appointing party acceptance			I	R - A
5.7.4	Review and accept the information model	R - A			
5.8.1	Archive the project information model	R - A			
5.8.2	Capture lessons learned for future projects	R - A		R - A	

1.0 - 3.0

4.0 - 6.0

7.0

A1 PIR

Picklists

Picklist references

1.0 Project Information	A1	A1	A1		A1	A1
Adopted Plan of Work	Party Assignment	Scale/ Size	Level of information need		select	Hub Stages (fixed)
RIBA Plan of Work	TBC	NA	Geometrical	Alphanumerical	YES	NPR --> Brief
CIC BIM Protocol	NA	TBC	NA	NA	NO	Stage 1
OGC Gateway	AP <add org name>	1:5	TBC	TBC	TBC	Stage 2
SCIM	LAP01 <add org name>	1:10	Yes-Gen	Yes-Project	NA	Stage 2 --> Financial Close
Scotland Hub Process	LAP02 <add org name>	1:20	Yes-Dev	Yes-Asset	NATIVE	Construction
	LAP03 <add org name>	1:50	Yes-Det	Yes-Both	IFC2x3	Construction --> Handover
	LAP04 <add org name>	1:100	Yes-Con		BOTH	Operation In Use
	LAPxx <add org name>	1:200				
	LAPxx <add org name>	1:500				
	LAPxx <add org name>	1:1250				
	e.g. LAP01 AceArchitect	1:2500				
	e.g. LAP02 AceContractor	A1				
		A2				
		A3				
		A4				