Publish Date

COBie DELIVERY & RESPONSIBILITIES

Company Name

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| 8068-ORG-XX-XX-SP-X-5221 |

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| Project Information | |
| Lead Appointed Party Name | Lead Appointed Party Name |
| Company Name | Company Name |
| Company Address | Company Address |
| Originator Code | ORG |
| Client Name | Client Name |

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| --- | --- |
| Project Details | |
| Project Name | Project Name |
| Project Address | Project Address |
| Project Number | Project Number |
| Project Value | Project Value |
| Document Reference | 8068-ORG-XX-XX-SP-X-5221 |

|  |  |
| --- | --- |
| Document Status | |
| Status | Status |
| Suitability | Suitability |
| Publish Date | Publish Date |

Document Issue

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Revision | Date | Author | Checked | Approved | Revision Comments |
| *01* | *12/05/2024* | *J. Smith* | *M. Brown* | *T. Johnson* | *Initial draft completed.* |
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Template Usage Instructions

Getting Started

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# Introduction

**Introduction of COBie**

COBie is an acronym for “Construction Operations Building Information exchange.” COBie is an information exchange specification for the life-cycle capture and delivery of information needed by facility managers. It defines the way this information is structured and formats that can be used. COBie is a format of building data for the publication of a subset of building model information and is commonly in the format of excel spreadsheet for delivering construction handover between lifecycles.

COBie exchange format Excel spreadsheets are used to integrate Autodesk Revit project file and the Client’s Facility Management System. The COBie Excel file will contain COBie parameters specified. The COBie parameters requirement is specified in Appendix.

It is the responsibility of each design discipline to ensure the information input into the native models is accurate (validated and verified) and that the data has correctly exported and populated the data (COBie) spreadsheet.

Data entry should be an ongoing process throughout the project; it should be carefully controlled with regular in-house data checks carried out by each discipline. Checks to include:

* Project data parameters have been correctly input.
* Organisation contact details are correct and up to date.
* No data amendments are made once extracted from the 3D models.
* Data has been entered in the correct fields and format (e.g. alphanumeric).
* Data has been entered at the correct type/instance level.
* Model and project protocols have been followed (identification conventions, levels etc.).
* Duplicate objects removed from the models.
* Data (COBie) export settings and parameter mappings are correct.

The integrity of data, included within the data (COBie) scheme, should be ensured as follows:

* Every Component should be assigned to at least one Space.
* Every Component should be assigned to one Type.
* Every Component should be assigned to at least one System.
* Every Space should be assigned to at least one Zone.
* Every reference to other sheets should be valid.
* Every reference to Pick List enumerations and classifications should be valid.
* Enumerations specified in the Attributes and Pick Lists should be adhered to.

Consultants are asked to supply details of their data (COBie) workflows, data entry and in-house data checking procedures to Lead Appointed Party Name - Company Name.

# Asset Information

This section illustrates how the asset management concept is designed to enable the Appointing Party (Client) to maintain and manage assets. Project Task Teams should prepare the BIM models to facilitate the Asset Management standard workflow.

The following workflow ensures the project deliverables with good quality produced from the BIM models.

## The Workflow Applies to Asset Management

# COBie Attribute

The consultants or contractors should follow this document and submit the required COBie attribute spreadsheet.

|  |  |  |  |
| --- | --- | --- | --- |
| COBie Parameters | Sheet | Description | Remarks |
| COBie.Facility.Name | Facility |  |  |
| COBie.Facility.Category | Facility |  |  |
| COBie.Facility.ProjectName | Facility |  |  |
| COBie.Facility.SiteName | Facility |  |  |
| COBie.Facility.LinearUnits | Facility | Automatic by Revit | Project Units |
| COBie.Facility.AreaUnits | Facility | Automatic by Revit | Project Units |
| COBie.Facility.VolumeUnits | Facility | Automatic by Revit |  |
| COBie.Facility.CurrencyUnit | Facility |  |  |
| COBie.Facility.AreaMeasurement | Facility |  |  |
| COBie.Facility.Description | Facility |  |  |
| COBie.Facility.ProjectDescription | Facility |  |  |
| COBie.Facility.SiteDescription | Facility |  |  |
| COBie.Facility.Phase | Facility |  |  |
| COBie.Floor.Name | Floor | Automatic by Revit |  |
| COBie.Floor.Category | Floor |  |  |
| COBie.Floor.Description | Floor |  |  |
| COBie.Floor.Elevation | Floor | Automatic by Revit |  |
| COBie.Floor.Height | Floor |  |  |
| COBie.Space.Name | Space |  |  |
| COBie.Space.Category | Space |  |  |
| COBie.Space.FloorName | Space |  |  |
| COBie.Space.Description | Space |  |  |
| COBie.Space.RoomTag | Space |  |  |
| COBie.Space.UsableHeight | Space |  |  |
| COBie.Space.GrossArea | Space |  |  |
| COBie.Space.NetArea | Space |  |  |
| COBie.Type.Name | Type | Automatic by Revit |  |
| COBie.Type.Category | Type | Automatic by Revit (OmniClass Number): OmniClass Title | 2010 version |
| COBie.Type.Description | Type |  |  |
| COBie.Type.AssetType | Type |  |  |
| COBie.Type.Manufacturer | Type |  |  |
| COBie.Type.ModelNumber | Type |  |  |
| COBie.Type.WarrantyGuarantorParts | Type |  |  |
| COBie.Type.WarrantyDurationParts | Type |  |  |
| COBie.Type.WarrantyGuarantorLabor | Type |  |  |
| COBie.Type.WarrantyDurationLabor | Type |  |  |
| COBie.Type.WarrantyDurationUnit | Type |  |  |
| COBie.Type.ReplacementCost | Type |  |  |
| COBie.Type.ExpectedLife | Type |  |  |
| COBie.Type.DurationUnit | Type |  |  |
| COBie.Type.WarrantyDescription | Type |  |  |
| COBie.Type.NominalLength | Type |  |  |
| COBie.Type.NominalWidth | Type |  |  |
| COBie.Type.NominalHeigh | Type |  |  |
| COBie.Type.ModelReference | Type |  |  |
| COBie.Type.Shape | Type |  |  |
| COBie.Type.Size | Type |  |  |
| COBie.Type.Color | Type |  |  |
| COBie.Type.Finish | Type |  |  |
| COBie.Type.Grade | Type |  |  |
| COBie.Type.Material | Type |  |  |
| COBie.Type.Constituents | Type |  |  |
| COBie.Type.Features | Type |  |  |
| COBie.Type.AccessibilityPerformance | Type |  |  |
| COBie.Type.CodePerformance | Type |  |  |
| COBie.Type.SustainabilityPerformance | Type |  |  |
| COBie.Type.Area | Type |  |  |
| COBie.Type.Length | Type |  |  |
| COBie.Component.Name | Component | Automatic by Revit |  |
| COBie.Component.TypeName | Component |  |  |
| COBie.Component.Space | Component |  |  |
| COBie.Component.Description | Component | Description in words |  |
| COBie.Component.SerialNumber | Component |  |  |
| COBie.Component.InstallationDate | Component |  |  |
| COBie.Component.WarrantyStartDate | Component |  |  |
| COBie.Component.TagNumber | Component |  |  |
| COBie.Component.BarCode | Component |  |  |
| COBie.Component.AssetIdentifier | Component |  |  |
| COBie.Component.Area | Component |  |  |
| COBie.Component.Length | Component |  |  |
| COBie.System.Name | System |  |  |
| COBie.System.Category | System |  |  |
| COBie.System.ComponentNames | System |  |  |
| COBie.System.Description | System |  |  |

# COBie Federation

It is the responsibility of BIM Manager to ensure that COBie data drop requirements are included in BIM Execution Plan (BEP) in response to Exchange Information Requirements (EIR), the required data format is:

* Native discipline-based 3D model files product specific for all design and analysis models Revit (.rvt) files.
* 3D discipline-based models extracted from native files, for collaboration and clash detection. IFC, i.e.: NWD; NWF.
* COBie-COBie-UK-2012 version 2.4 extracted from native files.

Common Data Environment (CDE) Viewpoint can be used to federate COBie data drops. The individual data sets can be combined into a single data set using the COBie federation tool; the data shall be uploaded at each stage in line with EIR to validate the information and assess project progress.

Graphical user interface, text, application

Description automatically generated

Figure 1 - VIEWPOINT FOR PROJECTS™ Federate COBie data

The tool only allows to upload file in Industry Foundation Classes (IFC) format, once uploaded the validation report can be produced.

Graphical user interface, text, application, chat or text message

Description automatically generated

Figure 2 - VIEWPOINT FOR PROJECTS™ COBie data Validation Report

# COBie Data Drop

Responsibility for individual COBie data drops lies within the Task Team BIM Managers, who should upload the required information containers in line with Exchange Information Requirements (EIR).

## Set up Family for COBie

Each Revit Family must be set correctly to use the Autodesk COBie Extension; the workflow is shown below.

# COBie Extension for Revit

The COBie Extension for Revit is organized into three steps: Setup, Modify, and Export. COBie project workflow will follow this basic sequence. Below is an example for exporting a COBie Spreadsheet for MEP elements.

## Set up Family for COBie

Open Family Editor:

Navigate to BIM Interoperability Tools.

Select Classification Manager.

Choose Setup and select the Uniclass 2015 Database.

A screenshot of a computer

Description automatically generated

Figure 3 - BIM Interoperability Tools Database Selection

Assign Uniclass Code:

Click on Assign.

Choose the Uniclass Table Pr TAB.

Use the search function or browse to find the correct Uniclass Pr code for the family.

Highlight the appropriate code and click Assign.

Graphical user interface, application, Word

Description automatically generatedFinalize Setup:

Return to BIM Interoperability Tools.

Select Setup Families.

next

Graphical user interface

Description automatically generated

Graphical user interface, application

Description automatically generated

## BIM Interoperability Tools > Setup > Project

The project must be set up in order to export COBie data into an excel spreadsheet.

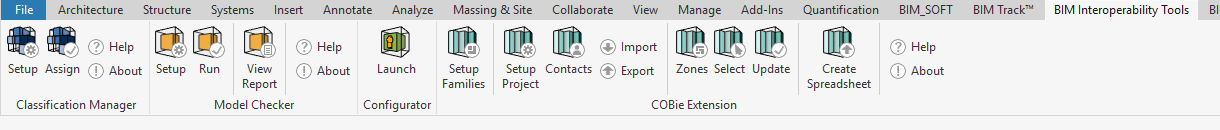


Figure 4 - BIM Interoperability Tools project setup

Project setup can and should be exported and then imported to other workstations to ensure the whole team uses the same settings.

### Setup > General

Graphical user interface, text, application

Description automatically generated

Figure 5 - BIM Interoperability Tools general setup

### Setup > Space

Select Space for MEP elements, and in Space Name Builder include 'number' only

Graphical user interface, application

Description automatically generated

Figure 6 - BIM Interoperability Tools space setup

### Setup > Types

Graphical user interface, application

Description automatically generated

Figure 7 - BIM Interoperability Tools type setup

### Setup > Components

Graphical user interface, application

Description automatically generated

Figure 8 - BIM Interoperability Tools component setup

### Setup > Systems

Graphical user interface, text, application

Description automatically generated

Figure 9 - BIM Interoperability Tools system setup

### Setup > Attributes

Graphical user interface, website

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Figure 10 - BIM Interoperability Tools attributes selection for data export

### Setup > Coordinates

Graphical user interface, application

Description automatically generated

Figure 11 - BIM Interoperability Tools coordinates setup

### Setup > Schedules

Graphical user interface, website

Description automatically generated

Figure 12 - BIM Interoperability Tools schedules selected for update

At this point, the data can be exported by the 'Create Spreadsheet' selection.

A picture containing application

Description automatically generated

Figure 13 - BIM Interoperability Tools create a spreadsheet

# COBie Security Requirements

If the document is a secure file, you will need to redact certain information; please refer to file 0000-XXX-XX-XX-SP-X-XXXX for step-by-step instructions on how to complete the process.

Specific parameters need to be redacted from the Revit file before sharing so that no information on the assets can be extracted from the model, only from the COBie spreadsheet.