Project Name

P22-01

Project code-P22-XX-XX-SP-K-AIR-001

Asset Information Requirements (AIR)

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BIM4 Health

Asset Information Requirements

AIR – Document Overview

This document is a guideline of the expectations required by the NHS Trust P22 framework to detail the requirement to structure the project specific Asset Information requirements in a consistent manner across all projects that come under the P22 framework.

It is recommended that in forming the AIR, Clients and relevant stakeholders undertake a workshop style environment at early project inception to detail the aspirations and information requirements of the project in simple non-technical terms. Outputs from the workshops will form the basis of agreement of the specific project AIR and further creation of the project specific Employers Information Requirements (EIR).

This document will support the development and standardisation required in support of project specific deliverables.

Document Ownership

The NHS Client has overall ownership and control of the BIM model to ensure the outputs are fully delivered and should take leadership in the process. A key deliverable is appointment of a named individual who has the appropriate level of knowledge and awareness of BIM to manage the process from commencement.

Document Authority

This document shall be agreed by all the representatives of the project team, with the authority of their contracting organisation to accept this document as the Asset Information Requirements (AIR) as referenced in the Terms of Engagement or subcontracts. This acceptance also confirms that the relevant supply chains personnel have read and understood its requirements.

The document will provide a structure and specification for the development of the ref in PAS 1192:2 to a PIM (Project Information Model) in accordance with the client's requirements and subsequent handback of Information to client team; this is in addition to any required compliance to British Standards.

To be read in conjunction with NHS Trust FM Building Requirements, which detail both the design and information requirements in relation to the facility.

Asset Information Requirements

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Asset Information Requirements

1 Document Purpose

This document lays out the NHS Trust Asset Information Requirements (AIR) in line with PAS 1192-2:2013 and PAS 1192-3:2014 as a sub-set of the EIR.

PAS 1192-3 states that an Asset Information Requirement (AIR) document should be produced. This should be undertaken by the client and should state the information (in the form of Data, Documents and Geometry) that is required in the Asset Information Model (AIM). The AIM should then be used by the Facility/Asset Management teams to operate and maintain the building.

This AIR guidance document sets out the requirements for information to meet the needs of NHS Trust asset management system and other organisational functions.

The purpose of the asset information model (AIM) is to be the single source of approved and validated information related to the asset(s). This includes data and geometry describing the asset(s) and the spaces and items associated with it, data about the performance of the asset(s), supporting information about the asset(s) such as specifications, operation and maintenance manuals, and health and safety information.

Allowing data and information to be stored within a discrete information model should take place within the context of an asset management system, including the preparation of plans, organizational information requirements and plain language questions in regards to the Asset Information Requirements (AIR) data and information needs of the organization in relation to the asset(s) it is responsible for.

The organization should have processes in place to respond to any changes in the AIR while a project using PAS 1192-2:2013 is underway. When the asset management process gives rise to a new project that will apply PAS 1192-2:2013, then the appropriate AIR becomes or forms part of the employer's information requirements (EIR) as defined in PAS 1192-2:2013.

2 AIR (Asset Information Requirements) – Explained

To prepare the content required to answer the Organisation Information Requirement (OIR) this will require the collection, aggregation and manipulation of multiple pieces of asset information.

The next stage is to therefore identify what pieces of information are needed to respond to each OIR (refer to P22-XX-XX-DP-K-OIR-001). PAS 1192:3 refers to these pieces of information as the Asset Information Requirements (AIR). Asset Information Requirements are the detailed pieces of data and information about the asset that when placed in context can answer the questions raised in the OIR.

Typical events that might require the retrieval of this data include:

- Receiving information during major works project
- Deciding to manage asset information according to the PAS
- Evaluating performance of an asset
- Planned or reactive maintenance work
- Minor works (repairs, component replacements)
- End-of-life works (decommissioning, mothballing)
- Change in regulations relating to the asset
- Change in organizational requirements for the asset
- Change in owner, operator or maintainer

It is important that the AIR defines the data and information required throughout the asset lifecycle. This information needs to be at a sufficient level of granularity to answer the key questions asked at each stage of the asset's lifecycle.

Asset Information Requirements

Classification

The AIR shall require the NHS Trust to classify the data and information being put into the AIM according to an agreed classification system or through the structures of the data store and/or file store.

Classification is necessary to enable stored data and information to be searched and retrieved.
A number of classification systems are available e.g. NRM1, Uniclass, SFG20

The choice of classification system should follow industry standards where possible, but should take account of the organization's specific needs.

It will be the joint responsibility of the project team and operational facilities management teams to establish which elements of the Asset Information Requirements apply to a particular project. The information deliverables should be agreed at project inception.

Asset Information Requirements

2.1 AIR – Asset Information Requirements Linkage

Linking AIR, OIR and AIM

The creation of the 'Building Information Model' starts with the client firstly identifying what information they think they will need. BIM generates best value for all parties when you start with the end in mind and focus on gathering useful, purposeful information which is gathered throughout the project.

The information requirements at an organizational level, the OIR, shall be conveyed to external contractors or in-house works teams through task or project-specific AIR. The AIR shall form part of the specification for each asset-related contract or works. Where these contracts are managed in accordance with PAS 1192-2 then the AIR shall inform the development of the PAS 1192-2 EIR.

The information required by the organization at each decision point shall be drawn from the AIM.

If the information held within the AIM is not sufficient or suitable to satisfy the OIR then the organization shall amend the relevant AIR to acquire the necessary data and information.

The requirement for the process for data and information exchange to comply with ISO/IEC 27001 (Information security management systems security) shall be considered by the organization defining the OIR and the AIR.

The frequency and scope of each information exchange shall be defined in relation to each asset management event.

The format of each information exchange shall be defined by the organization that has defined the OIR and the AIR.

Where COBie (Construction Operation Building Information Exchange) is used for information exchange then the content of the COBie files should be determined by the AIR
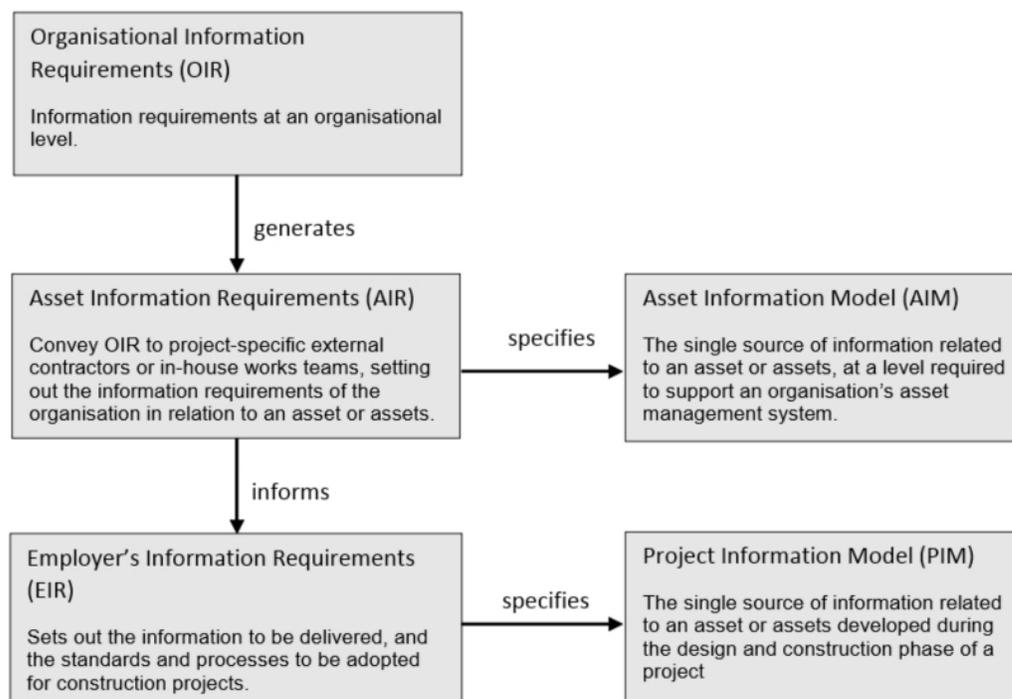

Figure 1 – OIR, AIR, EIR Relationship Diagram (Source: designingbuildings.co.uk, 2016)

2.2 Who needs to input to the AIR?

Understanding who the internal clients are and the how the decision-making process is made by the client team is necessary for ensuring which parties are involved in this step. This will be project specific dependent on the type and complexity of the work, below are a list of some of the typical contributors expected to see involved in the process of defining the AIR:

*   Project board
*   User Panels
*   Estate Management Teams
*   Projects Managers
*   FM Managers
*   Building users/employees
*   Consultants
*   Main Contractor

The Asset Information Requirements apply to <u>all</u> NHS Trust P22 framework projects, including the construction of new buildings, alteration works and maintenance projects. The requirements described, however, are intended to be scalable dependent upon the size and complexity of the project.

2.3 Why they need to input to the AIR?

AIR will support the decisions which generate what information has to come out of the model at each information exchange point.

Based on the OIR, the project specific AIR shall be specified as part of a contract or as an instruction to in-house teams. The AIR will specify data and information to be captured and fed into the AIM. Use of data and information defined in the AIR will support the asset management activities (AIM) being carried out

Typical AIR activities have been given below which have been extracted from PAS 1192-3:2014 Annex A

a) Legal information:
*   Details of ownership and maintenance demarcation where assets interface across a system or network of assets;
*   Asset related contractual information;
*   Task risk assessments and control measures.

b) Commercial information:
*   Descriptions of assets and the asset systems they serve;
*   Functions of assets, including any interdependencies to the activities that require them;
*   Vendor data (details of the organization that supplied the asset) including asset lead time;
*   The condition and duty of assets including intensity of use;

b) Commercial information:
- Key performance indicators;
- Condition and performance targets or standards;
- Criteria of non-conformance and the actions to be taken;
- The criticality of assets and spaces to the organization;
- Identities and levels of spares held, inter-changeability, specifications and storage locations.

c) Financial information:
- financial data including, where available, whole life costs of asset deployment including cost of historical and planned maintenance tasks, operating costs, downtime impact, current asset replacement value, original purchase/leasing cost.

d) Technical information:
- Engineering data and design parameters;
- Details of asset dependencies and interdependencies;
- Commissioning dates and data;
- Operational data including performance characteristics and design limits.

e) Managerial information:
- Unique asset identification numbers;
- Locations of the assets, possibly using spatial referencing or geographical information systems;
- Spatial data relating to assets, for example pavement areas, room sizes;
- Warranties and guarantee periods;
- Access planning and work schedules;
- When assets were last maintained/inspected and when these tasks are next due;
- List of overdue/outstanding tasks;
- Historical record of planned and unplanned maintenance tasks performed,
- Details of the tasks to be carried out;
- Asset related standards, process (es) and procedure(s);
- The presence of any hazardous contents or waste;
- Details of emergency plans including responsibilities and contact details;

3 Information Requirements

For the NHS Trust P22 framework the requirement of COBie will be the deliverable expected as the means for information data exchange.

Performance attributes are listed in Section 7 as a guideline for inclusion this will need defining by the client team and Estate management teams on the project.

Classification referenced in this document is aligned to NRM1 which can be mapped with the industry recognised standard for planned maintenance SFG20 once maintainable assets are defined for any given project.

NOTE: SFG20 is a tool for planned maintenance for facilities managers, building owners, contractors and consultants

The person/body responsible for delivering the Asset Information Model (usually the main contractor), should collect the data and documents as the products/systems are purchased and installed.

Once this AIR has been agreed, the project team should detail how they will collect the data and documents within the BIM Execution Plan.

It is vital that the main contractor (in partnership with their supply chain) collects and validates the data (as stated within the AIR) as construction progresses, so that the AIM is systematically created.

Recommendations

Make sure that the Asset Management Software that your asset management team propose to use can utilise COBie.

Determine which system/product performance attribute data you require. If further properties are required then you should use a Product Data Template (PDT) to select them.

Data Purposes

BS 1192-4 requires that the Employer states:

- The aspects of the facility that are intended to be managed
- Their purposes for requiring data and information deliverables
- The purposes for which data/information is not required or excluded
- Any additional purposes for data and information use
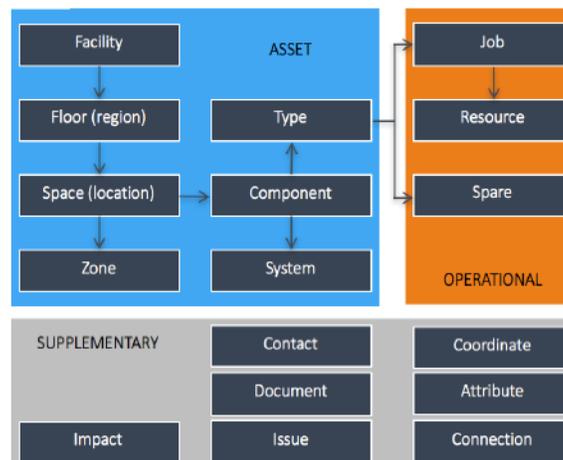
The COBie hierarchy from www.wbgd.org

Asset Information Requirements

4 Maintainable Assets

Maintainable asset list to be agreed by client and estates management teams for the specific project. To then update document P22-XX-XX-SP-K-AIR-002 accordingly. Example below:

Reference	Asset type	Description	NRM1 Mapping
1	Sub-structure / Structural Foundations	Structural foundations, piles retaining walls etc. all below slab level	1.1 Substructure
2	Structural Concrete	Structural Concrete elements, Structural Beam Systems, Columns, Connections, Fabric Reinforcement, Rebar	2.1 Frame
3	Structural Floors and Compartment Walls	All structural separating elements	2.1 Frame
4	Structural Steel	Structural Steel Elements, Structural Beam Systems, Columns, Connections, Framing, Stiffeners, Trusses. NB: Exposed elements only	2.1 Frame
5	Specialist Structural Floor	Structural floors provided by specialist contractor with associated guarantee	2.2 Upper Floors
6	Specialist Roof and Coverings	Roof coverings and specialist roof systems. Excludes roof structure, roof lights / openings and drainage	2.3 Roof
7	Stairs and Ramps	Finishes and associated assembly components such as handrails and balustrades. Excludes stair / ramp structures	2.4 Stairs and Ramps
8	Cladding Systems	All cladding systems that form part of the building envelope	2.5 External Walls
9	External Walls (masonry)	All masonry components that form part of the building envelope	2.5 External Walls
10	Windows	All external and internal windows and associated elements	2.6 Windows and external doors
11	Wall Systems	Proprietary wall systems such as Power Wall, Metsec, internal partitions, glazed screen systems	2.7 Internal Walls and Partitions
12	Columns - non Structural	Casements and boxing only	3.0 Internal finishes
13	General Joinery items	All joinery such as skirting, architrave, window boards etc., excludes fixed furniture such as kitchens, shelving, fixed storage, stairs, ips	3.0 Internal finishes
14	Flooring Systems	All manufactured / proprietary floor systems, e.g. precast, beam and block, metal decking, raised / suspended floors, acoustic floors and floor finishes	3.2 Floor finishes
15	Ceilings	Suspended or supported ceiling systems	3.3 Ceiling finishes
16	Fixed Fittings, furnishings and equipment	Fixed Storage, furniture, casework and signage items including shelving, IPS,	4.0 Fittings, furnishings and equipment
17	Loose Furniture	Loose or moveable furniture items and systems	5.0 Fittings, furnishings and equipment
18	Building Services Carrier, Containment &Support Systems	Any system used to suspend, carry or mount Mechanical, Electrical and Plumbing systems. Includes systems for supporting plant and equipment.	5.0 services
19	Sanitary Fixtures	All items of sanitary equipment associated with sanitary ware and sanitary spaces such as taps, showers, flush mechanisms etc.	5.1 Sanitary installations
20	Sanitary ware	Sanitary ware including WC's, Wash Hand Basins. Baths, Shower Cubicles etc.	5.1 Sanitary installations
21	Lifts and Conveyors	Systems and Equipment used for building occupant circulation such as lifts, hoists and escalators	5.10 Lift / Conveyor installations

Asset Information Requirements

Reference	Asset type	Description	NRM1 Mapping
22	Communication and Devices	All in line equipment and end of line devices associated with communication systems. E.g. telephone, intercoms, tannoy	5.12 Communication, security and control systems
23	BMS (fire, security, specialist systems etc.)	All Plant, equipment and fixtures associated with Building Management Systems (fire, security, specialist systems)	5.13 Specialist installations
24	Specialty end user Equipment	All specialty equipment relating to functional use of the built asset. Excludes building service equipment	5.13 Specialist installations
25	Specialty maintenance Equipment	All operational equipment used to conduct maintenance tasks. Includes maintenance access equipment.	5.13 Specialist installations
26	Mechanical Equipment	All mechanical equipment and components, AHU's, Fans, AC Units, Pumps, Values, Chlorifiers, Sprinklers, Boilers, Tanks, Water Treatment	Multiple
27	Drainage	All inline drainage system components providing access or requiring maintenance. E.g.. Inspection Chambers, Gullies, Drains, Roding Eyes	5.3 Disposal installations
28	Air Terminals / Fans	Air terminals relates to component such as louvres, grilles and diffusers used to terminate supply and extract systems	5.7 Ventilation
29	Ducts	All duct segments and parts used to carry air. Excludes all maintainable / accessible components (e.g. dampers, attenuators, filters and mechanical / electrical plant and equipment	5.7 Ventilation
30	Electrical Equipment	All electrical plant / equipment associated with power, data and lighting distribution e.g. switchgear, distribution boards, data cabinets	5.8 Electrical installations
31	Electrical Fixtures	All electrical fixtures within power, data and lighting systems including PIR's, Sensors, Controls, Power & Data sockets, switches, luminaires	5.8 Electrical installations
32	Lighting Fixtures	Luminaires used as part of lighting systems	5.8 Electrical installations
33	External Works	Landscaping, Planters, Masonry Boundary walls etc.	8.0 External Works
34	Curtain Wall Mullions, transoms	The structural elements designed within a curtain wall assembly	Multiple
35	Curtain Wall Systems	The overall system information applied to a complete curtain wall assembly. Excludes air terminals.	Multiple
36	Doors / Access Panels / Hatches	All internal and external doors. All panels and hatches used for access.	Multiple
37	Ironmongery	All ironmongery associated with doors and windows systems	Multiple
38	Pipes	All pipes and connections relating to building service systems. Excludes any equipment requiring access for maintenance	Multiple
39	Railings, Fences, Balconies and external furniture	Railings, balconies, fences, gates, balconies, canopies, handrails, benches, edge protection systems	Multiple
40	Spaces / Rooms / Zones	All designed internal and external spaces including rooms and building service zones	Not Applicable

Asset Information Requirements

5 Responsibility & Data Drop Matrix

Refer to document P22-XX-XX-SP-K-AIR-002 template

Asset Information Requirements

6 COBie Matrix

Refer to document P22-XX-XX-SP-K-AIR-002 template to assign COBie deliverables.

Example COBie output for type of information needed to be filled related to the COBie sheets:

Ref	Parameter	Example Value	Notes	Typical Author (See AIR Table 1 for specific)	Project Requirement (Y/N)
1.0	**Facility**				
1.01	Name	Some School	expected	Design Team	Y
1.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
1.03	CreatedOn	2016-02-08T11:00:00	expected	Design Team	Y
1.04	Category	D713:Secondary schools	picklist (uniclass tbc)	Design Team	Y
1.05	ProjectName	SchoolExtension	expected	Design Team	Y
1.06	SiteName	SchoolPark	expected	Design Team	Y
1.07	LinearUnits	millimetres	picklist (uniclass tbc)	Design Team	Y
1.08	AreaUnits	squaremeters	picklist (uniclass tbc)	Design Team	Y
1.09	VolumeUnits	cubicmeters	picklist (uniclass tbc)	Design Team	Y
1.10	CurrencyUnit	Pounds	picklist (uniclass tbc)	Design Team	Y
1.11	AreaMeasurement	RICS BCIS	expected	Design Team	Y
1.12	ExternalSystem	BIM Authoring Application	application	Design Team	Y
1.13	ExternalProjectObject	IfcProject	application	Design Team	Y
1.14	ExternalProjectIdentifier	0NG5d_R6T8leptpG$lx7Lx	application	Design Team	Y
1.15	ExternalSiteObject	IfcSite	application	Design Team	Y
1.16	ExternalSiteIdentifier	0NG5d_R6T8leptpG$lx7Lv	application	Design Team	Y
1.17	ExternalFacilityObject	IfcBuilding	application	Design Team	Y
1.18	ExternalFacilityIdentifier	0NG5d_R6T8leptpG$lx7Lw	application	Design Team	Y
1.19	Description	Single storey secondary school	optional / requireable	Design Team	Refer to AIR Table 3 & 4
1.20	ProjectDescription	New build secondary school.	optional / requireable	Design Team	Refer to AIR Table 3 & 4
1.21	SiteDescription	Some school, Address Road, New Town, County, AA11 1AA	optional / requireable	Design Team	Refer to AIR Table 3 & 4
1.22	Phase	CIC 6:Handover	optional / requireable	Design Team	Refer to AIR Table 3 & 4
2.0	**Floor**				
2.01	Name	Level 0	expected	Design Team	Y
2.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
2.03	CreatedOn	2016-02-08T14:00:00	expected	Design Team	Y
2.04	Category	Floor	picklist (uniclass tbc)	Design Team	Y
2.05	ExtSystem	Authoring Application	application	Design Team	Y
2.06	ExtObject	IfcBuildingStorey	application	Design Team	Y
2.07	ExtIdentifier	0NG5d_R6T8leptpGyG4uky	application	Design Team	Y
2.08	Description	Entrance level	optional / requireable	Design Team	Refer to AIR Table 3 & 4
2.09	Elevation	0.0	optional / requireable	Design Team	Refer to AIR Table 3 & 4
2.10	Height	4000.0	optional / requireable	Design Team	Refer to AIR Table 3 & 4
3.0	**Space**				
3.01	Name	101	expected	Design Team	Y
3.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
3.03	CreatedOn	2016-02-08T11:00:00	expected	Design Team	Y
3.04	Category	D7181:General purpose classrooms	picklist (uniclass tbc)	Design Team	Y
3.05	FloorName	Level 0	reference to floor	Design Team	Y
3.06	Description	Classroom	expected	Design Team	Y
3.07	ExtSystem	Authoring Application	application	Design Team	Y
3.08	ExtObject	ifcSpace	application	Design Team	Y
3.09	ExtIdentifier	3PbU3I0k5FVO3gc98VQGZm	application	Design Team	Y
3.10	RoomTag	CL 101	optional / requireable	Design Team	Refer to AIR Table 3 & 4
3.11	UsableHeight	2955.0	optional / requireable	Design Team	Refer to AIR Table 3 & 4
3.12	GrossArea	24.837	optional / requireable	Design Team	Refer to AIR Table 3 & 4
3.13	NetArea	24.837	optional / requireable	Design Team	Refer to AIR Table 3 & 4
4.0	**Zone**				
4.01	Name	Teaching	expected	Design Team	Y
4.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
4.03	CreatedOn	2016-02-08T14:00:00	expected	Design Team	Y
4.04	Category	Circulation Zone	picklist (uniclass tbc)	Design Team	Y
4.05	SpaceNames	101, 102, 104	reference to space	Design Team	Y
4.06	ExtSystem	Authoring Application	application	Design Team	Y
4.07	ExtObject	ifcZone	application	Design Team	Y
4.08	ExtIdentifier	3PbU3I0k5FVO3gc98VQGZn	application	Design Team	Y
4.09	Description	Basic teaching spaces	optional / requireable	Design Team	Refer to AIR Table 3 & 4

Asset Information Requirements

Ref	Parameter	Example Value	Notes	Typical Author (See AIR Table 1 for specific)	Project Requirement (Y/N)
5.0	Type				
5.01	Name	White Board	expected	Design Team	Y
5.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
5.03	CreatedOn	2016-02-08T14:00:00	expected	Design Team	Y
5.04	Category	L76134:Presentation systems	picklist (uniclass tbc)	Design Team	Y
5.05	Description	Short Throw Projector	expected	Design Team	Y
5.06	AssetType	Fixed	picklist (uniclass tbc)	Design Team	Y
5.07	Manufacturer	company@email.com	reference to contact	Design Team / Specialist Subcontra	Y
5.08	ModelNumber	587	expected	Specialist Subcontractor	Y
5.09	WarrantyGuarantorParts	company@email.com	reference to contact	Specialist Subcontractor	Y
5.10	WarrantyDurationParts	5	expected	Specialist Subcontractor	Y
5.11	WarrantyGuarantorLabor	company@email.com	reference to contact	Specialist Subcontractor	Y
5.12	WarrantyDurationLabor	5	expected	Specialist Subcontractor	Y
5.13	WarrantyDurationUnit	year	picklist (uniclass tbc)	Specialist Subcontractor	Y
5.14	ExtSystem	Authoring Application	application	Design Team	Y
5.15	ExtObject	IfcFurnitureType	application	Design Team	Y
5.16	ExtIdentifier	1ITs7iOoDD$830Kgut03mv	application	Design Team	Y
5.17	ReplacementCost	2760	optional / requireable	Faculties Manager	Refer to AIR Table 3 & 4
5.18	ExpectedLife	15	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.19	DurationUnit	year	picklist (uniclass tbc)	Design Team	Y
5.20	WarrantyDescription	Onsite warranty and advanced replacement warranty	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
5.21	NominalLength	2105	expected	Design Team	Y
5.22	NominalWidth	50	expected	Design Team	Y
5.23	NominalHeight	1329	expected	Design Team	Y
5.24	ModelReference	Short Throw Projector	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
5.25	Shape	rectangular	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.26	Size	2105mm x 1329mm	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.27	Color	white	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.28	Finish	matt	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.29	Grade	tough	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.30	Material	various	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.31	Constituents	remote controller	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.32	Features	auto-shutdown	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.33	AccessibilityPerformance	visual impairment adapted	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.34	CodePerformance	fully earthed	optional / requireable	Design Team	Refer to AIR Table 3 & 4
5.35	SustainabilityPerformance	low-energy	optional / requireable	Design Team	N
6.0	Component (Refer to Table 3)				Refer to AIR Table 3 & 4
6.01	Name	White Board:247849	expected	Design Team	Y
6.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
6.03	CreatedOn	2016-02-08T14:00:00	expected	Design Team	Y
6.04	TypeName	White Board	reference to type name	Design Team	Y
6.05	Space	101	reference to space name	Design Team	Y
6.06	Description	WhiteBoard in room 101	expected	Design Team	Y
6.07	ExtSystem	Authoring Application	application	Design Team	Y
6.08	ExtObject	IfcFurnishingElement	application	Design Team	Y
6.09	ExtIdentifier	0ITs7iOoDD$830Kgut03mv	application	Design Team	Y
6.10	SerialNumber	S4567901	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
6.11	InstallationDate	2016-02-08T14:00:00	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
6.12	WarrantyStartDate	2016-02-08T14:00:00	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
6.13	TagNumber	247849	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
6.14	BarCode	4567901	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
6.15	AssetIdentifier	2f7761ec-6323-4dfc-80c0-52ae3703f410	optional / requireable	Design Team	Refer to AIR Table 3 & 4
7.0	System (Excludes MEP services carriers. Refer to Table 3 assets)				Refer to AIR Table 3 & 4
7.01	Name	Circuit 1	expected	Design Team	Y
7.02	CreatedBy	name@email.com	reference to contact	Design Team	Y
7.03	CreatedOn	2016-02-08T14:00:00	expected	Design Team	Y
7.04	Category	G53:Electric power	picklist (uniclass tbc)	Design Team	Y
7.05	ComponentNames	WhiteBoard:247849	reference to component	Design Team	Y
7.06	ExtSystem	Authoring Application	application	Design Team	Y
7.07	ExtObject	IfcSystem	application	Design Team	Y
7.08	ExtIdentifier	2ITs7iOoDD$830Kgut03mv	application	Design Team	Y
7.09	Description	Small power circuit 1	optional / requireable	Design Team	Refer to AIR Table 3 & 4
8.0	Connection (Excludes MEP items - optional use only)				
8.01	Name	Internet connections	expected	Design Team	Y (Excludes MEP)
8.02	CreatedBy	name@email.com	reference to contact	Design Team	Y (Excludes MEP)
8.03	CreatedOn	2016-02-08T14:00:00	expected	Design Team	Y (Excludes MEP)
8.04	ConnectionType	Data	picklist (uniclass tbc)	Design Team	Y (Excludes MEP)
8.05	SheetName	Component	reference to sheet	Design Team	Y (Excludes MEP)
8.06	RowName1	WhiteBoard:247849	reference	Design Team	Y (Excludes MEP)
8.07	RowName2	Server:21967	reference	Design Team	Y (Excludes MEP)
8.08	RealizingElement	n/a	reference	Design Team	Y (Excludes MEP)
8.09	PortName1	IC5	optional / requireable	Design Team	Refer to AIR Table 3 & 4
8.10	PortName2	IC5	optional / requireable	Design Team	Refer to AIR Table 3 & 4
8.11	ExtSystem	Authoring Application	application	Design Team	Y
8.12	ExtObject	IfcReConnects	application	Design Team	Y
8.13	ExtIdentifier	n/a	application	Design Team	Y
8.14	Description	Whiteboards to education resource server 1	optional / requireable	Design Team	Refer to AIR Table 3 & 4
16.0	Document				
16.01	Name	White Board Product Data	expected	Specialist Subcontractor	Y
16.02	CreatedBy	company@email.com	reference to email	Specialist Subcontractor	Y
16.03	CreatedOn	2016-02-08T14:00:00	expected	Specialist Subcontractor	Y
16.04	Category	Product Data	picklist (uniclass tbc)	Specialist Subcontractor	Y
16.05	ApprovalBy	Information Only	picklist (uniclass tbc)	Specialist Subcontractor	Y
16.06	Stage	Submitted	picklist (uniclass tbc)	Specialist Subcontractor	Y
16.07	SheetName	Type	reference to sheet	Specialist Subcontractor	Y
16.08	RowName	White Board	reference	Specialist Subcontractor	Y
16.09	Directory	n/a	expected	Specialist Subcontractor	Y
16.10	File	http://www.company.com/white board	expected	Specialist Subcontractor	Y
16.11	ExtSystem	Authoring Application	application	Specialist Subcontractor	Y
16.12	ExtObject	IfcDocumentReference	application	Specialist Subcontractor	Y
16.13	ExtIdentifier	n/a	application	Specialist Subcontractor	Y
16.14	Description	Short throw White Board Handbook	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4
16.15	Reference	Short throw White Board Handbook	optional / requireable	Specialist Subcontractor	Refer to AIR Table 3 & 4

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Asset Information Requirements

7 COBie Performance Attributes

Refer to document P22-XX-XX-SP-K-AIR-002 template to assign COBie performance attributes.

8 References

Standards

- BS 1192:2007+A2:2016 Collaborative production of architectural, engineering and Construction information.
- PAS 1192-2:2013 Specification for information management for the capital/delivery phase of construction projects using building information modelling
- PAS 1192-3:2014 Specification for information management for the operational phase of assets using building information modelling
- BS 1192-4:2014 Collaborative production of information. Fulfilling employer's information exchange requirements using COBie.
- BS 8536-1-2015 Briefing for design and construction. Code of practice for facilities management (Buildings infrastructure)
- ISO/IEC 27001 Information security management systems

- UK BIM Alliance – Data Requirements for the Construction and Management of Buildings

- Scottish Futures Trust Portal - **https://bimportal.scottishfuturestrust.org.uk/**

- BIM Task group - **http://bim-level2.org/en/**