

Civic Centre

Oystermouth Rd

Maritime Quarter

Swansea

SA1 3SN

29/04/2021

Dear Client,

Thank you for your query in regards to BIM Level 2 requirements of the Ysgol Bae Abertawe project. This letter will explain BIM Level 2 requirements and how information will be shared, coordinated and how the project will be managed through the appropriate standards. Please also find attached the projects BIM Execution plan.

The Ysgol Bae Abertawe project will meet the requirements of BIM level 2. BIM level 2 consists of collaborative working on the project through various systems and is coordinated between everyone involved in the project. It involves creating a 3D environment where collaborative work can be created, developed and shared in separate discipline models.

In order to achieve this, every CAD software used must be able to export to a common file format such as IFC (Industry Foundation Class) and/or COBie (Construction Operations Building Information Exchange). The software's used within this project will mainly be Revit and AutoCAD and the files will be stored through the IFC file format. COBie will also be used in order to extract data that has been shared and stored between all participants within the this BIM project. Having the ability to create and store these files which are full of useful data about the model promotes collaborative working due to them being stored in a Common Data Environment (CDE). A Common Data Environment is a digitally shared workspace where everyone involved with the project will share and exchange project data and multiple 3d models in a single environment. This information, such as a digital model, will be saved in this single environment and can be accessed by anyone who has authorization to do so. The shared data means that everyone involved in the creating digital models can view what others are working on. All specialists designers such as architects and structural engineers have different purposes when it comes to designing the model, however they can view each others work and data in order to better understand the project and work together in order to avoid any errors. BIM Level 2 is a standard that makes communication between all participants in the project much easier and quicker, which crucial for the development of the project and final product.

The shared data will be secured in accordance to PAS 1192-5 specification. This means there will be controls in place to ensure the data that is shared withing the CDE is secured, and anyone that wishes to gain access to the data must provide a password. Following specific standards are important and essential in order to meet the requirements of BIM level 2. Making sure that our project is in

accordance with BS EN ISO 19650-1 and BS EN ISO 19650-2 will guide us on the organization and digitalization of information within the project. The BS EN ISO 19650 is one of many BIM Standards that is divided into 4 confirmed parts. Part 1 (BS EN ISO 19650-1) outlines the concepts and principles while providing recommendations on how to manage building information. Part 2 (BS EN ISO 19650-2) will provide information on the delivery phase of the project. Part 3 (BS EN ISO 19650-13) will provide information in the operational phase of the project; when the school is in use. Part 4 (which is BS EN ISO 19650-5 and will be used as a 5th stage however BS EN ISO 19650-4 is still in development) will provide a standard to keep the sensitive information from the project safe, by setting security standards. There are other standards also to set out a guide and to ensure that a BIM level 2 project environment is created. These standards are explained more in detail within the BIM execution plan.

Through working in a BIM level 2 environment, decisions can be identified and made throughout the life cycle of the design of the project up until the building will be handed over. Information deliverables, which include model files, documentation and structural data file, can be created and shared at the right stages of the project's life cycle. By creating and sharing the data at the right time, we will be able to create better decisions for the project and will be able to amend errors that could affect the project in development and in future stages. There are 8 stages in total ascending from 0-7 within the RIBA Plan of Work stages. At the end of each stage, we will ensure that the development and result from the previous stage is satisfactory before the project continues to the next stage. All the stages are explained in further detail within the BIM Execution Plan.

Please do not hesitate to request more information.

Your Sincerely,

Teifion Evans

BIM PROJECT EXECUTION PLAN

YSGOL BAE ABERTAWE

PROJECT NUMBER : 5010



BIM PROJECT EXECUTION PLAN

YSGOL BAE ABERTAWE



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BIM PROJECT EXECUTION PLAN

YSGOL BAE ABERTAWE



Introduction

In order to successfully implement Bim level 2 within this projects design and development, this BIM Execution plan was made. This BEP will define and detail important sections in order to create a clear and understood plan that everyone can refer to when needed.

Section A | Project Information

PROJECT	
CLIENT	Swansea Council
PROJECT NAME	Ysgol Bae Abertawe
PROJECT NUMBER	5010
PROJECT ADDRESS	Maritime Quarter, Slipway Road, Swansea, SA1 1UB
PROJECT DESCRIPTION	Construction of a single-story infant school with a 90-pupil capacity. The school will contain the following: - Car Park - Playground; Hard and Soft - 3 classrooms. Reception, Infant, Junior - Hall - Learning resource Areas - Staff and Admin Areas - Offices - Storage - Kitchen - Toilets

Section B | Management

All Involved in the project is responsible in sharing information in accordance with BIM level 2 and the standards stated in **Section D**.

Client – The client will be informed about the development of the project through every stage of the **RIBA Plan of Works**. The Client Representative is responsible for presenting this information.

Client Representative – Responsible for exchanging information to the client through every Stage

Facilities Manager – The client shall appoint a facilities manager in order to provide feedback

BIM PROJECT EXECUTION PLAN

YSGOL BAE ABERTAWE



Main Contractor – Main contractors should carry out the role of Project information manager and delivery manager. They are responsible for the BIM implementation and information management and to administer the CDE.

Specialist designer task teams;

All are responsible in the elements of the design of the building that in their contracted to do. Collaboration and communication is crucial and therefore all must adhere to BIM level 2 standards in order to give the best quality outcome for the client.

Project Disciplines	Role Code
Architects	A
Structural Engineers	S
Civil Engineers	C
Mechanical Engineers	M
Electrical Engineers	E
Sub-contractors	X1

Section C | Planning and Documentation

All stakeholders identified (specialist designer, sub-contractors) will be assessed to ensure the requirements are met prior to the phases their contracted to start. BIM Capability assessments are carried out to confirm if Project participants can operate within a BIM environment and can provide data in accordance with BIM level 2

Project Delivery manager is responsible for the delivery and assessment of this information.

If BIM capability assessment is returned and does not meet the set required criteria, an alternative supplier will be selected, if amendments cannot be made prior to their contracted start phase.

Task Information Delivery Plan

See on the following page The RIBA Plan of Works table that the project will adhere to and the delivery time of each. Each stage has a milestone date to complete the design and construction stages on time ready for handover. It is of the up most importance that each milestone date is met.

BIM PROJECT EXECUTION PLAN

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Section D | Standards, Methods and Procedures

In order to ensure the highest collaborative efficiency occurs under BIM level 2 environment, it is essential for all task managers to follow these standards, methods, and procedures to avoid errors.

Volume and Spatial Strategy

The volume strategy will identify 3D spatial coordination constraints for each discipline and the models that they're working on. Spatial strategy will consist of a grid with agreed levels.

A single secured coordinated system will avoid issues with sharing files and models locations within files being incorrect. This will create a one truth environment and further make communicating and developing the building much easier.

File Naming conventions

This is the required way to name files that are shared or published in the CDE

5010 – ABC – 00 – XX – M3 – A – 0001

Project identifier code (from two to six characters).

Three letter code identifying the originator

Two letter code identifying a single building, volume or system

Two digit code identifying the level or location

Two digit code identifying the file type

One letter code identifying the role / discipline.

Four numeric digits used with leading zeros. A sequential number should only be used when the previous six field codes making up the file name are identical between files.

BIM Standards

PD 19650-0:2019 – Transition guidance to BS EN ISO 19650.

BS EN ISO 19650-1:2018

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM). Information management using building information modelling. Concepts and principles

BS EN ISO 19650-2:2018

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) -Information management using building information modelling. Part 2: Delivery phase of the assets.

BS EN ISO 19650-3:2020

– Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM). Information management using building information modelling. Operational phase of the assets.

BS EN ISO 19650-5:2020

– Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM). Information management using building information modelling. Security-minded approach to information management

BS 1192-4:2014

– Collaborative production of information. Fulfilling employer's information exchange requirements using COBie. Code of practice.

PAS 1192-6:2018

– Specification for collaborative sharing and use of structured Health and Safety information using BIM.

BS 8536-1:2015

– Briefing for design and construction. Code of practice for facilities management (Buildings infrastructure).

BS 8536-2:2016

– Briefing for design and construction. Code of practice for asset management (Linear and geographical infrastructure).

BIM PROJECT EXECUTION PLAN

YSGOL BAE ABERTAWE



Section E | IT Solutions

This is the required way to name files that are shared or published in the CDE

Discipline	2D/3D	Software	Version	Native File Type	Information Exchange Format
Main Contractor (W)					
Architects (A)	3D	Autodesk Revit	2021	.rvt	.rvt and .ifc
Structural Engineers (S)	3D	Autodesk Revit	2021	.rvt	.rvt and .ifc
Civil Engineers (C)	2D	Autodesk AutoCAD	2021	.dwg	.dwg
Mechanical Engineers (M)	3D	Autodesk Revit	2021	.rvt	.rvt and .ifc
Electrical Engineers (E)	3D	Autodesk Revit	2021	.rvt	.rvt and .ifc
Sub contractors (X1)	3D	tbc	tbc	tbc	Tbc, .ifc & COBie