



DESIGN & ACCESS STATEMENT

Swansea Bay Technology Centre

Submitted to Neath Port Talbot County Borough
by IBI Group

REVISION 1 -April 17, 2020
REVISION 2- June 16,2020

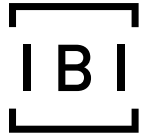


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A WHAT IS A DESIGN AND ACCESS STATEMENT

The RIBA Plan of Work is the model for the organisation of the building design and construction process. It comprises:

Stage 0 - Strategic Definition
Stage 1 - Preparation and Brief
Stage 2 - Concept Design
Stage 3 - Developed Design
Stage 4 - Technical Design
Stage 5 - Construction
Stage 6 - Handover and Close out
Stage 7 - In use

RIBA Stage 3 - Developed Design - is an important stage in progressing the design of the SBTC from conceptual proposals to a comprehensive single design.

In Stage 3 the proposals have been developed to a well-progressed state where architectural, structural and services design have been fully coordinated.

DASs were introduced to help ensure that both design quality and inclusive access are given sufficient consideration in the planning process. The DAS itself does not 'create' good design, rather it should demonstrate and clearly communicate the logical design process. The requirements of a DAS reflect the objectives of good design as set out in Planning Policy Wales (PPW) and Technical Advice Note 12: Design (TAN 12).

The DAS will demonstrate the following:

1. Good understanding of site, context and brief.
2. The proposals have met with Local Authority and Welsh Government design quality objectives and planning policy.
3. Clear communication and explanation of design ideas.
4. Communicates how the proposal contributes to placemaking.
5. Connections between building, landscape and community.
6. Clear communication of proposed materiality and quality of the proposal.

1.0 INTRODUCTION

1.0 INTRODUCTION

The Swansea Bay Technology Centre is to provide an Energy Positive Building of circa 2,500m² with a mix of lettable office and laboratory accommodation for Neath Port Talbot Local Authority. It is proposed to be located on Baglan Bay adjacent to the established Baglan Bay Innovation Centre. A red line site for the development was provided by Neath Port Talbot Local Authority.

The proposed site is relatively level, but is restricted by ecological interest. As a result parametric modelling was carried out to identify the optimum position for the building on the identified red line site, which:

- supports the Energy Positive requirement, via building orientation analysis, to maximise the southern aspect and limiting heat loss to the north. and
- positioning the building to avoid the ecological interest on the site which has been identified.

In addition, although not a driving aim of the development, the design proposals consider future expansion should the need arise in the future.

1.1 BRIEF AND VISION

- Energy Positive Building.
- Provide a mix of lettable accommodation which can be office and laboratory accommodation of varying size and adaptability to suit need.
- To establish a link to the neighbouring hydrogen centre.
- Create a clear and logical building mass, with centrally glazed spine that can be used for exhibition purposes.
- Careful articulation of the building envelope to balance environmental considerations to support an energy positive building.
- Consideration of PV panel requirements needed on both roof and facades to achieve area required.
- Quality materials utilised for the scheme.
- SUD's design which assists drainage attenuation.



Aerial image of the site

2.0 SITE CONTEXT & ANALYSIS

2.1 SITE CHARACTERISTICS

2.1.1 SITE CONTEXT AND LOCATION

-The site is located within the established Baglan Bay Energy Park on the site of the Baglan Bay Innovation Centre and the University of South Wales Hydrogen R & D Centre.

-There are close transport links to M4 motorway which runs close to the site to the north east.

-The site is accessed via Central Avenue.

-An existing car park is located on the south of the site to a circular design.

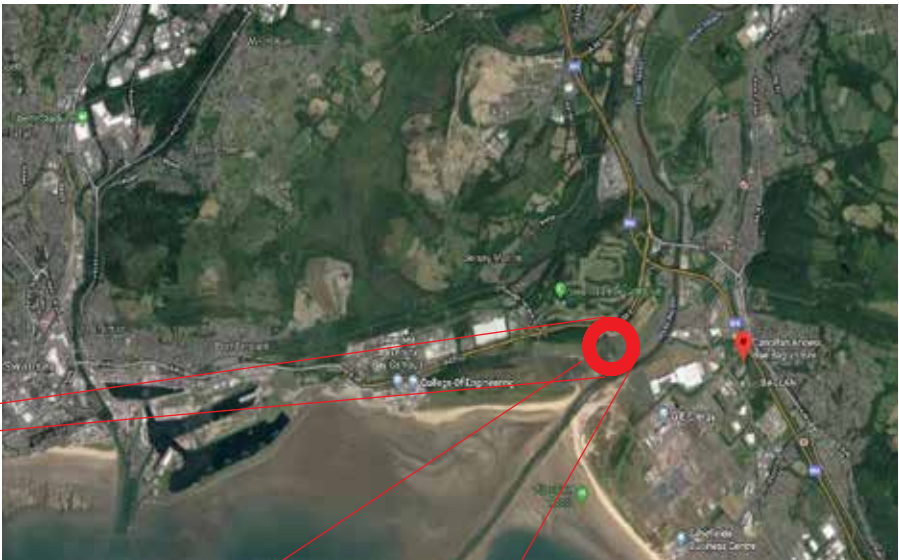
-Pedestrian access provided across all areas of the site.

-Ecological woodland located on three aspects of the proposed development area.

-Train line runs to the north of the site, with the nearest station located in Baglan.



Map of the UK



Swansea / Neath Port Talbot Area



Aerial image of the site

2.1.2 SITE KEY VIEWS



Photographs of the site

2.2 CONTEXT ANALYSIS

The development site has been analysed using a number of tools to enable a deeper understanding of the surrounding area and context. The tools are listed below and are illustrated in the following diagrams:

PARAMETRIC MODELLING

Parametric modelling was used to identify the optimum location for the building on the site..

A number of constraints were inputted into the parametric algorithm, which included:

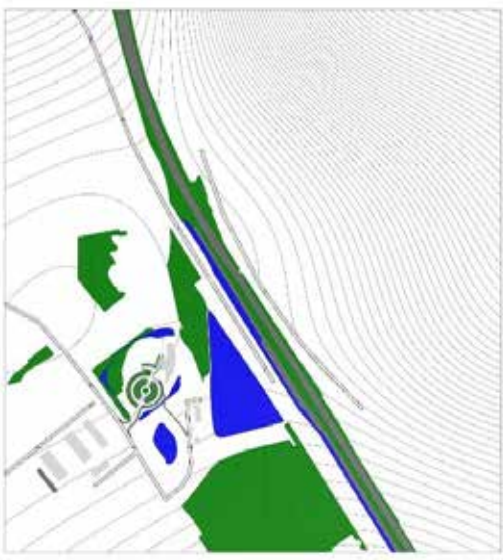
- Site Boundary Constraints
- Ecological Constraints (Limited, Medium and Significant)
- Topographical
- Sunpath and shading data
- Building Constraints
- Shape and Form / Surface to Volume Ratio
- Building Area and Heights
- Usable Area
- The parametric modelling was used to test the following:
 - Building Orientation
 - Sunlight Impact
 - Maximise Helpful Radiation In Winter
 - Minimise Harmful Radiation in Summer
 - Wind Speeds to help cool building in summer and to avoid large areas of façade on prevailing wind

Software Used:

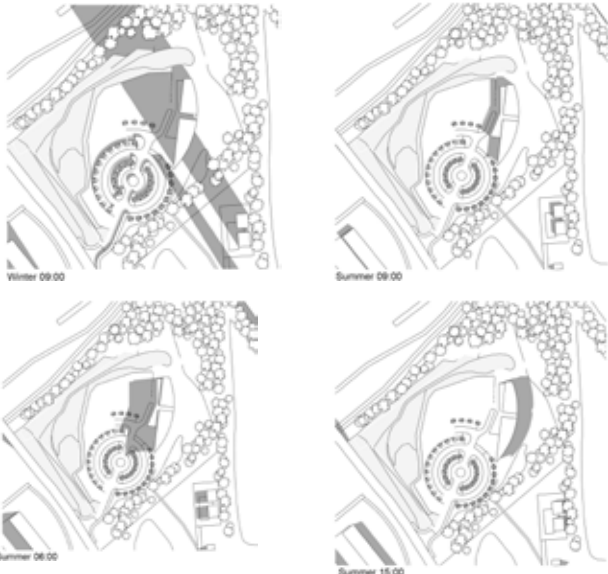
Grasshopper | Rhinoceros 3D | Ladybug plug-in (weather data)



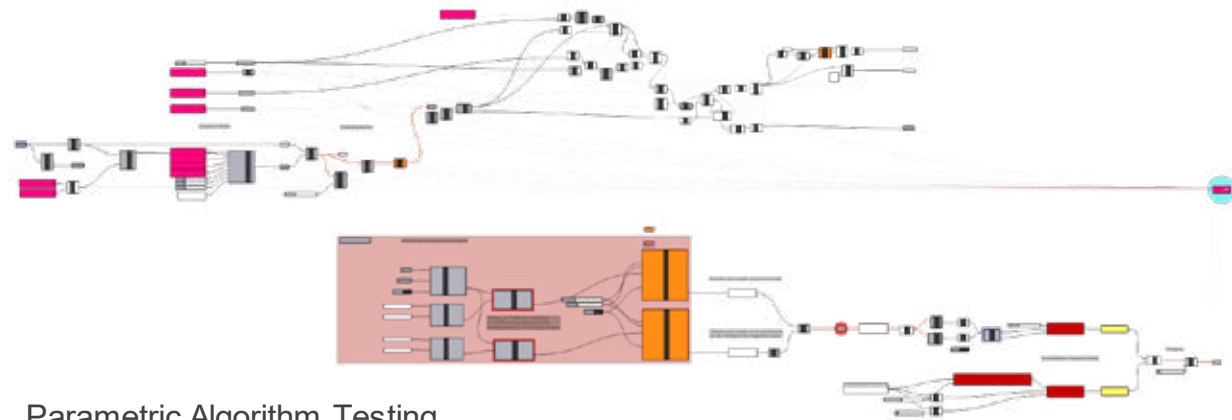
Ecology Constraints



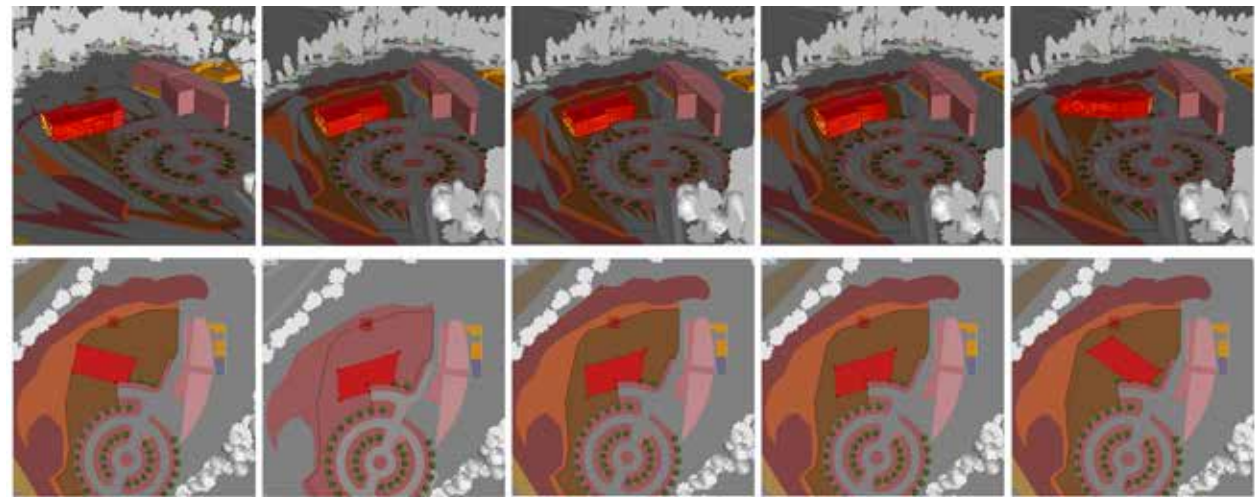
Topographical (GIS data)



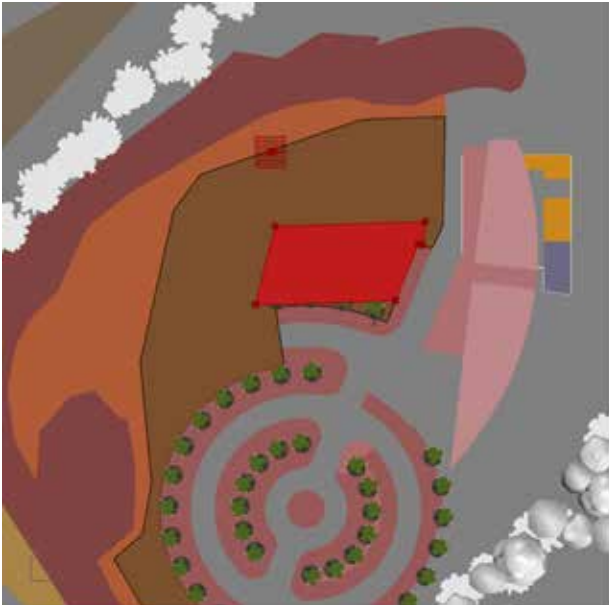
Sun path Modelling



Parametric Algorithm Testing



Parametric Algorithm Modelling Output



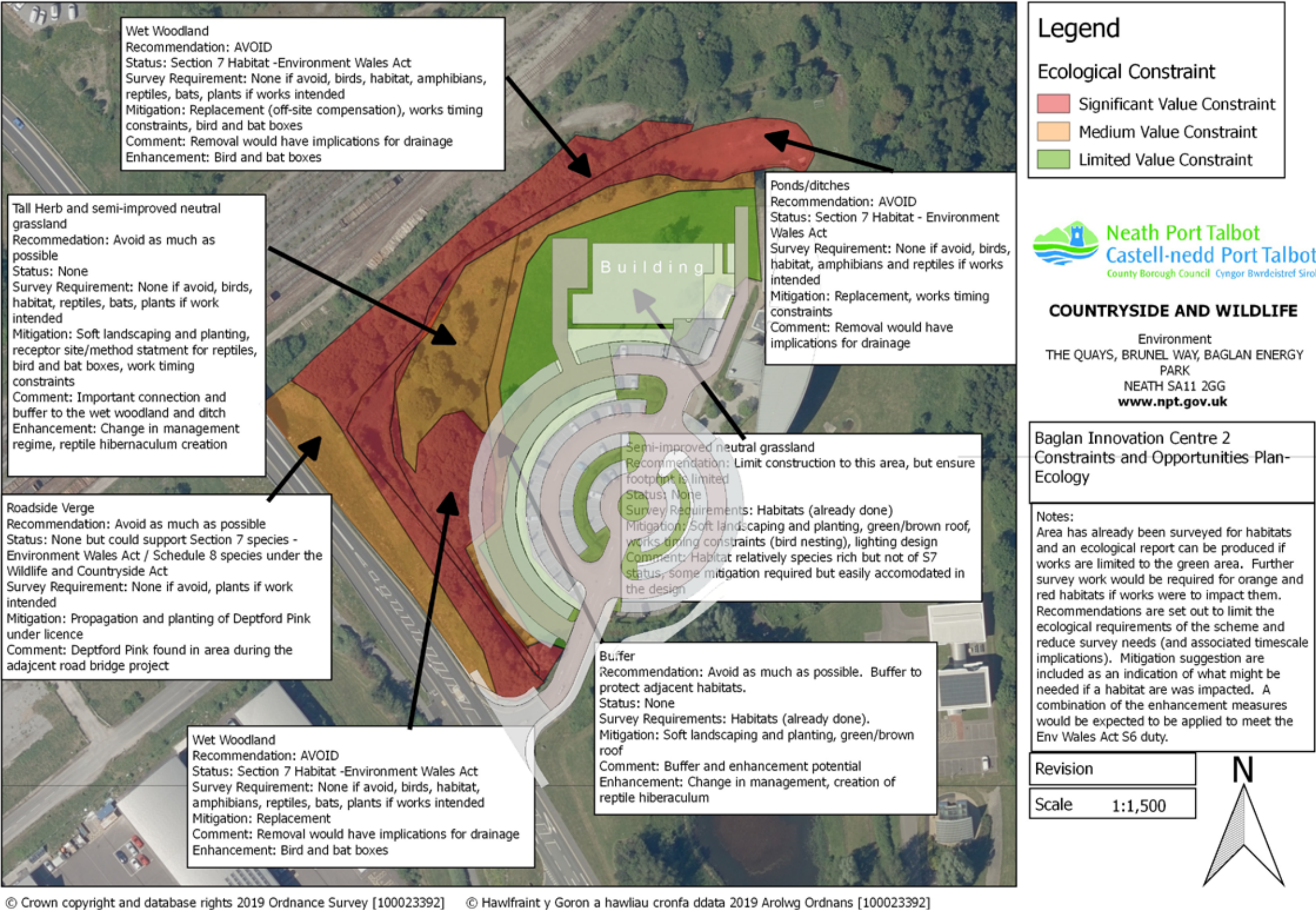
2.3 ECOLOGY

The ecological plan below clearly identifies the varying ecological constraints and how the location of the building responds.

It also identifies that the ‘natural’ extension of the existing car park (by completing the circle) encroaches into the medium and significant ecological constraint zone and will need to be considered during the design development.

The ecological elements include a mix of woodlands, ponds & ditches and grassland and road side verges.

These have influenced the design and location of the proposal, with the optimum position selected.



2.4 RELEVANT PLANNING POLICY

The planning policy framework for the determination of this application is provided by the content and scope of National Planning Policy, which is contained within the tenth edition of Planning Policy Wales (PPW) and its associated Technical Advice Notes (TANs), together with the Local Planning Policy and its supplementary planning guidance.

The planning policy context for this application is provided in detail in the Planning Statement that accompanies this application. For a full review of pertinent policies please refer to the Planning Statement.

Planning Policy Wales
National planning policy is contained within the tenth edition of Planning Policy Wales (PPW), published by the Welsh Government in December 2018. PPW is supported by 21 topic-based Technical Advice Notes (TANs), which are also relevant. PPW is the Welsh Government’s principal planning policy document, setting out the context for sustainable land use planning policy, within which Development Plans are prepared and development.

Section 3.17 of PPW relates to design and access statements (DAS) discussing that a DAS should communicate what development is proposed, demonstrate the design process that has been undertaken and explains how the objectives of good design and placemaking have been considered from the outset of the development process.

Technical Advice Notes
This application has been prepared in deference to the latest version of TAN 12: Design, which was updated in March 2016, TAN 18 (Transport) and the suitability of the proposals in this design context are demonstrated in this Design and Access Statement.

Neath Port Talbot Local Development Plan
Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that planning application decision should be made in accordance with the authority’s adopted development plan, unless material considerations indicate otherwise. In this instance, the statutory development plan for this application site is provided in the Neath Port Talbot Local Development Plan (2010-2021). Relevant planning policies are contained in the table provided to the XX.

The application site is located within the outside of the settlement boundary, is within the Existing Employment Area Baglan Energy Park and is within a Mineral Safeguarding Area.

Well-being of Future Generations Act (2015)
The Well-being of Future Generations (Wales) Act came into force in 2015 and seeks to improve the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals in order to make sure that everyone works towards the same vision. The well-being goals are set out in the Planning Statement.

Supplementary Planning Guidance
The following supplementary planning guidance’s are also of relevance to the proposed development:

- ☐ Parking Standards (October 2016);
- ☐ Pollution SPG (October 2016)
- ☐ Design (July 2017);
- ☐ Renewable and Low Carbon Energy in New Development (July 2017); and,
- ☐ Biodiversity and Geodiversity (May 2018)

Policy reference	Relating to
<i>Overarching Policies</i>	
SP1	Climate Change
SP2	Health
SP3	Sustainable Communities
SC1	Settlement Limits
SP4	Infrastructure
<i>The Economy</i>	
SP11	Employment Growth
EC2/6	Existing Employment Areas
EC3	Employment Area Uses
<i>Environment and Resources</i>	
SP15	Biodiversity and Geodiversity
EN6	Important Biodiversity and Geodiversity Sites
EN7	Important Natural Features
SP16	Environmental Protection
EN8	Pollution and Land Stability
SP17	Minerals
M1	Development in Mineral Safeguarding Areas
M2	Surface Coal Operations
SP18	Renewable and Low Carbon Energy
RE2	Renewable and Low Carbon Energy in New Development
SP19	Waste Management
W3	Waste Management in New Development
<i>Transport and Access</i>	
SP20	Transport Network
TR2	Design and Access of New Development
<i>Culture and Heritage</i>	
SP21	Built Environment and Historic Heritage
BE1	Design



3.0 INTERPREATION & DESIGN DEVELOPMENT

3.1 DESIGN CONSIDERATIONS

The scheme was developed taking into consideration of the following design criteria:

- Energy positive building requirements.
- Considering budget constraints.
- Enables future adaptability through utilisation of a tried and testing building grid approach that supports both office and laboratory configurations.
- Provides a floor to floor height to support adaptability and variety of internal uses, based on industry study heights.
- Systematic structural grid, to enable clear zones of accommodation and circulation.
- Integrated mechanical and electrical strategy.
- Facade articulation that responded to the elevation, room location and level changes.
- Clear architectural lines, that ensures it works well with the surrounding context and environment.
- Accessible services strategy with exposed services.
- Considers neighbouring Canolfan Arloesi Bae Baglan Bay Innovation Centre in terms of massing, proximity and materiality.
- Balances the need for natural daylight whilst minimising internal heat gains to reduce energy demands.
- Create a services link to the the Hydrogen Centre.
- Develops a façade treatment that considers utilising responds to environmental requirements and blends the use of renewable PV technology and latest facade design.

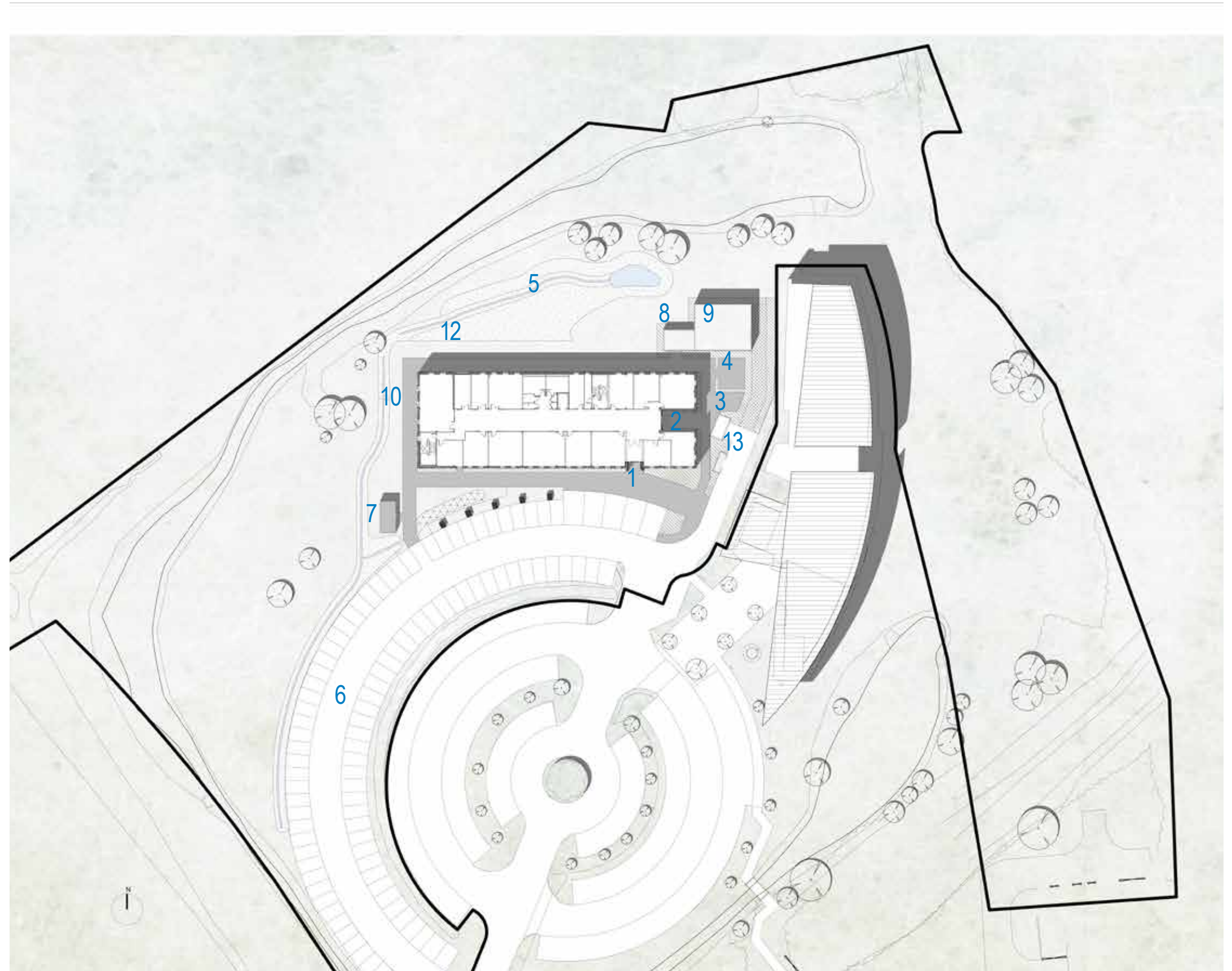


4.0 THE PROPOSAL

4.1 MASTERPLANNING

The new building will form part of the wider masterplan for the site. This includes locating the building to the west of the existing Canolfan Arloesi Bae Baglan Bay Innovation Centre and also introducing the new vehicular connection & central pedestrian walkway that will connect the building.

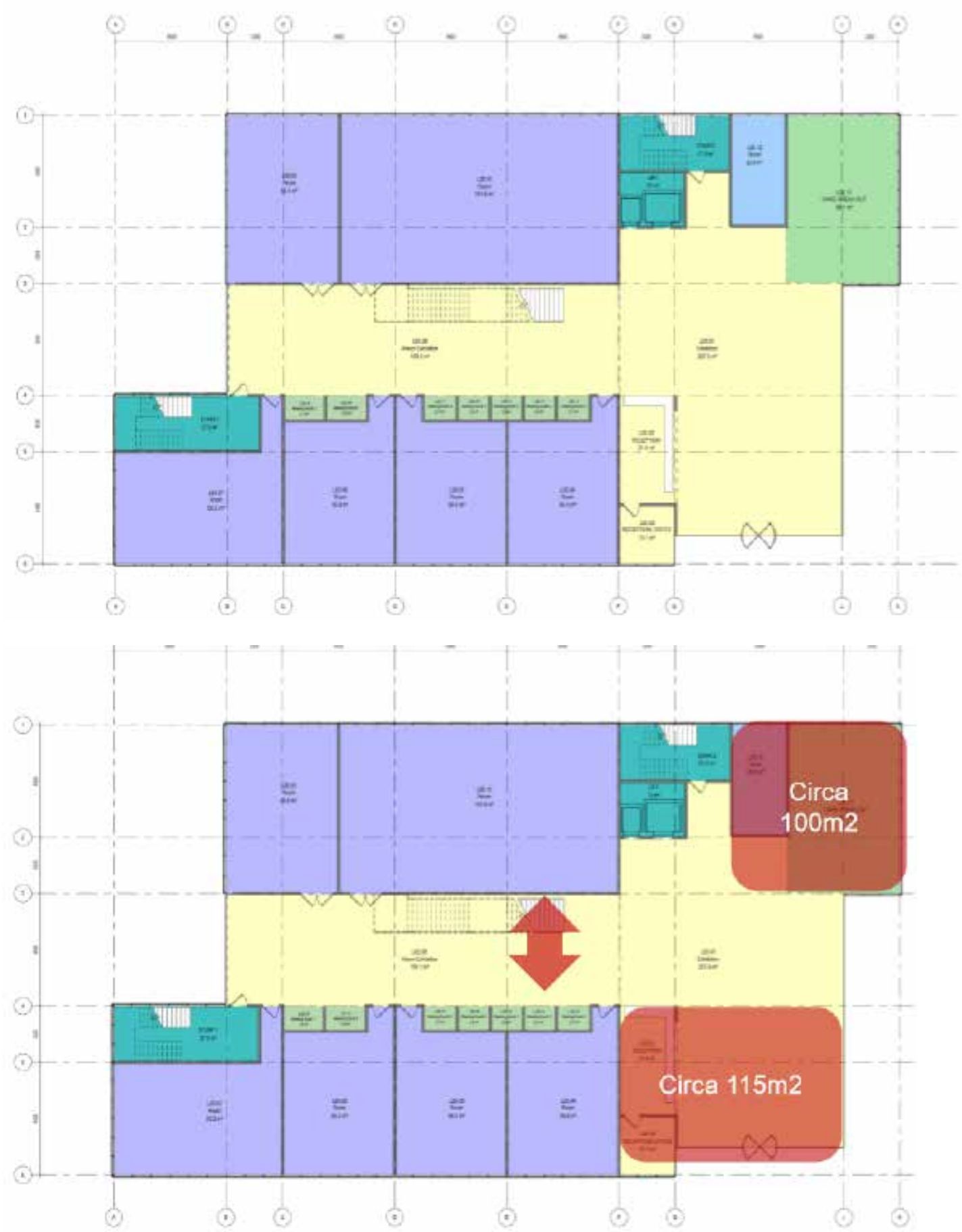
- 1- Main entrance
- 2- Maintenance entrance
- 3- Outdoor sitting area
- 4- Covered cycle store- provision for 16 cycle spaces
- 5- Swales
- 6- Expansion of parking area avoiding medium and significant ecology zone
- 7- Bin storage- with fencing and planting as a screen
- 8- Sprinkler tank with planting as a screen
- 9- Condenser with planting as a screen
- 10- Maintenance path
- 11- Biodiversity buffer
- 13 Plant and Bin storage for the existing building



4.2 DESIGN DEVELOPMENT

The plans opposite utilise the 6.6m structural grid and show the initial plan proposals developed prior to receipt of a client breakdown of lettable unit requirements.

It was highlighted that the scheme did not require such a large exhibition area or dedicated kitchen/café and that these areas should be utilised for lettable office / laboratory space.



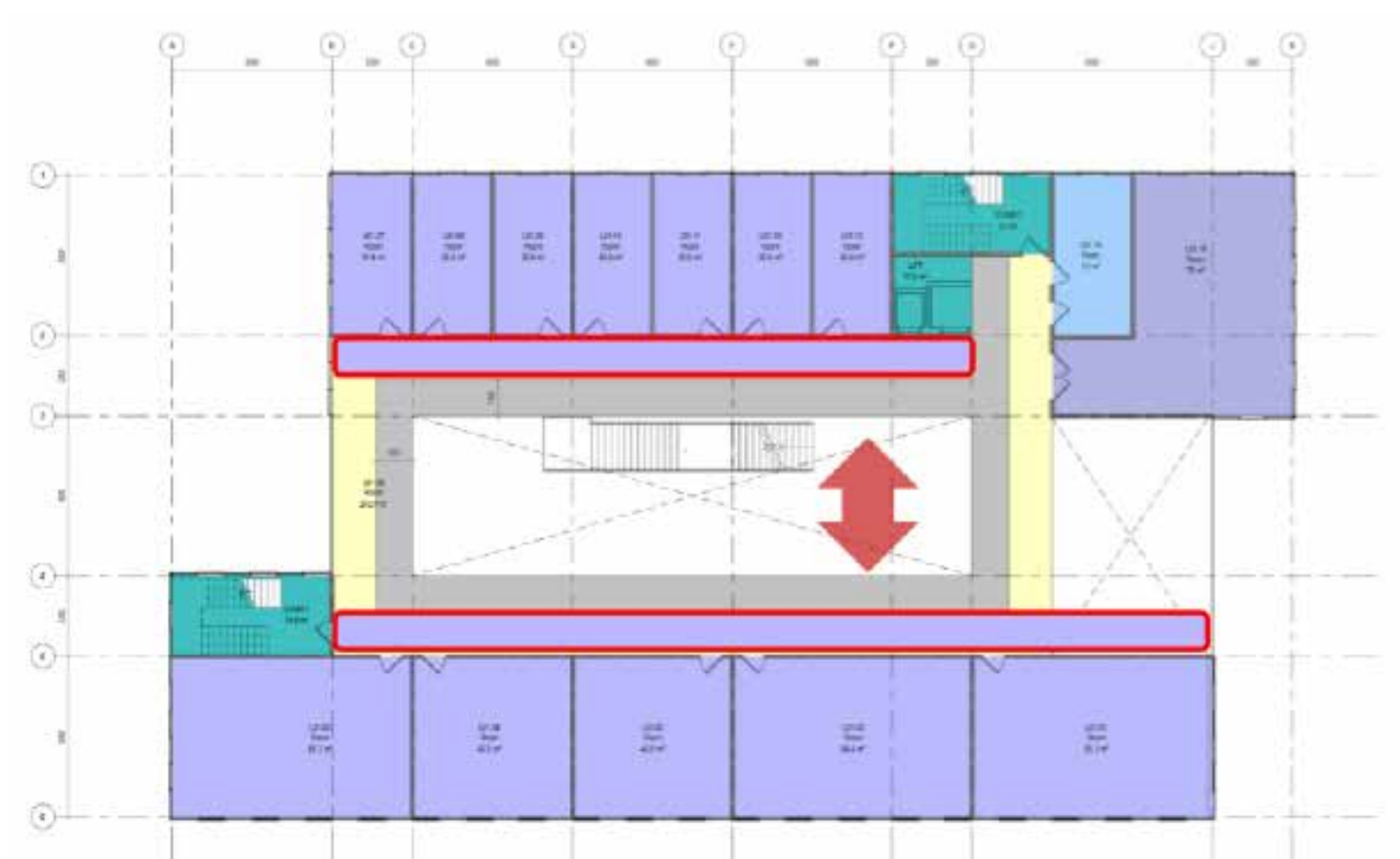
Level 00: GIFA: 1040m2

Net: 486m2 (+111m2)

Circulation/Breakout: 484m2 (+200m2)

4.2 DESIGN DEVELOPMENT

It was identified that the amount of circulation was excessive and should be targeted to increase the lettable space within the overall maximum GIFA target of 2,500m2.



4.2 DESIGN DEVELOPMENT

A further review of the building design was necessary, in order to achieve the ‘energy positive’ outcome required. The team carried out a number of systematic tests and as a result, the best option was to increase south and west facing facades to allow for greater PV’s installation

To achieve it the following alterations were made:

1.The south and west facades were enlarged to provide additional area, in order to maximise the provision of PVs.

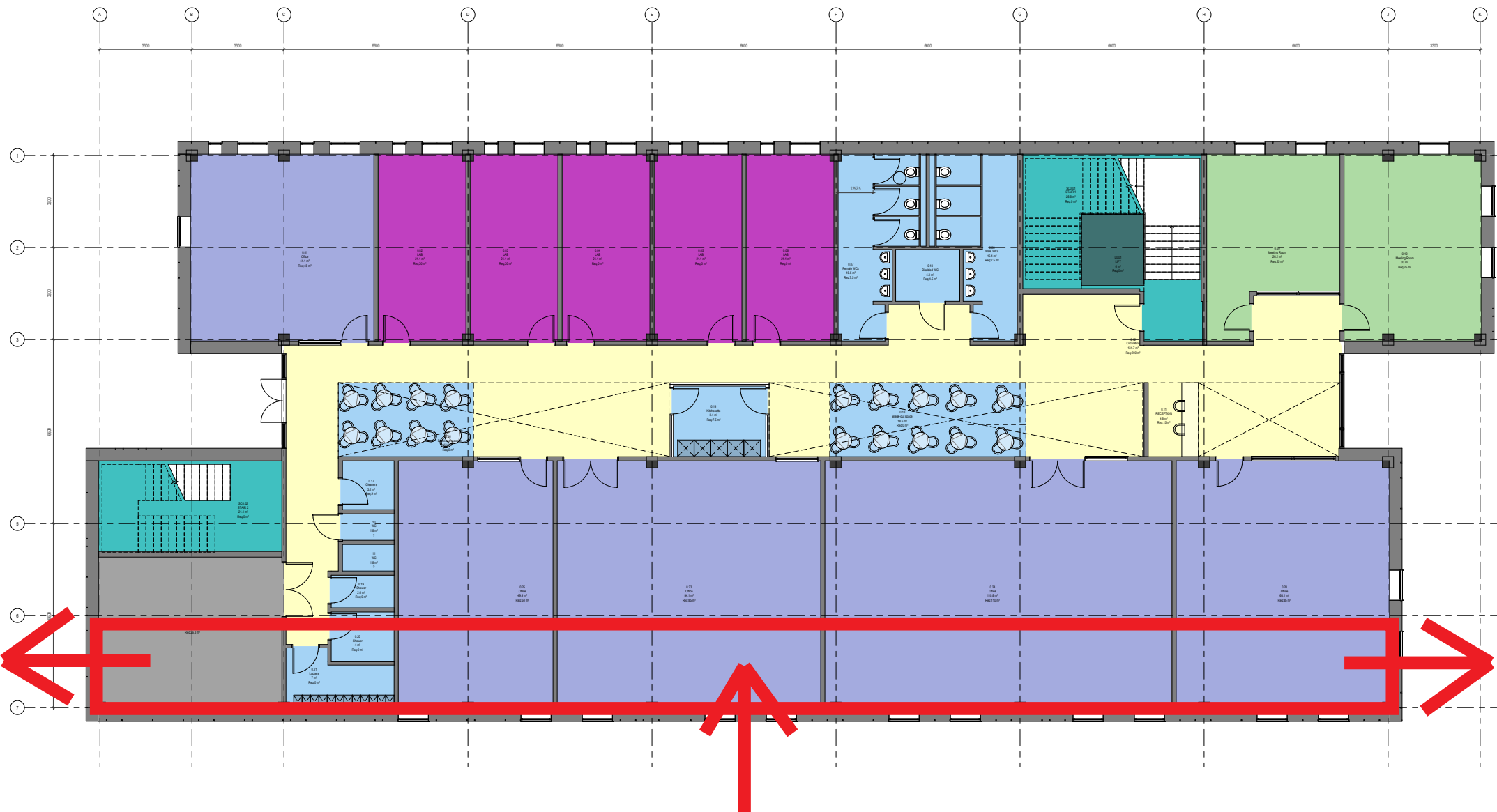
2.The building was increased by 3.3 metres to both the east and the west. (6,6 metres in total)

3.The southern and northern block are now aligned at 6.6metres wide, rather than the previous 9.9metres.

4.The entrance zone has been redesigned and relocated to the southern facade too allow better visibility when approaching the building from the car park

5.The changes above resulted in achieving better daylighting factors into the offices, whilst also reducing the depth of the structural beams and column size required for the building.

It should be noted that the building cannot be enlarged further in west/east directions to allow for a 6metre zone to allow construction



4.2 DESIGN DEVELOPMENT (PAC ISSUE)

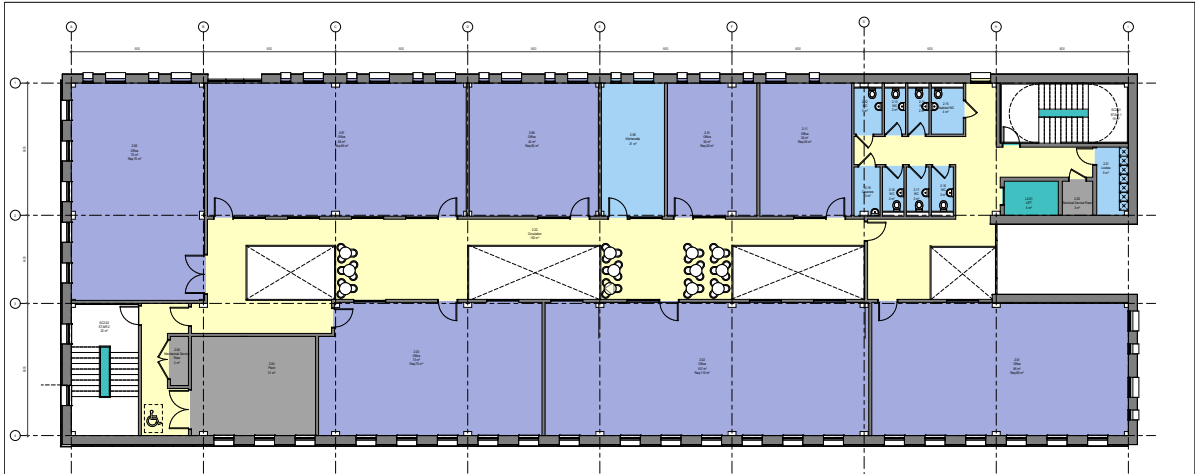
STRUCTURAL:
Altered the voids to the central atrium and corresponding internal doors positions to suit the structural grid, as per discussion below.

M&E:

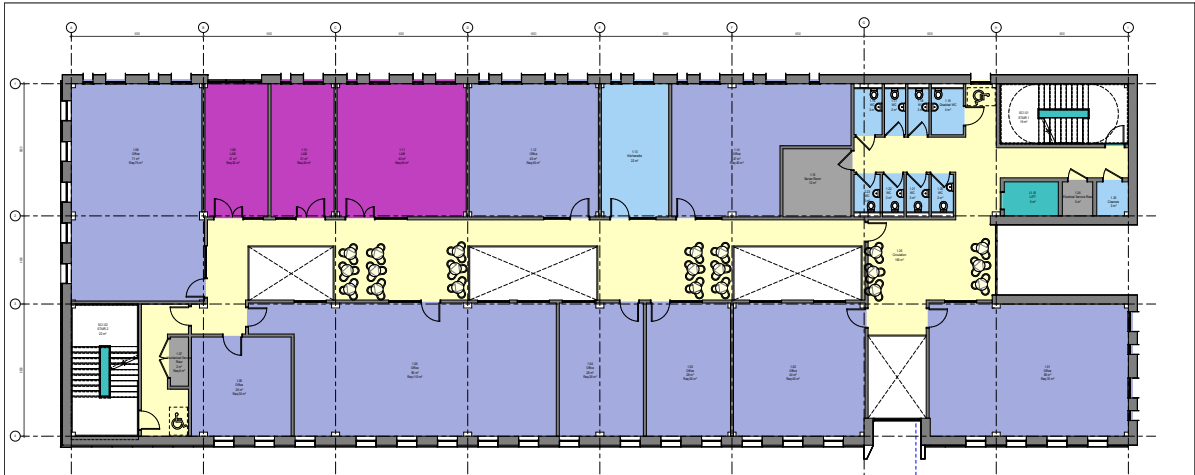
ALL LEVELS: Redesign of WC and the circulation core in the north-east corner of the building, to accommodate the necessary M&E zones.
GROUND FLOOR: additional electrical riser
FIRST FLOOR: Electrical server room added/ electrical riser added
SECOND FLOOR: plant room has been enlarged to accommodate all equipment required and all necessary maintenance access/ electrical riser added.

GENERAL:
Following the changes above, the layout has been reviewed to ensure the best efficiency of office and lab design. This resulted in better rentable space ,despite increasing the size of ‘serviceable’ spaces

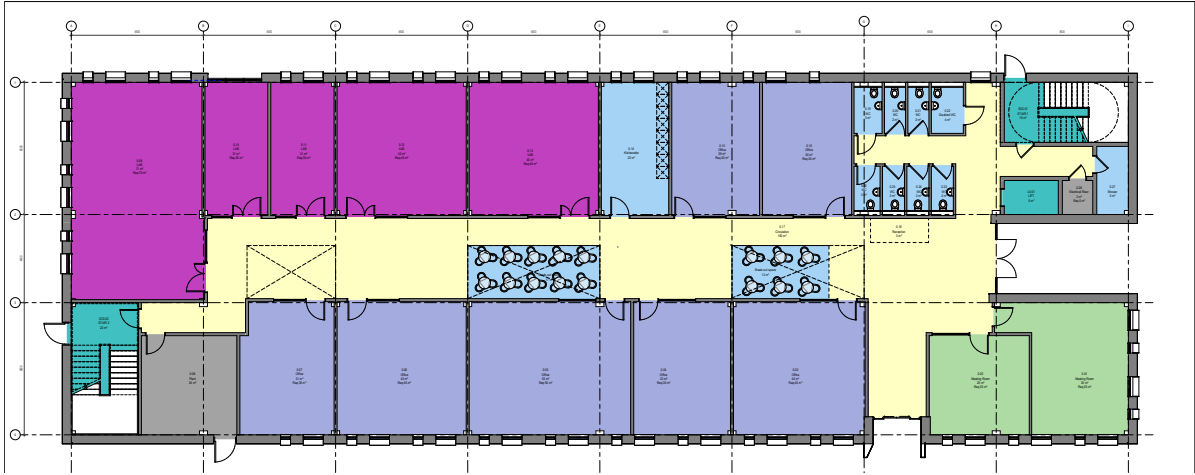
Kitchen has been relocated to a central point on the building.



SECOND FLOOR PLAN



FRIST FLOOR PLAN



GROUND FLOOR PLAN

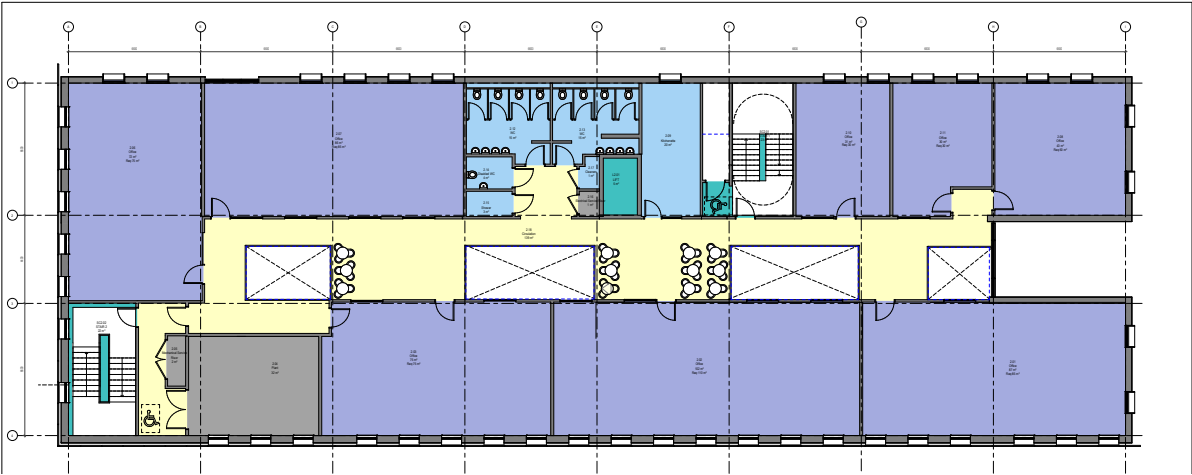
4.2 DESIGN DEVELOPMENT (ST 3 ISSUE)

Between the previous submission and the current RIBA Workstage 3, the following design changes have been undertaken:

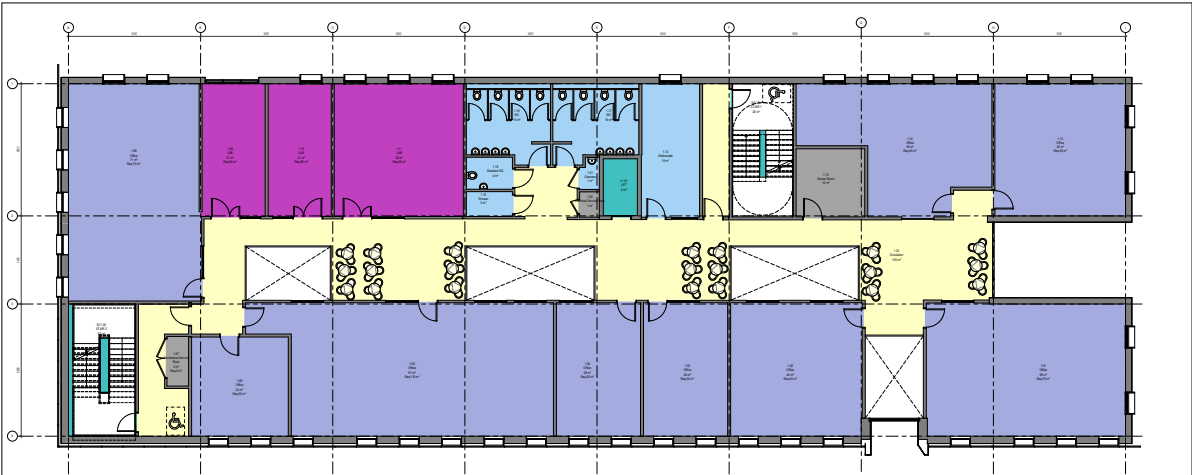
- 1. Toilet block in the centre of the building
- 2. Stairs from the north east corner into centre of the building- also help the fire strategy
- 3. Cleaners and shower on every level
- 4. Plant size and position

-
In addition, the following consultations and meetings have taken place, in order to inform the design decisions that are inherent in the Stage 3 submission:

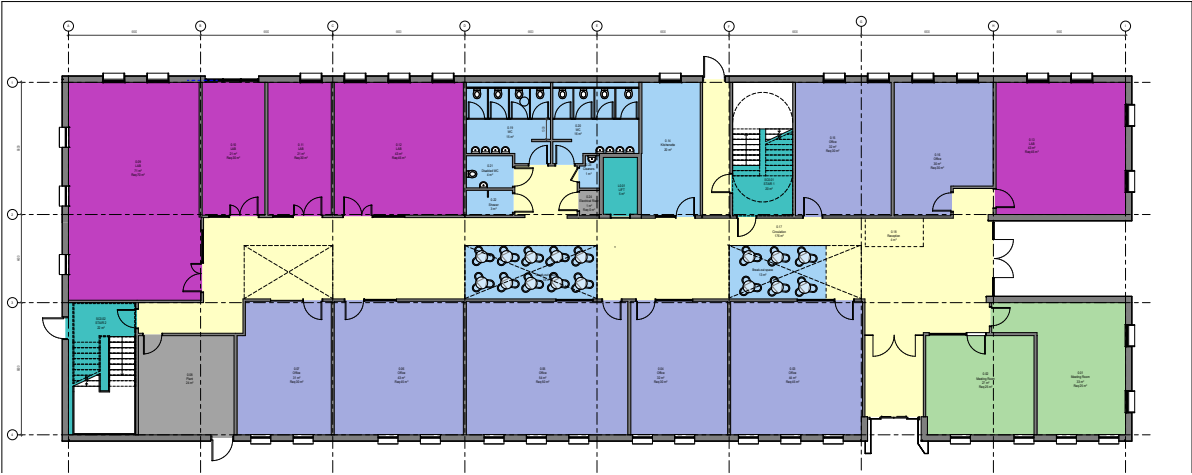
- 1. Hydrock- Fire- ongoing conversation
- 2. Various Design Team meetings
- 3. BIM 360 degrees ongoing development of the model onto the cloud portal. -
- 4. Secure by design
- 5. Discussions with Kingspan and Photoenergy- in order t to coordinate and find best solution to fix wall PV panels
- 6. Discussions with contractor and Hydrock Structure in order to find most efficient and cost saving solution for the external walls
- 7. Coordination with M&E Engineers to make the necessary changes in plant position and size
- 8. PAC issued on the 5th of March 2020



SECOND FLOOR PLAN

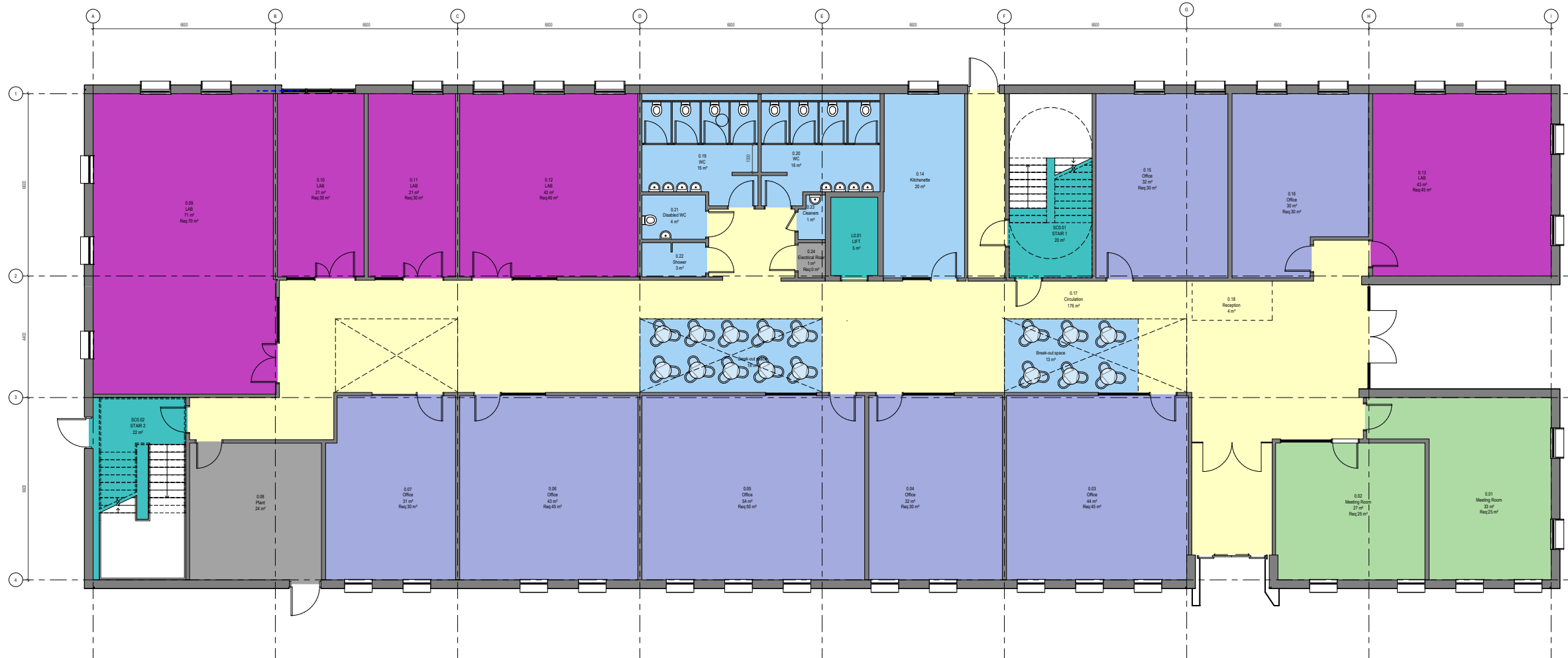


FRIST FLOOR PLAN



GROUND FLOOR PLAN

L02- 186

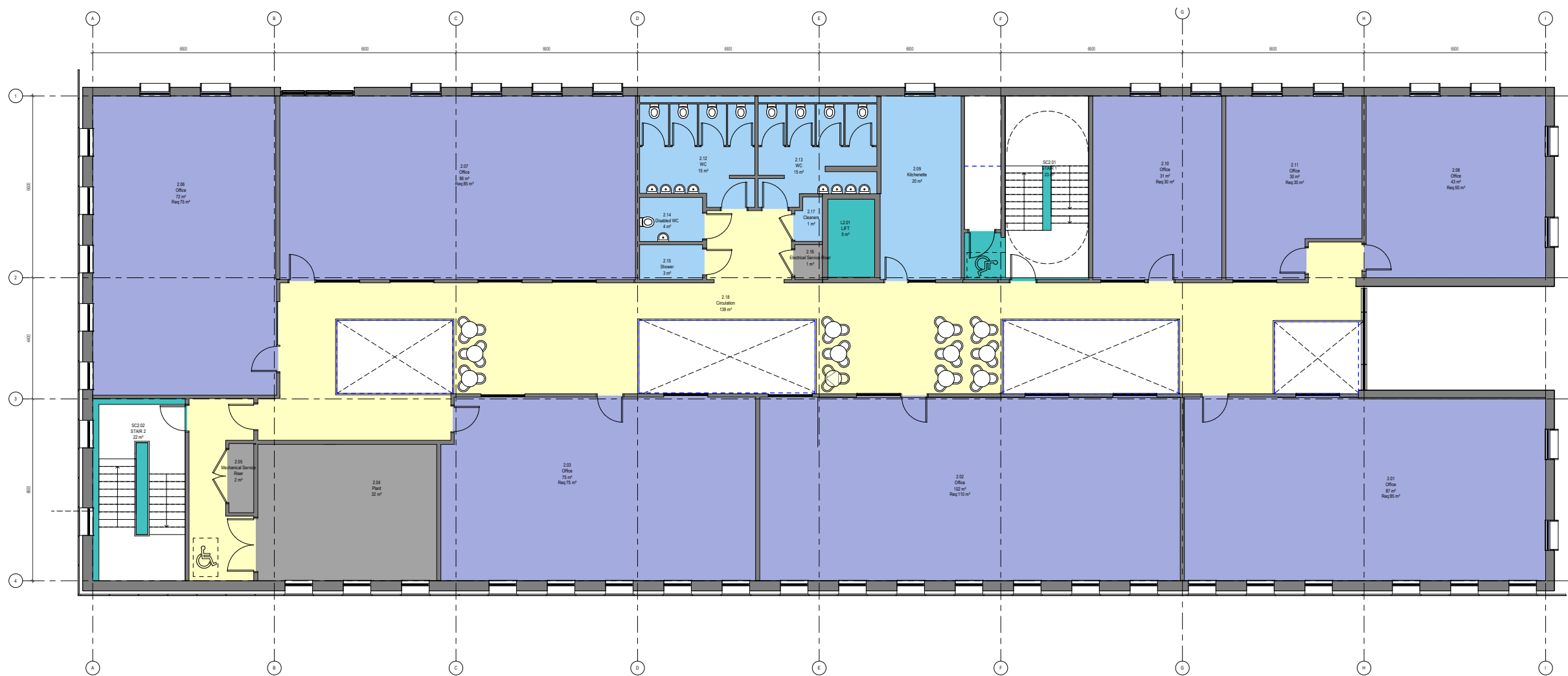


The floor plan shows a rectangular building layout with a grid system (A-I, 1-4). The rooms and their areas are as follows:

- 1.08 Office:** 71 m², Req: 75 m²
- 1.09 LAB:** 27 m², Req: 30 m²
- 1.10 LAB:** 27 m², Req: 30 m²
- 1.11 LAB:** 42 m², Req: 45 m²
- 1.12 Office:** 43 m², Req: 45 m²
- 1.13 Microbiology:** 19 m²
- 1.14 Office:** 43 m², Req: 45 m²
- 1.15 Server Room:** 12 m²
- 1.16 WC:** 15 m²
- 1.17 WC:** 16 m²
- 1.18 Disabled WC:** 4 m²
- 1.19 Shower:** 3 m²
- 1.20 Electrical Service Room:** 1 m²
- 1.21 Cleaners:** 1 m²
- 1.22 Office:** 43 m², Req: 45 m²
- 1.23 Corridor:** 105 m²
- 1.24 Office:** 28 m², Req: 30 m²
- 1.25 Office:** 81 m², Req: 110 m²
- 1.26 Office:** 44 m², Req: 45 m²
- 1.27 Office:** 68 m², Req: 70 m²
- 1.28 Office:** 24 m², Req: 30 m²
- 1.29 Mechanical Service Room:** 3 m²
- 1.30 Stair 1:** 20 m²
- 1.31 Stair 2:** 20 m²
- 1.32 Corridor:** 105 m²
- 1.33 Corridor:** 105 m²
- 1.34 Corridor:** 105 m²
- 1.35 Corridor:** 105 m²
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- 1.37 Corridor:** 105 m²
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- 1.99 Corridor:** 105 m²
- 1.100 Corridor:** 105 m²

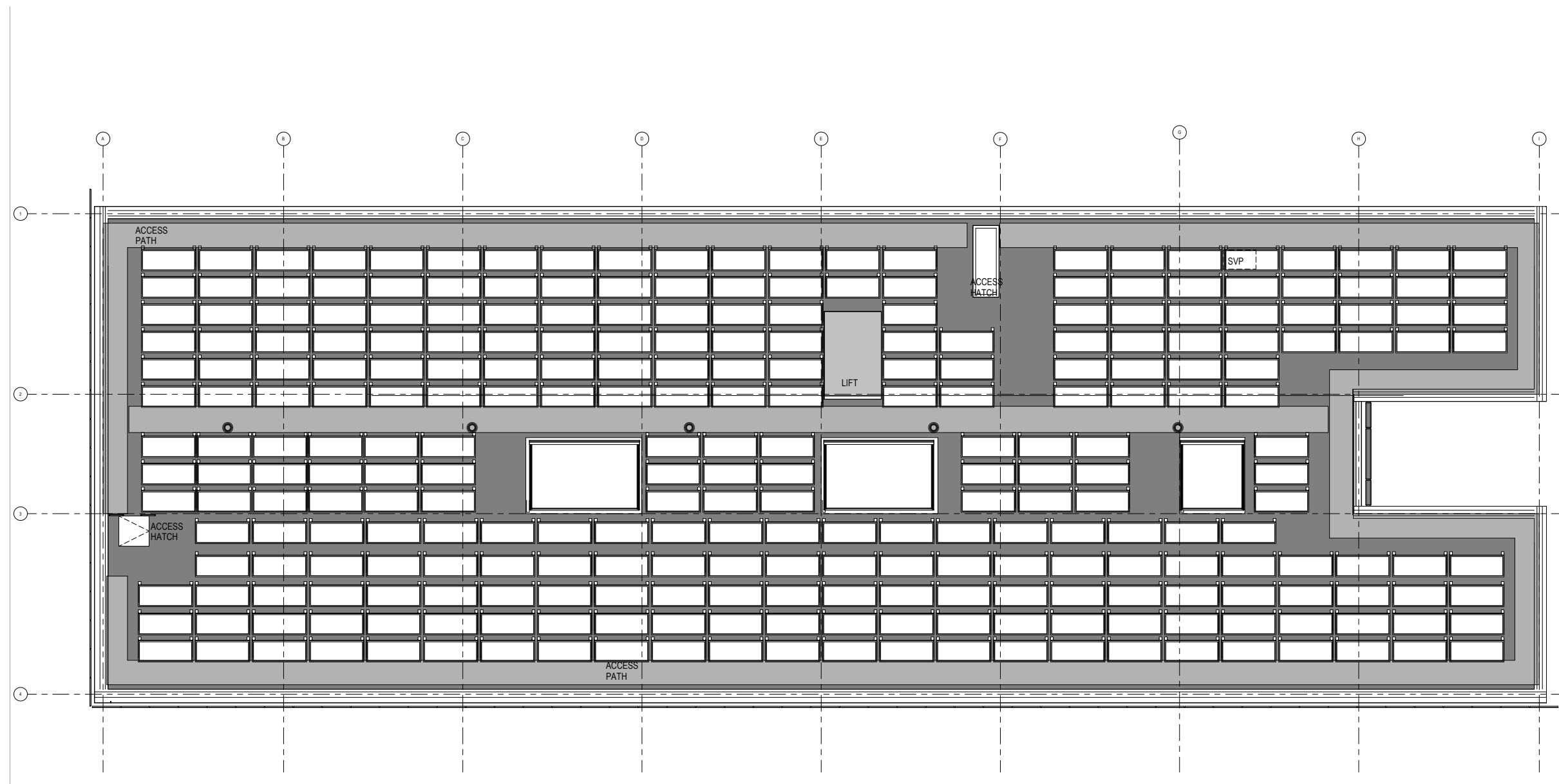
4.3 CURRENT LAYOUT

GA SECOND FLOOR PLAN



4.3 CURRENT LAYOUT

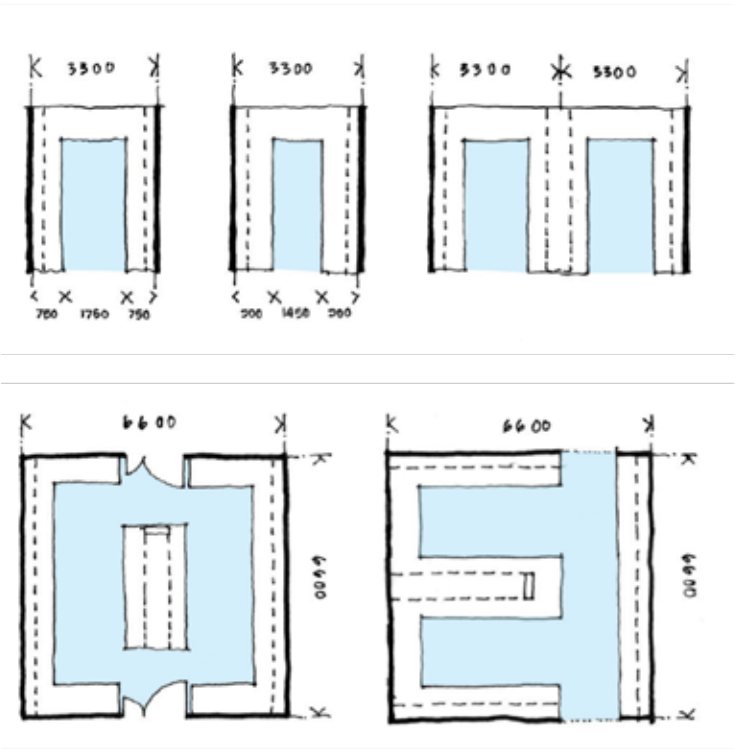
ROOF PLAN

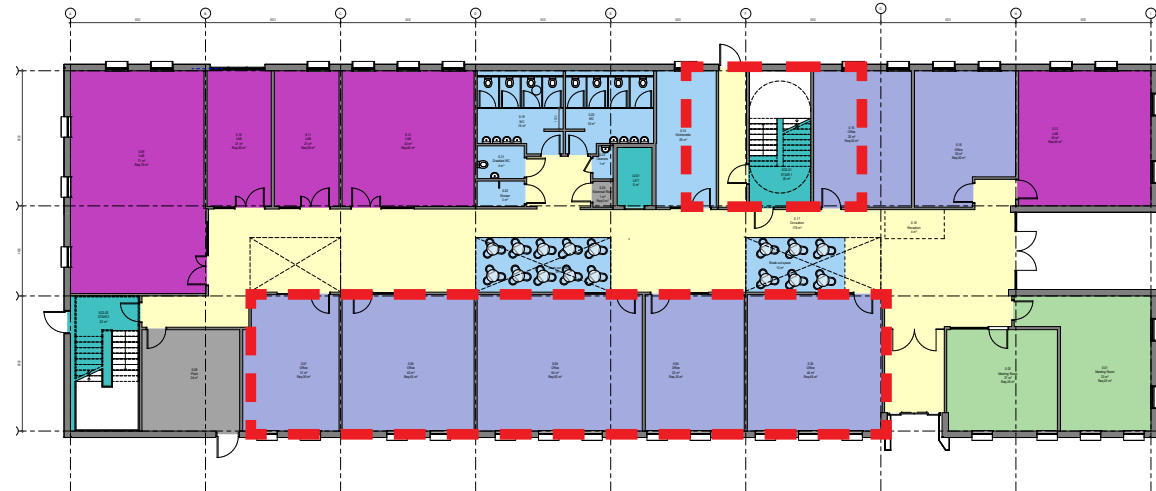


4.4 MODULE APPROACH TO SPACEPLANNING

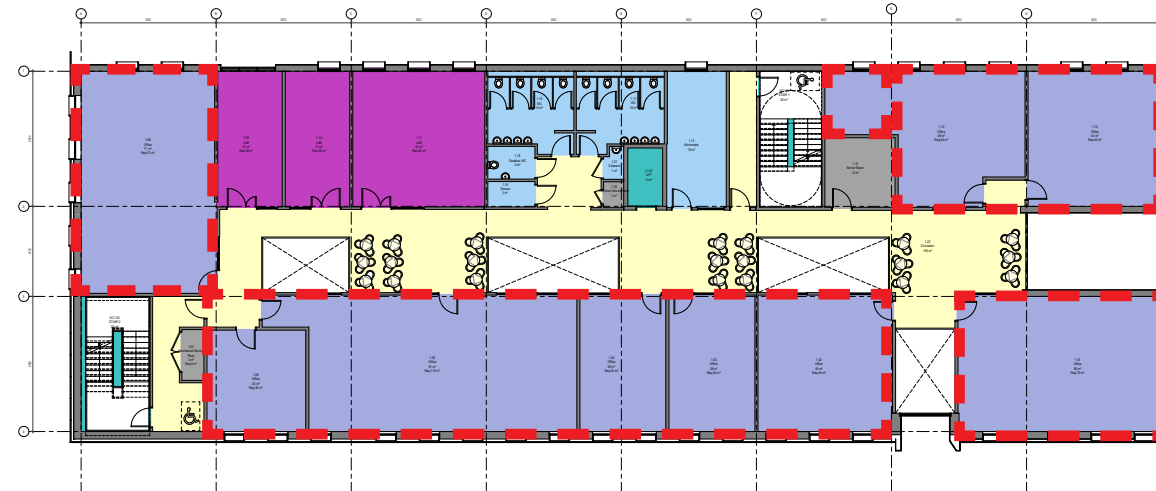
- Flexible shell and core approach
- Based on a module that can be an office, laboratory or workshop
- Efficient use of space – can install more equipment over the length of a building than a 7.2m or 7.4m module.

Below are just a few examples of how a single bay across a typical building can be planned out or adapted over time; whether its open plan write up space, specialist research space, or office and meeting facilities

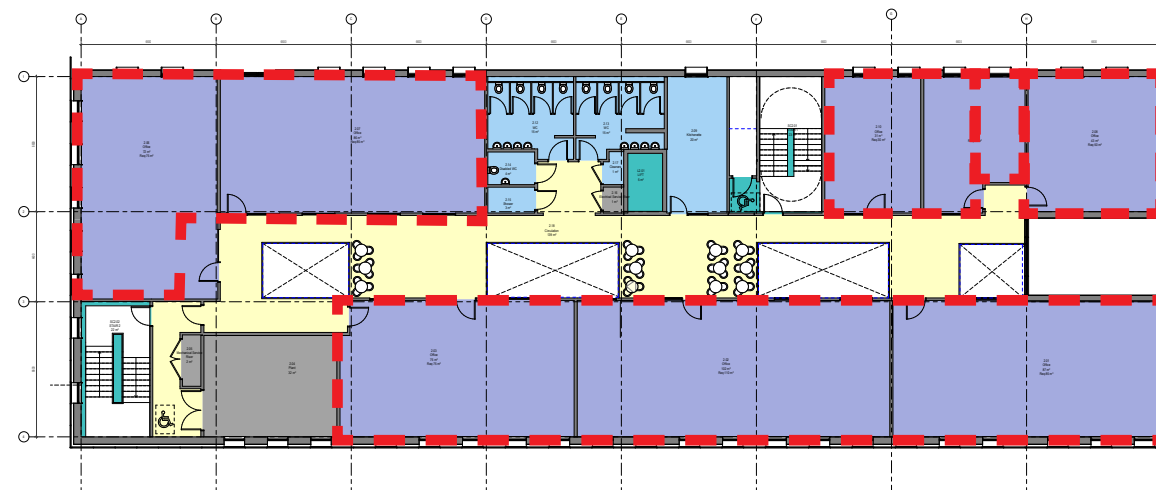




GROUND FLOOR



FIRST FLOOR



SECOND FLOOR

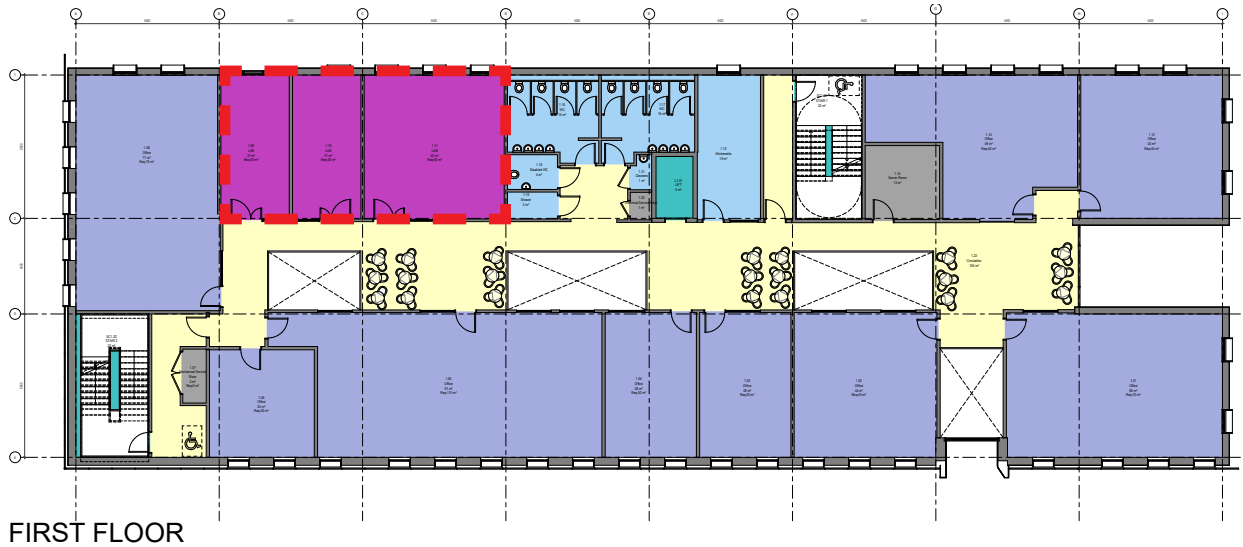
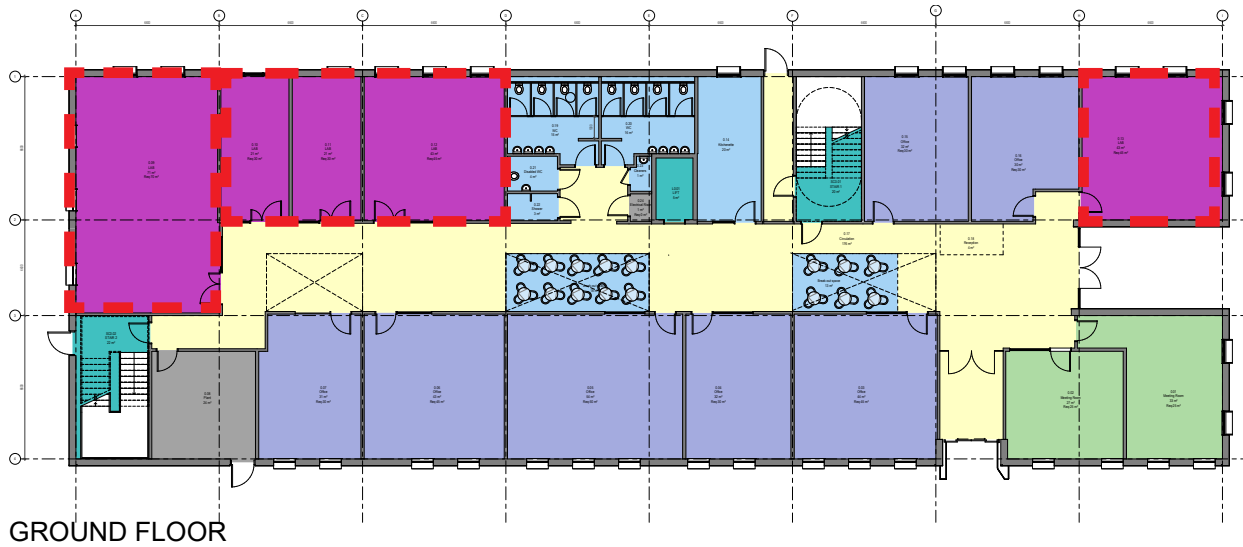
OFFICE				
CLIENT REQUIREMENTS	AREA ACHIEVED	LOCATION (LEVEL)	AREA DIFFERENCE	OCCUPANCY
1) 1No. @30 m sq.	31	LEVEL 00	1	4
2) 1No. @30 m sq.	32	LEVEL 00	2	4
3) 1No. @30 m sq.	31	LEVEL 00	1	4
4) 1No. @30 m sq.	24	LEVEL 01	-6	3
5) 1No. @30 m sq.	31	LEVEL 2	1	4
6) 1No. @30 m sq.	30	LEVEL 2	0	4
7) 1No. @30 m sq.	30	LEVEL 00	0	4
8) 1No. @30 m sq.	28	LEVEL 01	-2	4
9) 1No. @30 m sq.	28	LEVEL 01	-2	4
10) 1No. @50 m sq.	54	LEVEL 00	4	7
11) 1No. @50 m sq.	43	LEVEL 2	-7	6
12) 1No. @45 m sq.	44	LEVEL 00	-1	6
13) 1No. @45 m sq.	49	LEVEL 01	4	7
14) 1No. @45 m sq.	43	LEVEL 00	-2	6
13) 1No. @45 m sq.	44	LEVEL 01	-1	6
14) 1No. @45 m sq.	44	LEVEL 01	-1	6
15) 1No. @70 m sq.	66	1	-4	9
16) 1No. @75 m sq.	71	LEVEL 01	-4	9
17) 1No. @75 m sq.	75	LEVEL 2	0	10
18) 1No. @75 m sq.	72	LEVEL 2	-3	10
19) 1No. @85 m sq.	86	LEVEL 2	1	11
20) 1No. @85 m sq.	87	LEVEL 2	2	12
21) 1No. @110 m sq.	91	LEVEL 01	-19	12
22) 1No. @110 m sq.	102	LEVEL 2	-8	14

1280
1236

OFFICE AREA
Occupancy (Labs/Offices- excludes meeting room

1236
165

4.6 LAB ZONES



lab				
CLIENT REQUIREMENTS	AREA ACHIEVED OPTION 1	LOCATION (LEVEL)	AREA DIFFERENCE	OCCUPANCY
1) 1No. Lab @30		21 LEVEL 00		5
2) 1No. Lab @30		21 LEVEL 00		5
3) 1No. Lab @30		21 LEVEL 01		5
4) 1No. Lab @30		21 LEVEL 01		5
5) 1No. Lab @45		43 LEVEL 00		11
6) 1No. Lab @45		43 LEVEL 00		11
7) 1No. Lab @45		43 LEVEL 01		11
8) 1No. Lab @70		71 LEVEL 00		18
	325	284		

LAB AREA

OCCUPANCY

284

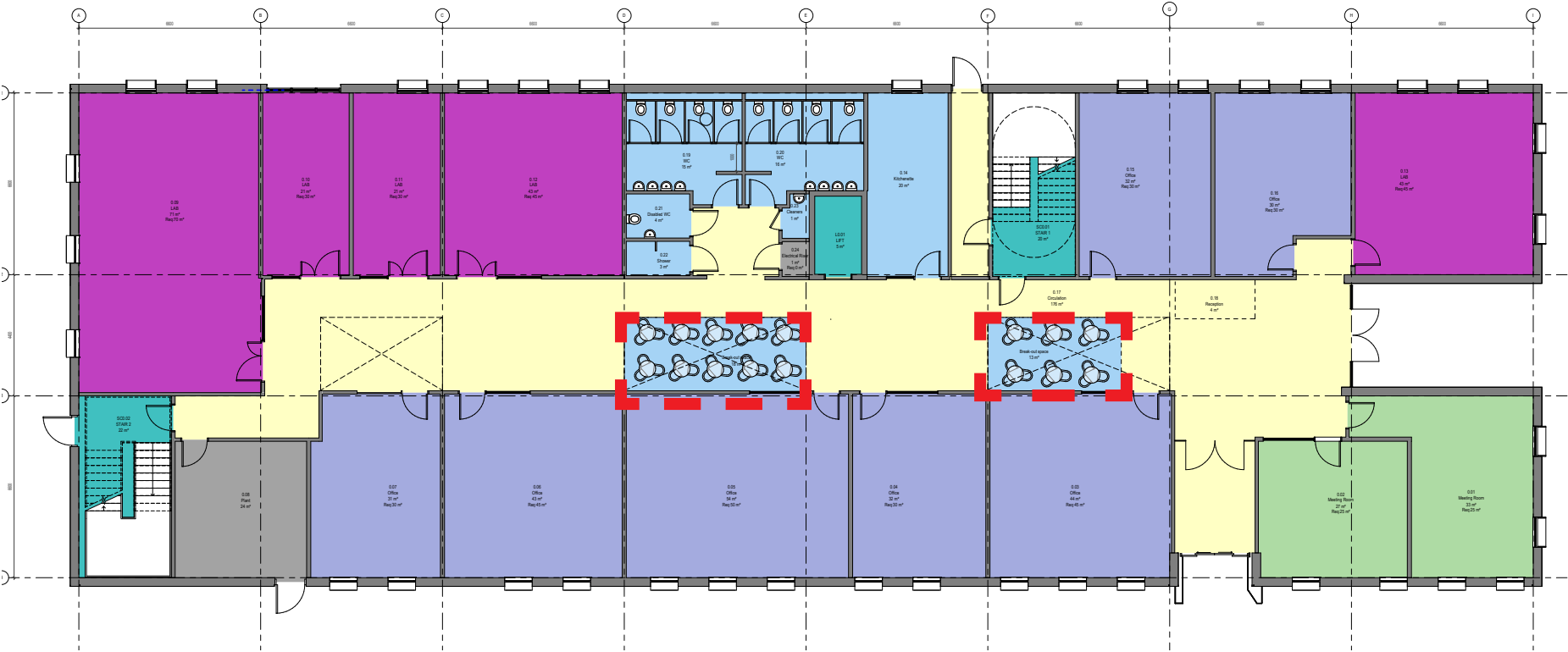
71

4.7 BREAK OUT SPACES

A recent international post occupancy evaluation of research facilities in the UK and North America identified that up to 98% reported the importance of informal break-out spaces in their working environment, with an average of 88%.

It is therefore an important consideration to include spaces outside the lettable areas for cross business collaboration to occur.

A widened bridge link provides an opportunity for shared internal seating areas and touchdown bases.



4.8 MASSING AND ELEVATIONS STUDY



4.8 MASSING AND ELEVATIONS STUDY



DESIGN DEVELOPMENT

During Stage 3, a number of design designs have been considered:

- 1.Rationalisation of plan to achieve efficiency of design and simplification of elevations to suit structural grid.
- 2.A number of plan iterations were considered, with a focus on maximising the lettable areas within the overall GIFA target
- 3.Offices, laboratories and meeting rooms are now accessible from a central corridor that runs along the atrium space within the building.
- 4.Glazing areas have been rationalised to reduce energy demands and so now there is a carefully considered balance between glazing and external façade treatment.
- 5.The number of rooflights have been reduced in order to increase the availability for PV.
6. External cladding has been designed to modular unit sizes to minimise waste.
7. PV panels on facade seamless blend with cladding finish to ensure a harmonious design solution.
8. Colour added to reveals and accents in design, to create interest and dynamics in the final elevations.



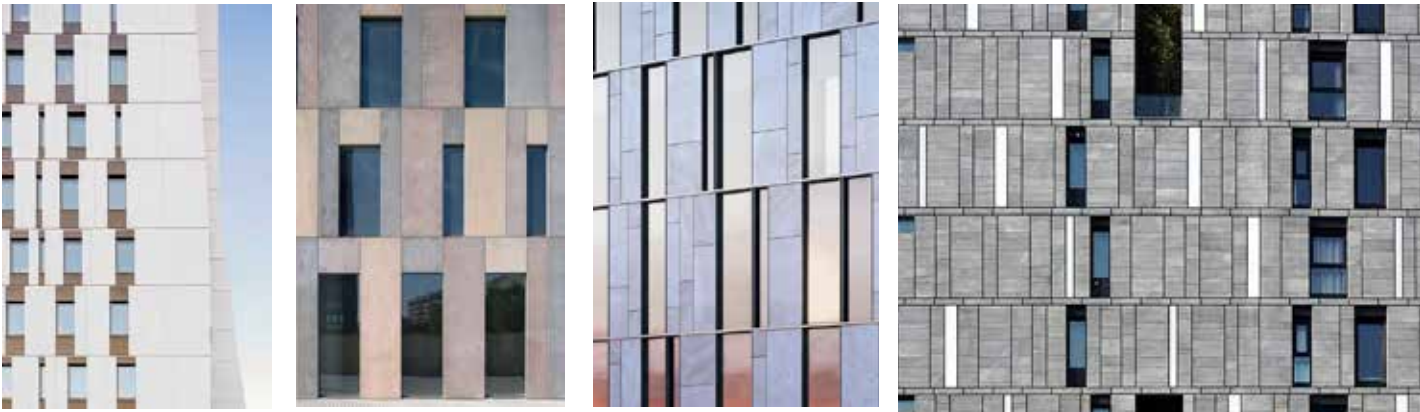
MASSING

- The massing has been carefully considered to be efficient has the following key criteria:
- Rectilinear shape that allows for simple structural columns and rhythmic cladding panels.
- The north elevation is most visible from the public highway. In order to break down the overall visible mass of the building, different elements of glazing have been introduced. Consequently,there are two design components, an l-shape and simple connecting rectangle.
- An industry standard 4.2M floor to floor height is utilised to allow for a sufficient M&E zone And enable a level of future adaptability.

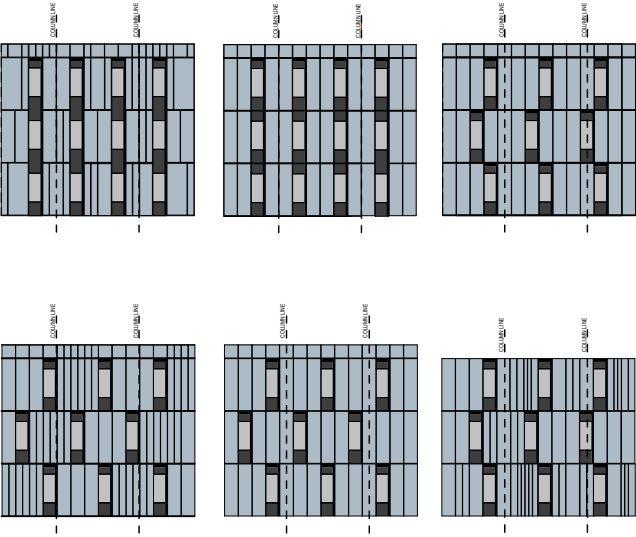
4.9 DESIGN PRECEDENTS

FACADE EXAMPLES BELOW TO SHOW THE DYNAMIC AND NATURE, NOT THE MATERIALS USED IN THE PROJECT

COMPOSITE METAL CLADDING



CLADDING AND WINDOWS STUDIES



PV FACADE



COLOURS



4.10 FACADE STUDY AND EXPLORATION

Research needs can change over time. As a result, it is important to develop a research facility that has a level of flexibility and adaptability.

The design of the building has been developed to enable flexibility, particular within the laboratory and office areas. IBI have developed a flexible shell that can cater for a variety of research needs.

The principle of 6.6 m structural grid module has been adopted that can accommodate an office or laboratory and can be redeveloped as the users' needs change.

One of the key concept we adopted when designing the elevations, was that any proposal should allow for agile and resourceful management and be able to adapt to the user's future needs. The elevation was developed to maximise flexibility inside. The equally spaced windows that occur on these façades allows a certain flexibility of internal spaces while retaining the current elevation configuration.

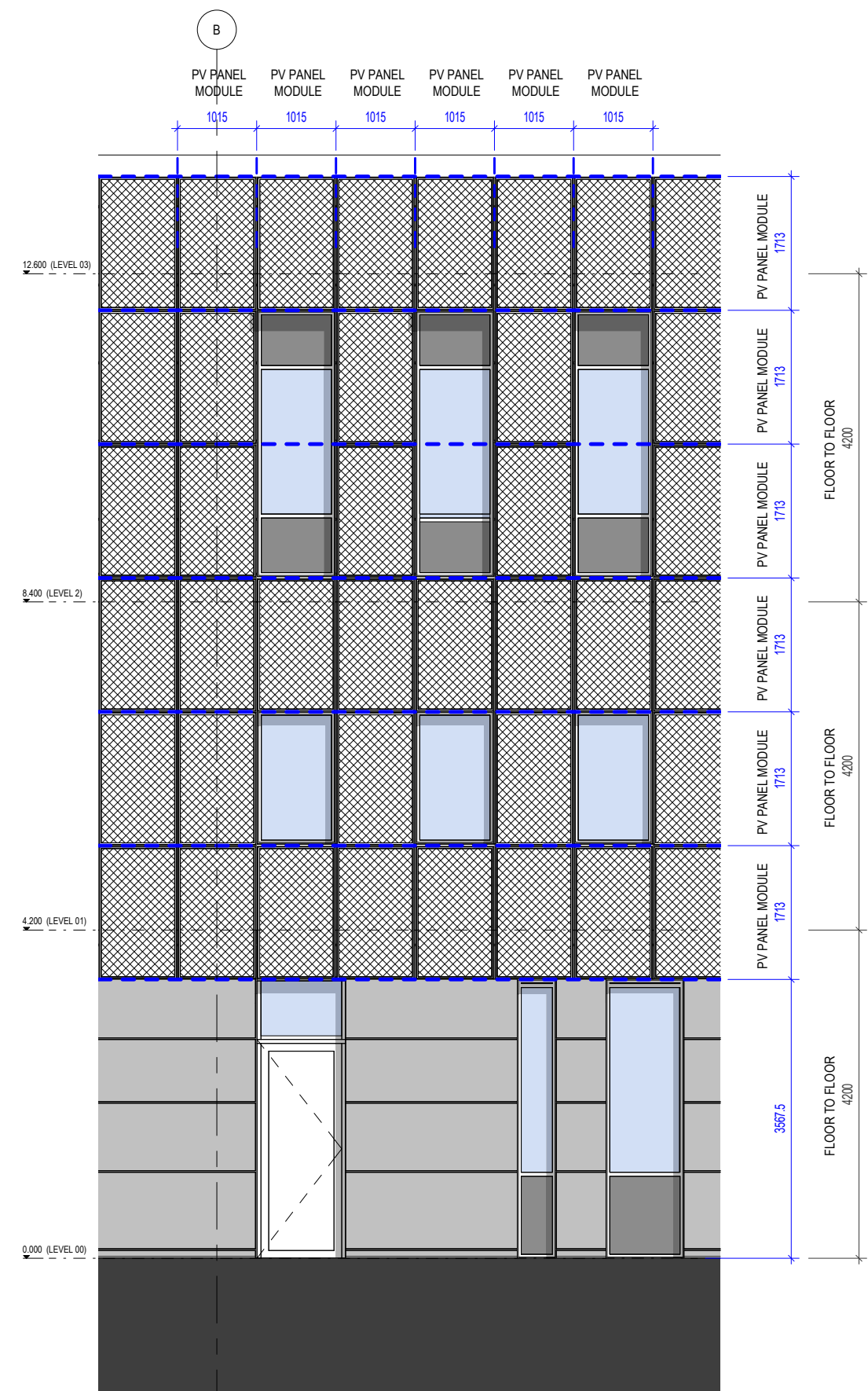
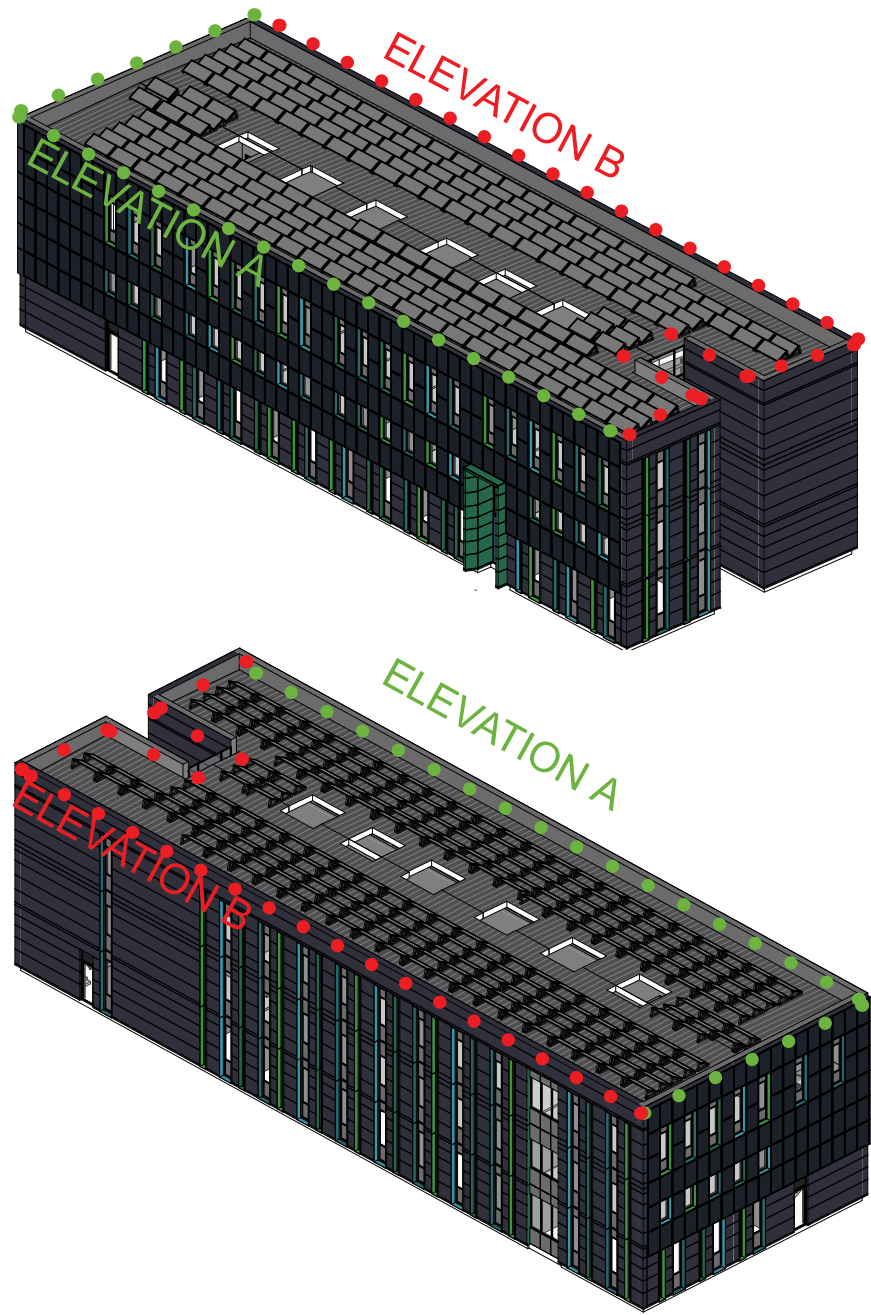
Colour was introduced through a series of window reveals through the building. The colours tied back to existing NPT development and pick ups the current NPT logo colour palette. These bright green and blue colours contrast and complement the darker façade of PVs and anthracite cladding.

FAÇADE STUDY
BLOCK A WINDOW AND FAÇADE DESIGN- SOUTH AND WEST FAÇADE

- PV panels have been incorporated into the south and west façade to increase total PV's output
- Façade articulation is based on the column rhythm and the size of the PV panel size.
- Windows and fenestration is carefully articulated to vertically align.
- Glazing order is based on the function below.

BLOCK B WINDOW AND FAÇADE DESIGN- NORTH AND WEST FACADE

- Façade articulation is based on the column rhythm of 6.6m.
- Glazing suits the daylight requirements of the function behind.
- Different heights of cladding to counteract the order of the windows
- Dynamics of the façade are created in the dialogue between window, cladding and coloured in reveals.



Window dimensions and position is carefully developed to provide

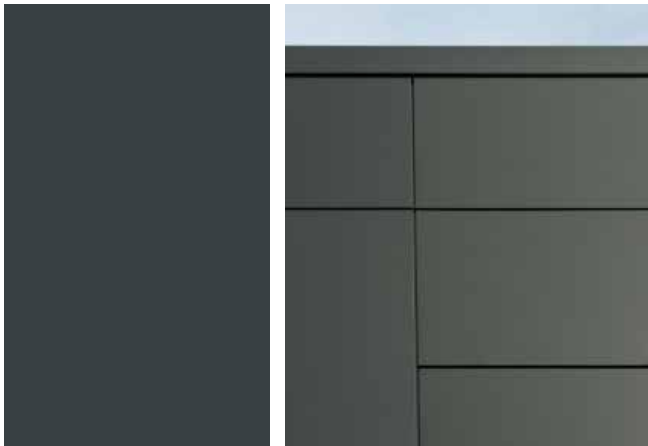
4.11 PROPOSED BUILDING MATERIALS

All external elements are organised in such a way that they are multiple divisions of each other. Further the windows are designed in such a way that they can accommodate multiple functions within the spaces behind.

It is important that the materials used in the Swansea Bay Technology Centre are durable, robust and high quality to minimise repairs and limit maintenance.

Materials should maintain a long service life so that the proposal provides space of the highest quality for the occupants of the building.

(Read in conjunction with proposed elevation drawings, issued seperately. These drawings show the extent of materials on each external facade).

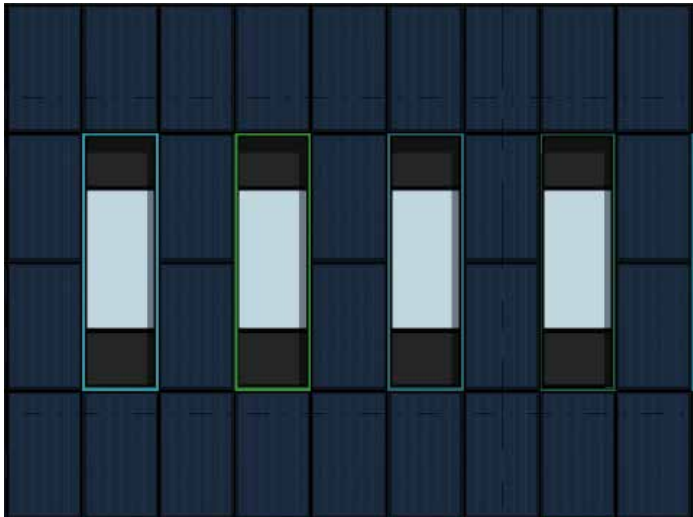


1 METAL CLADDING

Dark metal cladding panels are proposed for the north and east façades and on the ground level on the south and west facade.

Dark colour will seamlessly blend in with the proposed pv panels on the higher floors to provide a unified connection to PV on the higher levels and tie south and west facade to the back of the building.

Kingspan have currently been approached as the cladding suppliers, KS600-1000MR, colour to be uniform for external panels, final colour selection to be from Kingspan ‘standard’ colour selection and not bespoke. All panels to be secretly fixed on SFS framing system.



2. PHOTOVOLTAIC PANELS

As the building is designed around the theme of energy positive building, the façade is an additional surface with huge potential to generate electricity.

Photovoltaics, more commonly known as solar panels, are one of the purest and most reliable methods for producing renewable energy. The PVs are currently proposed as SunPpower Maxeon 3, 400W Solar Panels (SPR-MAX3-400) with proprietary frame, an independent galvanised steel frame supports the PV Panels, which are in turn connected to QuadCore Kingspan Karrier panels.

3. WINDOW DESIGN AND REVEALS

Various window sizes have been utilised during the building design in order to create the necessary lighting levels within the plan. These also create an interest in the facade articulation and provide rhythm to the building envelope.

The reveals of the windows are coloured in such a way that gives depth and dynamics to the building. These colours have been taken from the surrounding landscape and architectural elements.



4. ROOF

The roof is used as external plant zone- PV PV’a are hidden from view behind high parapet.

The roof is constructed from a bituminous membrane and is designed to have levels that allow for siphon drainage outlets at the edge of the roof.

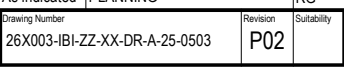


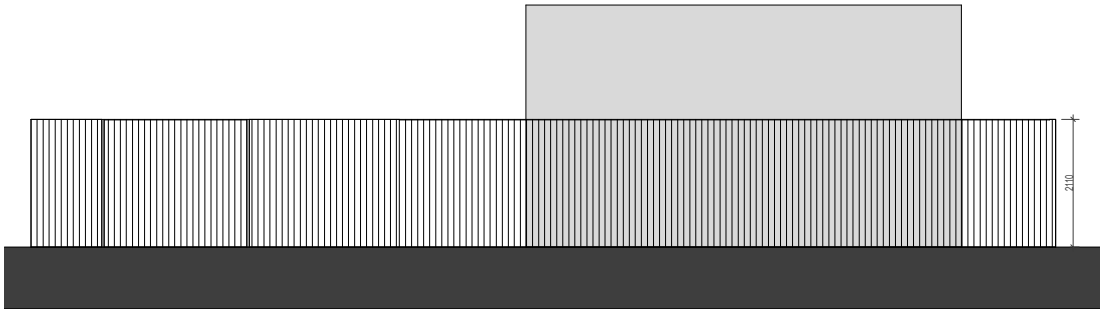
4.12 APPROACH FROM CAR PARK

The building is approached from the car park in such a way that the colour elements of the window reveals are highlighted and expressed.

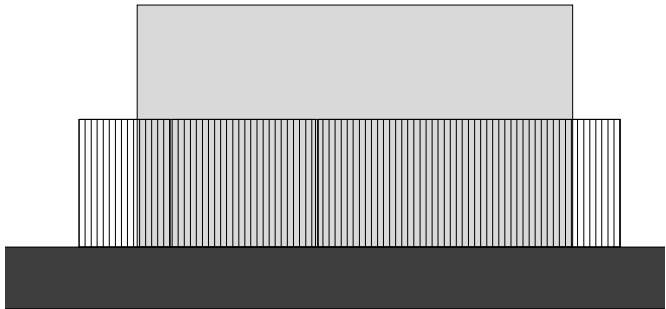
The elevations are not read in a 'flat' manner, but rather the building are viewed on different angles. This enables the subtle colourful edges of the window reveals to be brought to life and depth of colour and interest clearly seen by all. As a result the façades will not be interpreted as a simple edge with cut outs but more of a play on colour and form.



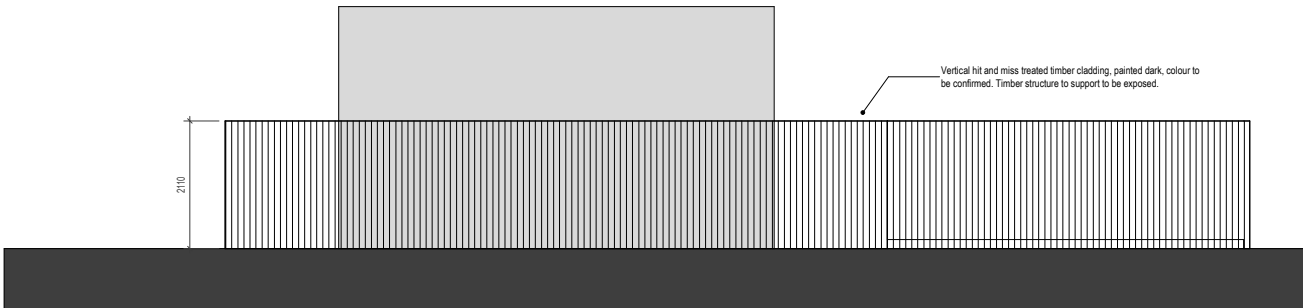




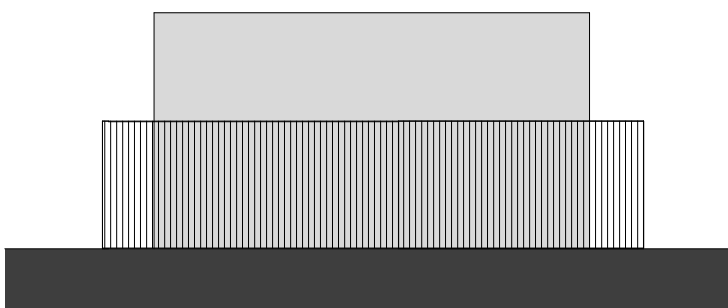
Plant Enclosure_Elevation 1
1 : 50



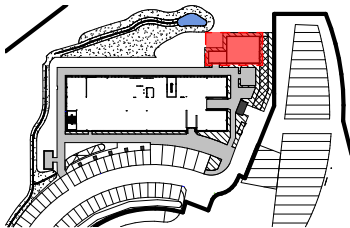
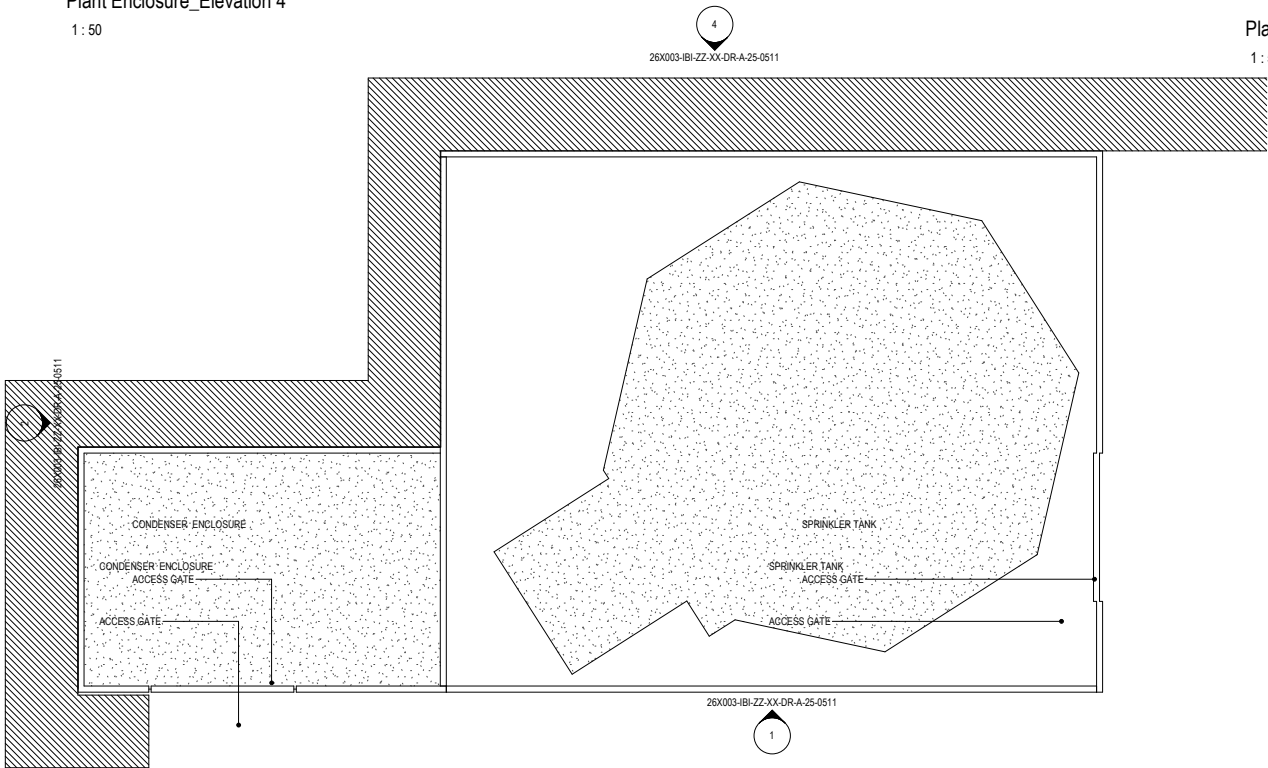
Plant Enclosure_Elevation 3
1 : 50



Plant Enclosure_Elevation 4
1 : 50



Plant Enclosure_Elevation 2
1 : 50



Notes:

- This drawing is copyright.
- Do not scale dimensions from this drawing.
- This drawing is to be read in conjunction with all other relevant drawings.
- All discrepancies on this drawing are to be reported to the architect.
- Do not modify any element of this drawing.
- Use drawing only for purpose(s) issued.
- This drawing may contain colour.

Scale Bar

North Point

Key Plan

Hazard

 1

HAZAR

To warn of significant hazards or information that is unusual

To be read in conjunction with all other consultant's information

Refer to CDM Schedule XXXX-IBI-WB-XX-SC-A-072-0010

The following external model files are included within this drawing:

PC2	16/06/2020	Issued for Planning	KL	SC
PH1	15/04/2020	Issue for Planning	KL	RG
Rev	Date	Revision Notes	Drawn	Reviewed
1				



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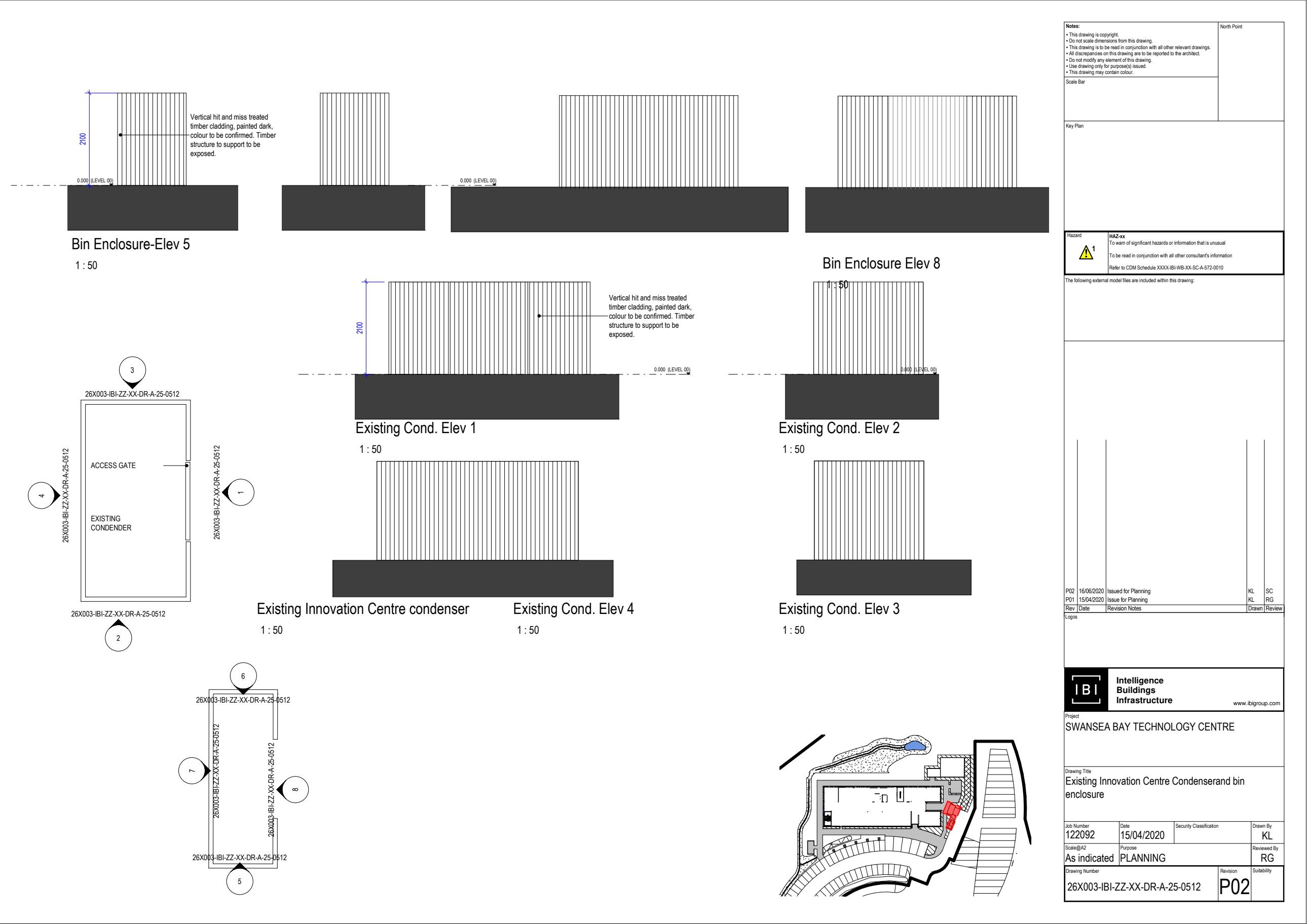
Project

SWANSEA BAY TECHNOLOGY CENTRE

Drawing Title

Plant Enclosure

Job Number	Date	Security Classification	Drawn By
122092	15/04/2020		KL
Scale @A1	Purpose	Reviewed By	
As indicated	PLANNING	RG	
Drawing Number	Revision	Subsidiary	
26X003-IBI-ZZ-XX-DR-A-25-0511	P02		



Notes:

- This drawing is copyright.
- Do not scale dimensions from this drawing.
- This drawing is to be read in conjunction with all other relevant drawings.
- All discrepancies on this drawing are to be reported to the architect.
- Do not modify any element of this drawing.
- Use drawing only for purpose(s) issued.
- This drawing may contain colour.

North Point

Scale Bar

Key Plan

Hazard	HAZ-xx To warn of significant hazards or information that is unusual To be read in conjunction with all other consultant's information Refer to CDM Schedule XXXX-IBI-WB-XX-SC-A-572-0010
---------------	---

The following external model files are included within this drawing:

P02	16/06/2020	Issued for Planning	KL	SC
P01	15/04/2020	Issue for Planning	KL	RG
Rev	Date	Revision Notes	Drawn	Review

Logos

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Project

SWANSEA BAY TECHNOLOGY CENTRE

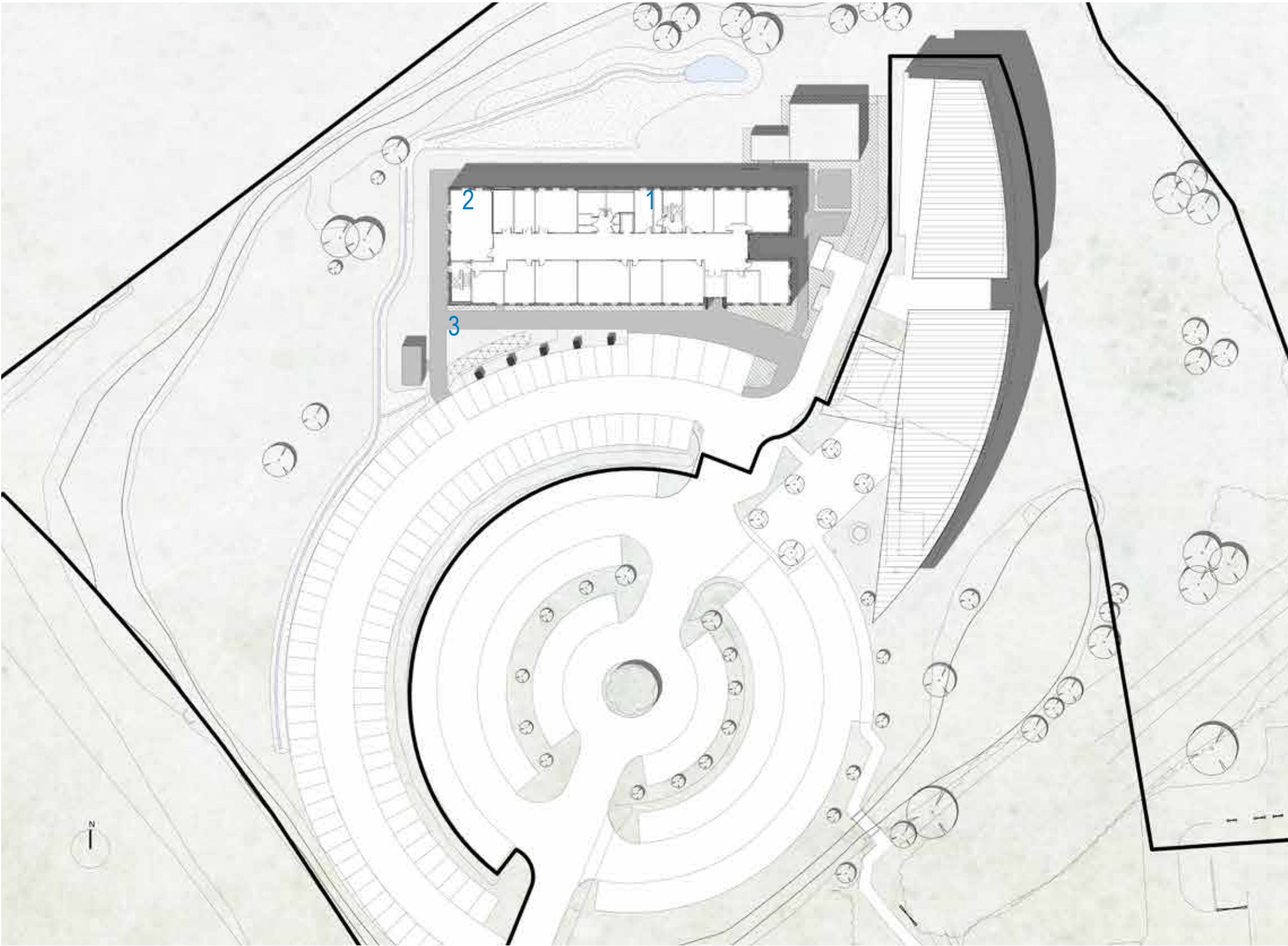
Drawing Title

Existing Innovation Centre Condenser and bin enclosure

Job Number	Date	Security Classification	Drawn By
122092	15/04/2020		KL
Scale@A2	Purpose		Reviewed By
As indicated	PLANNING		RG
Drawing Number	Revision	Suitability	
26X003-IBI-ZZ-XX-DR-A-25-0512	P02		

4.14 ACCESS AND MAINTENANCE

- 1. Access to roof via staircase.
- 2.Parapet to flat room to avoid mainsafe.
- 3. Access around the building to enable window cleaning.



4.15 INCLUSIVE DESIGN & CIRCULATION ROUTES

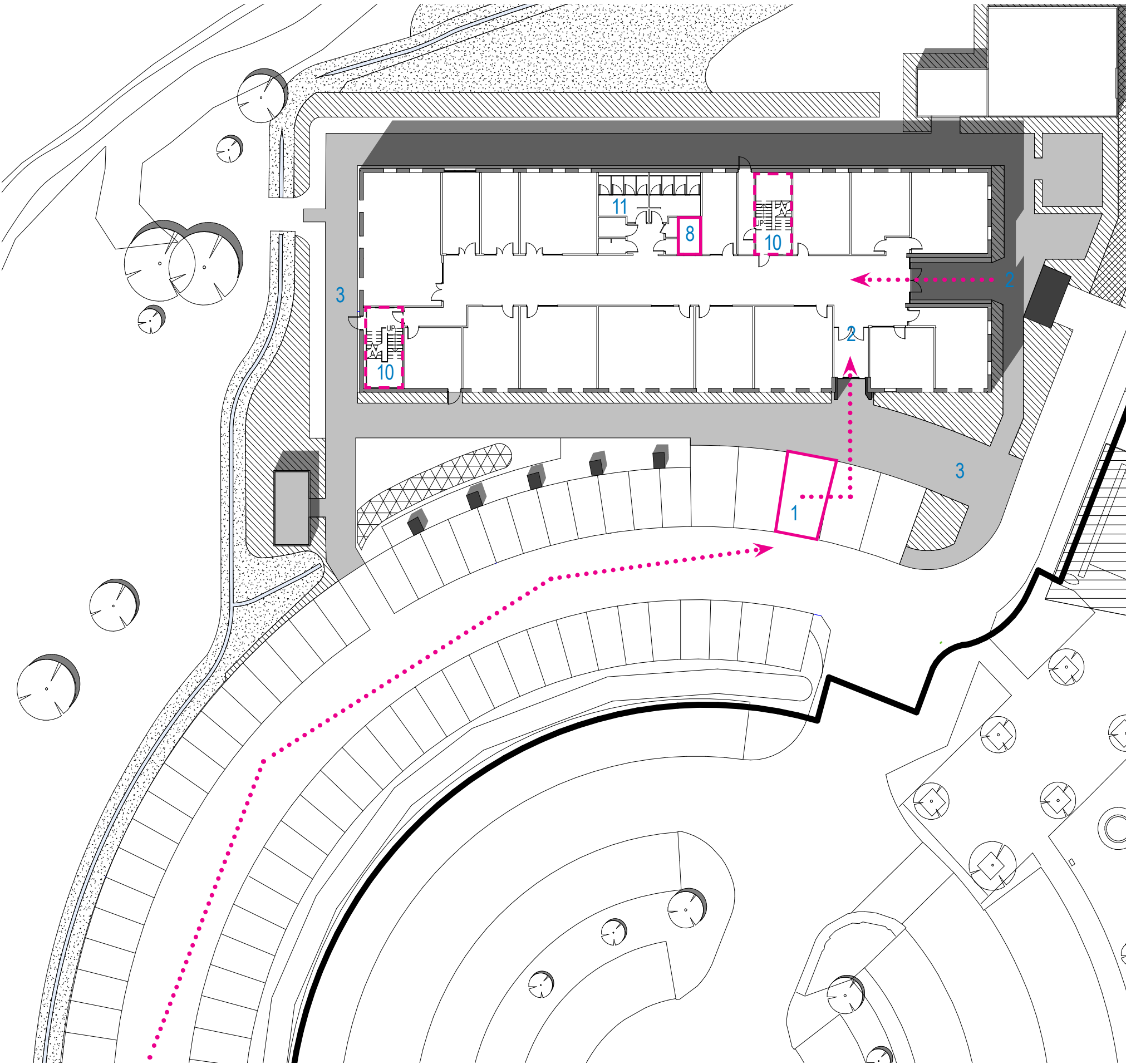
Inclusive design has been integral to the layout of the site and final resolution of the building. This can be demonstrated as follows:

- 1. Suitable parking provisions provided with close proximity and adjacent to the building entrance.
- 2. Level entrance into the building.
- 3. Level access pathway provided around complete external perimeter of the building.
- 4. Level thresholds into the building.
- 5. Push button entrance for wheelchair use, as part of main entrance arrangement.
- 6. Inclusive signs with tactile braille included.
- 7. Tactical paving as necessary in all areas, as part of an integrated landscaping proposals by others.
- 8. Lift access provided to all floors.
- 9. Wheelchair refuge areas are provided on each floor.
- 10. Internal stairs designed to Part M of the building regulations.
- 11. Suitable sanitaryware provided on all floors.

4.16 COMMUNITY SAFETY

The design has no negative impact of community safety. CCTV will also be placed around the building. The final locations and details will be part of the next design stage of the project.

The scheme also in an opportunity for job and business creation with opportunities for new starters to use the rentable spaces available.



5.0 3D STUDIES



















6.0 SCHEDULE OF ACCOMMODATION

Occupancy Figures Based on Aude Space Standards for research facilities.

- Allowances:
- 7.5m2 per person for Office Space (shared)
 - 4m2 per person for Research Labs (plus 10% for ancillary accommodation within Labs)
 - 2m2 per person for Meeting Space

Based on the figures above, the occupancy figures are:

- total occupancy for the Building -**258** people (including meeting rooms)
- total occupancy for lettable space - **236** people (excluding meeting rooms)



Swansea Bay Technology Centre

Schedule of Accommodation - Base Study

Rev A					
	No.	Capacity	Area Allowance ppm2	Area	Sub Totals
LEVEL 00					
Office		4		7.5	31
Office		4		7.5	32
Office		7		7.5	54
Office		6		7.5	44
Office		4		7.5	31
Office		6		7.5	43
Office		4		7.5	30
Meeting Room		13		2	25
Meeting Room		18		2	35
LAB		5		4	21
LAB		11		4	43
LAB		5		4	21
LAB		11		4	43
LAB		18		4	71
		115			524.0
Staff Facilities					
Break-out space				13	
Break-out space				17	
WC				15	
WC				16	
Disabled WC				4	
Kitchenette				20	
Cleaners				1	
Shower				3	
					89.0
Circulation includes corridors, stairs and lifts					
LIFT				5	
STAIR 1				20	
STAIR 2				22	
Circulation				177	
RECEPTION				4	
					228.0
PLANT					
Electrical Riser				1	
Plant				24	
					24.0
TOTAL NET AREA LEVEL 00					865.0

LEVEL 01				
Office	12	7.5	91	
Office	9	7.5	71	
Office	7	7.5	49	
Office	3	7.5	24	
Office	9	7.5	66	
Office	6	7.5	44	
Office	4	7.5	28	
Office	6	7.5	44	
Office	4	7.5	28	
Lab	5	4	21	
Lab	5	4	21	
Lab	11	4	43	
	59			530.0
Staff Facilities				
WC			15	
WC			16	
Disabled WC			4	
Cleaners			1	
Kitchenette			19	
Showee			3	
				58.0
Circulation includes corridors, stairs and lifts				
STAIR 1			20	
STAIR 2			22	
LIFT			5	
Circulation			155	
				202.0
PLANT				
Server Room			12	
Electrical Service Riser			1	
Mechanical Service Riser			3	
				16.0
TOTAL NET AREA LEVEL 01				806.0
LEVEL 02				
Office	4	7.5	31	
Office	14	7.5	102	
Office	10	7.5	75	
Office	4	7.5	30	
Office	6	7.5	43	
Office	11	7.5	86	
Office	10	7.5	72	
Office	12	7.5	87	
	70			526.0
Staff Facilities				
WC			16	
WC			15	
Disabled WC			4	
Cleaners			1	
Kitchenette			25	
Shower			3	
				64.0
Circulation includes corridors, stairs and lifts				
LIFT			5	
STAIR 1			20	
STAIR 2			22	
Circulation			139	
				186.0
PLANT				
Electrical Service Riser			1	
Mechanical Service Riser			2	
Plant			32	
				35.0
TOTAL NET AREA LEVEL 02				811.0

6.1 EMPLOYMENT DENSITIES GUIDE

Occupancy figures are based on Employment Densities Guide . office type 'Serviced Offices', where the employment density is 10 m sq per FTE

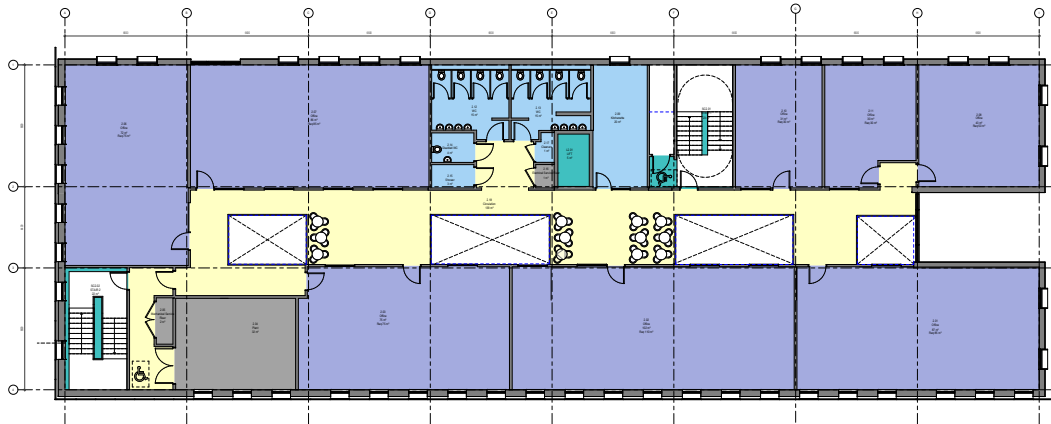
To measure the floorspace Net Internal Area was used, that is referred to as the net 'lettable' or usable area of offices and retail units.

Ground Floor Net Internal Area is 525 msq
First Floor Net Internal Area is 576 msq
Second Floor Net Internal Area is 540 msq

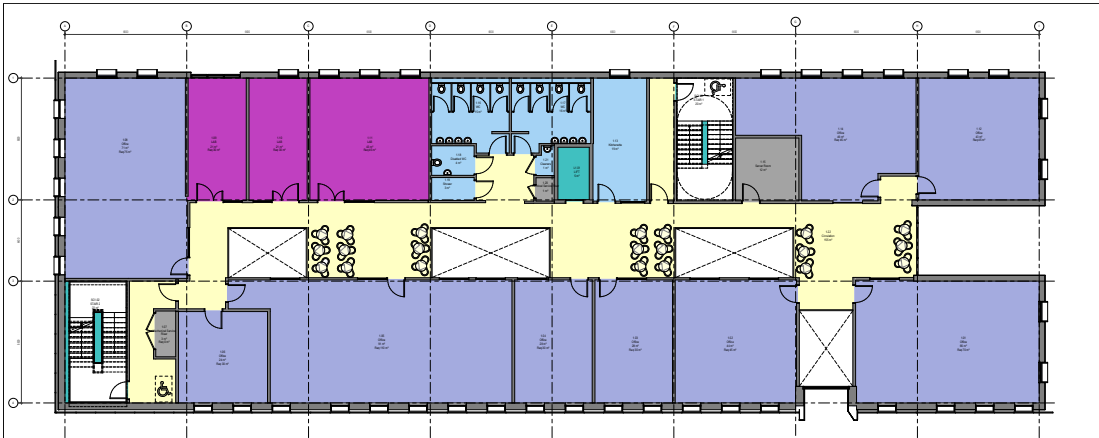
Total Net Internal Area is 1641msq

Based on the figure above, occupancy of the building 164 people.

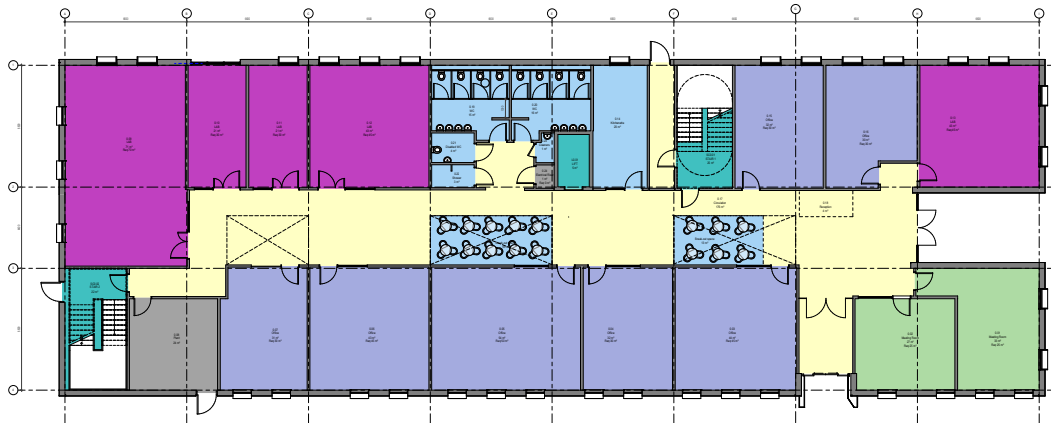
OCCUPANCY NUMBERS BASED ON EMPLOYMENT DENSITY GUIDE



SECOND FLOOR PLAN



FRIST FLOOR PLAN



GROUND FLOOR PLAN

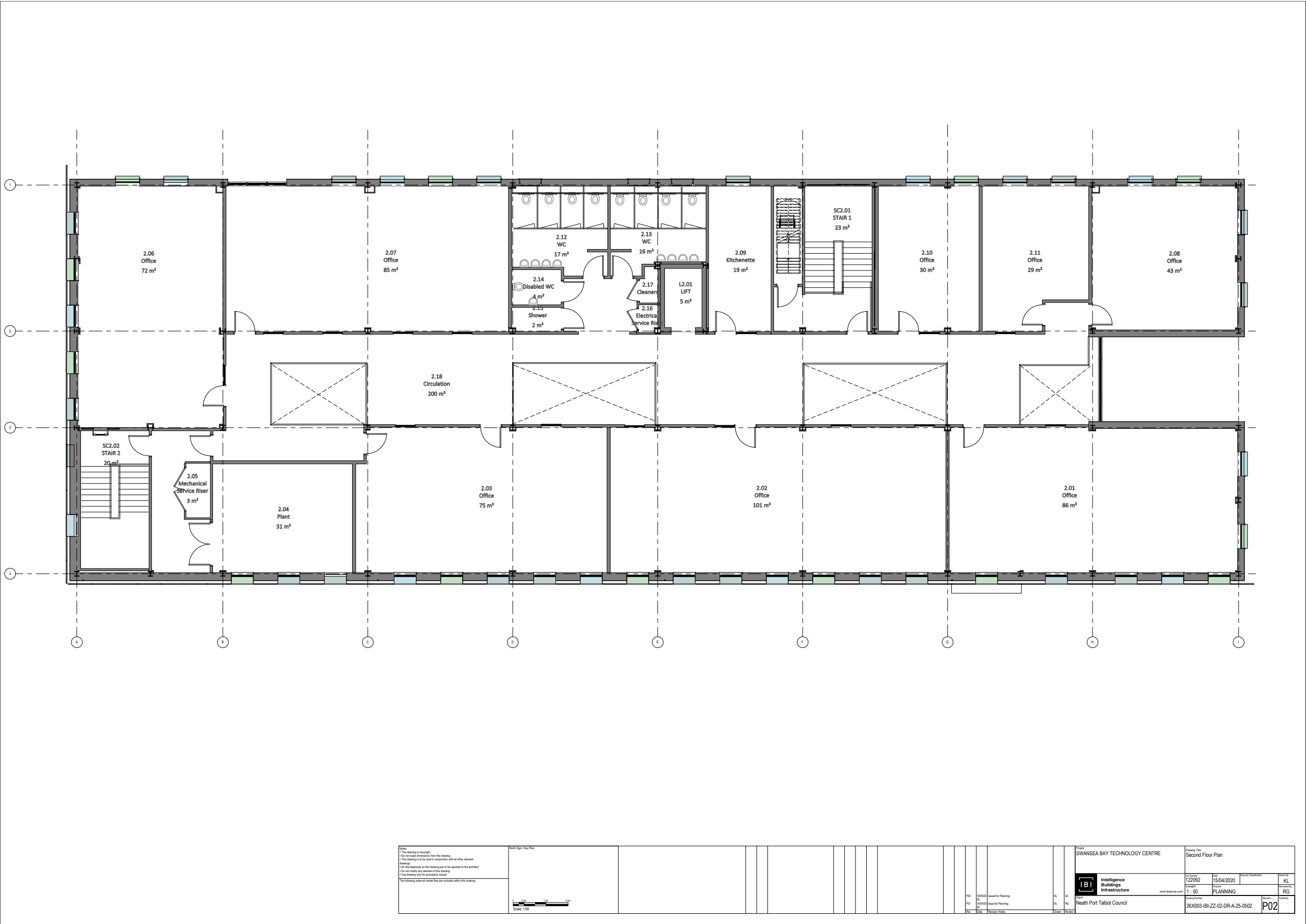
7.0 PROPOSED DRAWINGS

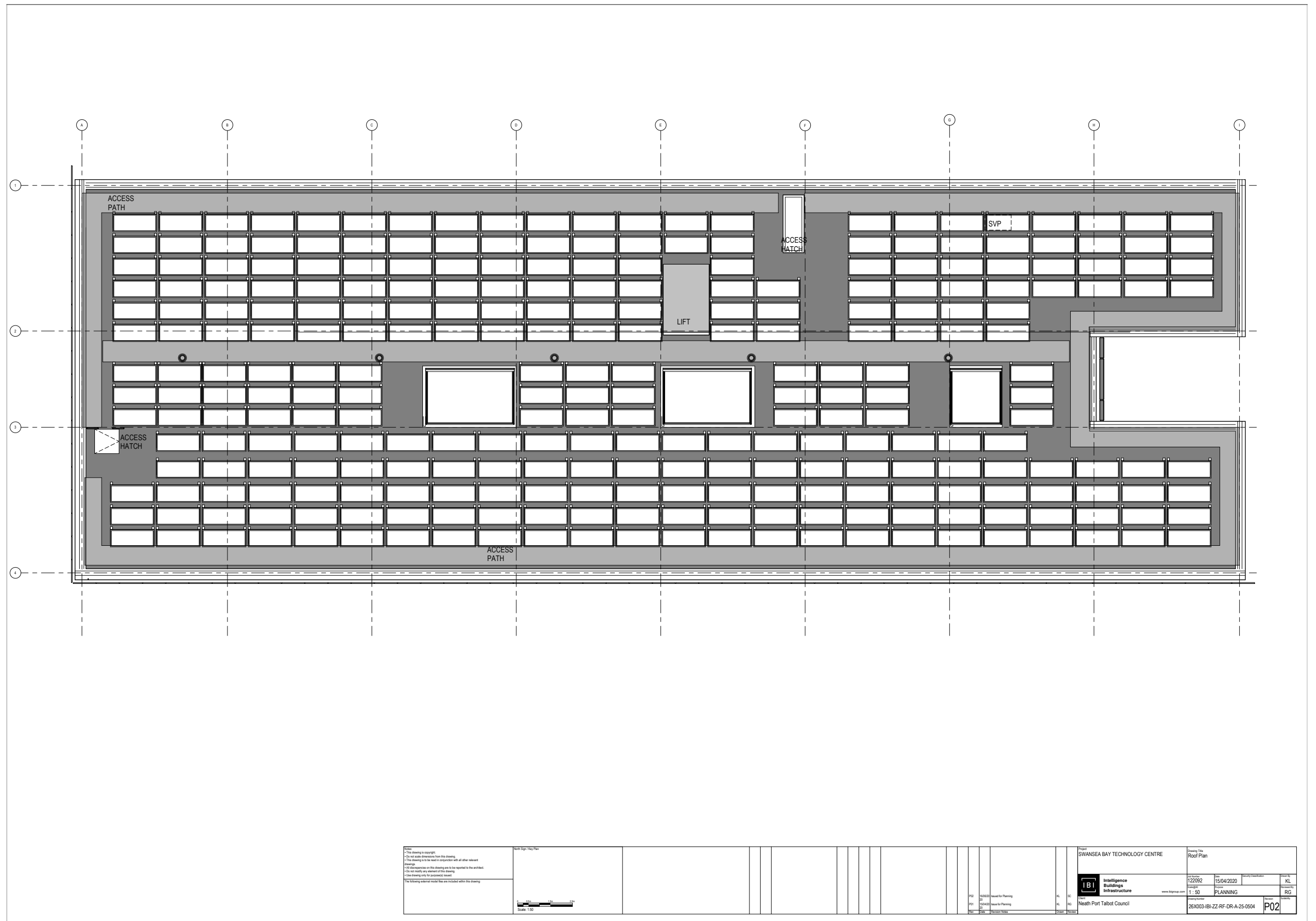
7.1 GROUND FLOOR PLAN

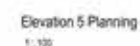




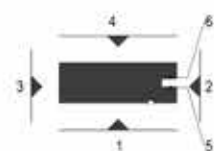
7.3 SECOND FLOOR PLAN

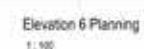




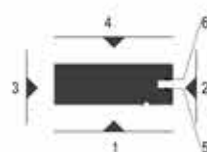


1. Horizontal metal cladding panels, dark in colour. (Refer to 3D images for indicative finish and spacing).
2. Gypsum mounted PV panels, fixed to external core panels on external structure. (Refer to 3D images and elevations for extent and indicative finishing and spacing).
3. Polyester Powder Coated aluminium window frames and curtain walling, dark colour, final RAL to be confirmed. Include for all necessary solid panels within window arrangement. Window reveals are to be coloured. (Refer to 3D images and elevations for extent and indicative finishing and spacing).
4. Flat roof slatting materials, dark in colour, with PV panels mounted on top. Include for primary and edge wall.
5. Vertical rib and metal treated timber cladding, painted dark, colour to be confirmed. Timber structure to support to be exposed.
6. Metal Louver

[illegible]



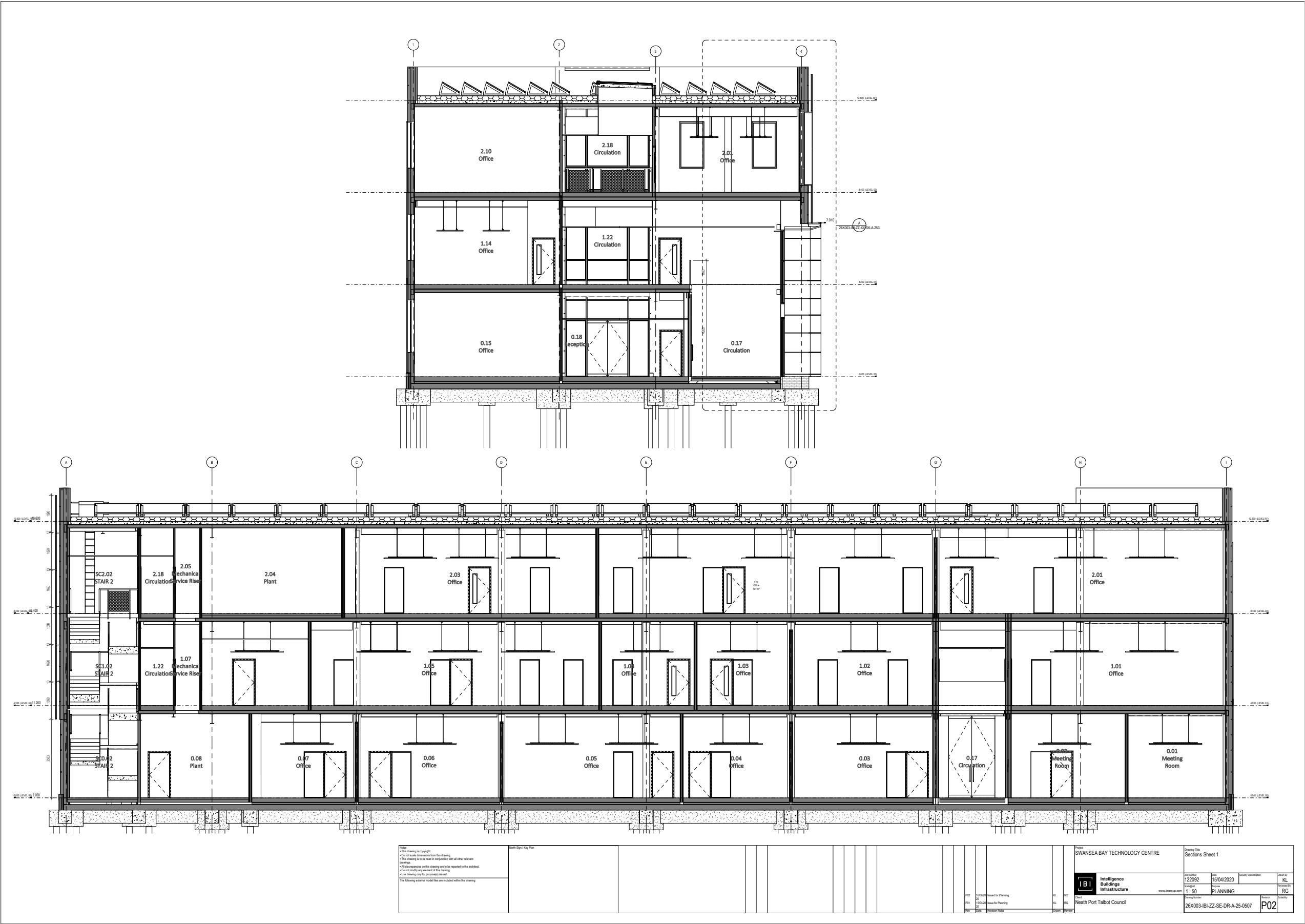
1. Horizontal metal cladding panels, dark in colour. (Refer to 3D images for indicative finish and spacing).
2. Facade mounted PV panels, linked to external core panels on external structure. (Refer to 3D images and elevations for extent and indicative installation).
3. Polyester Powder Coated aluminium window frames and curtain walling, dark colour, final RAL to be confirmed. Include for all necessary solid panels within window arrangement. Windows reveals are to be coloured. (Refer to 3D images and elevations for extent and indicative finishing and spacing).
4. Flat roof blumex membrane, black in colour, with PV panels mounted on frames. Include for proprietary roof edge trim.
5. Vertical lift and move heated timber cladding, painted dark, timber to be confirmed. Timber structure to support to be exposed.
6. Metal Louvers.

[illegible]

100	100%	100%	100%
100	100%	100%	100%
100	100%	100%	100%
100	100%	100%	100%

PROJECT STRANSEA BAY TECHNOLOGY CENTRE		DRAWING TITLE Elevations Sheet 2	
		DRAWING NO. 122092	
SOUTH PORT TOWN COUNCIL		DATE 15/04/2020	
As Indicated		SCALE PLANNING	
268003-00-22-01-09-4-25-0506		P02	

7.6 SECTION 01





7.9 TYPICAL
CONSTRUCTION SECTIONS





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