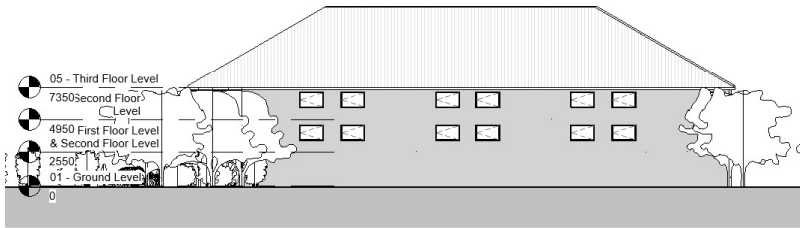
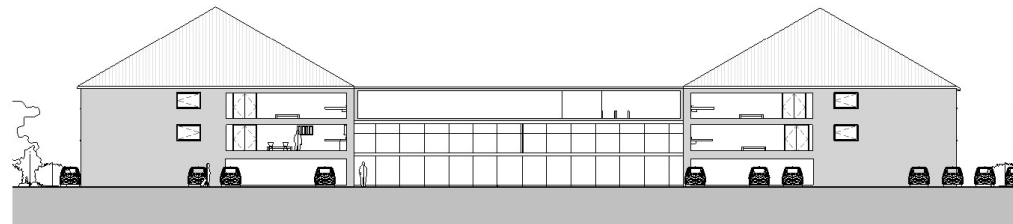




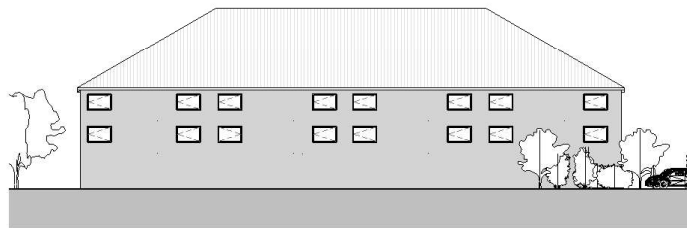
CLIENT			
Clients			
DRAWN BY A.H		CHECKED BY A.H	
		DATE 26/04/2021	
SCALE (@ A1) 1 : 200		PROJECT NUMBER 1	
DRAWING NUMBER A100			REV



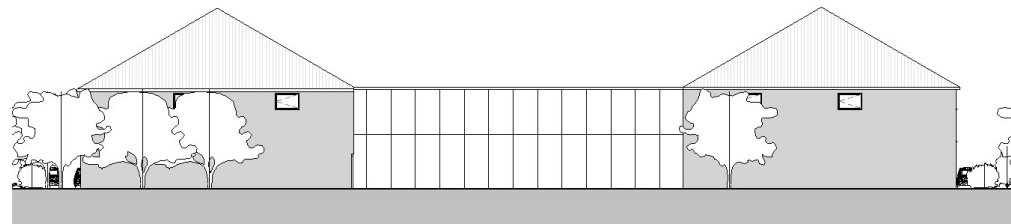
1 01 - Right Elevation
1 : 200



4 04 - Front Elevation
1 : 200



3 03 - Left Elevation
1 : 200



2 02 - Rear Elevation
1 : 200

Rev	Description	Date

CODE SUITABILITY DESCRIPTION

STATUS PURPOSE OF ISSUE

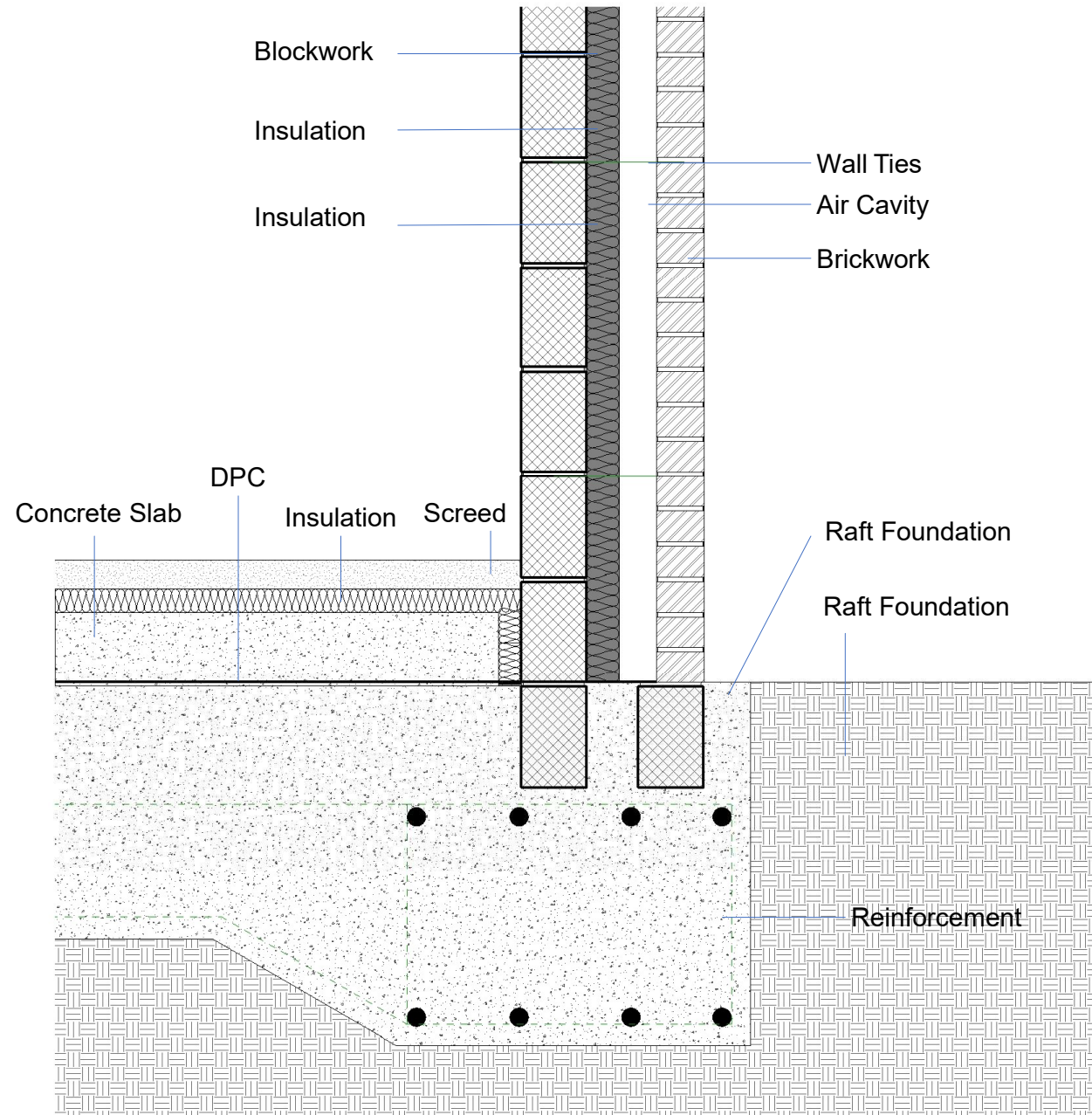


PROJECT Student Accomodation Project

TITLE Elevations

CLIENT Clients

DRAWN BY Author	CHECKED BY Checker	DATE 04/21/21
SCALE (@ A1) 1 : 200	PROJECT NUMBER 1	
DRAWING NUMBER A101	REV	



1 Section 1 - Callout 1
1:5

Rev	Description	Date

CODE	SUITABILITY DESCRIPTION
STATUS	PURPOSE OF ISSUE



PROJECT
Student Accomodation Project

TITLE
Wall & Floor Detail

CLIENT
Clients

DRAWN BY Author	CHECKED BY Checker	DATE 04/21/21
SCALE (@ A1) 1:5	PROJECT NUMBER 1	REV
DRAWING NUMBER A102		

Project ID : Online
Structure element : Wall
Description : Brick and block cavity wall, partial fill, 2.5 ties per m², cavity less than or equal to 125mm
File reference : 1E13224D81.FCF

Calculated 'U' value = 0.18W/m²K (Calculated in accordance with BS EN ISO 6946:2017)

Condensation risk has been assessed up to and including Level 4 Humidity Class (dwellings with high occupancy) within UK worst case environmental conditions.

Element Description	Element Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Vapour Resistivity (MN/gm)	Vapour Resistance (MN/g)	Mean T (K)	Delta T (K)
Outside surface resistance	-	-	0.040	-	-	78.26	0.10
BRICKWORK FACING	102.5	0.770	0.133	42.00	4.31	78.48	0.34
UNV. A/SPACE;	50.0	-	0.665	-	0.05	79.51	1.72
KOOLTHERM K108	70.0	0.018	3.889	-	100.00	85.39	0.04
AERATED BLOCK (k-value = 0.15 W/mK) 6.6% Mortar (100.0mm)	100.0	0.150	0.667	45.00	4.50	91.27	1.72
PLASTER DABS CAVITY. 20.0% Plaster dabs (15.0mm)	15.0	-	0.180	-	0.05	92.37	0.47
PLASTERBOARD	12.5	0.190	0.066	50.00	0.63	92.69	0.17
PLASTER SKIM	3.0	0.180	0.017	60.00	0.18	92.79	0.04
Inside surface resistance	-	-	0.130	-	-	92.98	0.34

Detailed U-value Calculation Results

Construction includes 3 bridged layers.

Non-bridged layers

Outside surface resistance	0.040 m²K/W
BRICKWORK FACING	0.133 m²K/W
UNV. A/SPACE;	0.665 m²K/W
KOOLTHERM K108	3.889 m²K/W
PLASTERBOARD	0.066 m²K/W
PLASTER SKIM	0.017 m²K/W
Inside surface resistance	0.130 m²K/W
Resistance of non-bridged layers, R _{nb} =	4.940 m²K/W

Project ID : Online
Structure element : Solid Ground floor
Description : Solid ground floor (insulation beneath screed / concrete slab)
File reference : 1Q135R4502.FCF

Calculated 'U' value = 0.17W/m²K (Calculated in accordance with BS EN ISO 13370:2007)

Condensation risk has been assessed up to and including Level 4 Humidity Class (dwellings with high occupancy) within UK worst case environmental conditions.

Element Description	Element Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Mean T (K)	Delta T (K)
Inside surface	-	-	0.170	92.89	0.53
SAND CEMENT SCREED	65.0	1.400	0.046	92.55	0.14
POLYTHENE SEPARATION LAYER	0.5	-	0.001	92.48	0.00
KOOLTHERM K103	80.0	0.018	4.444	85.57	3.81
CONCRETE 1:2:4 2000 kg/m³	150.0	1.400	0.107	78.50	0.33
DAMP PROOF MEMBRANE	0.9	-	0.001	78.33	0.00
Ground	-	-	0.040	78.27	0.12

Ground Floor Details

Calculation method	: Perimeter / Area (As defined in BRE IP 3/90)
Perimeter	: 0.00m
Area	: 0.00m²
P/A	: 0.500
Floor type	: Solid floor
Earth conductivity	: 2.000W/mK
Soil type	: Sand or Gravel

Detailed U-value Calculation Results

Total resistance of solid ground floor

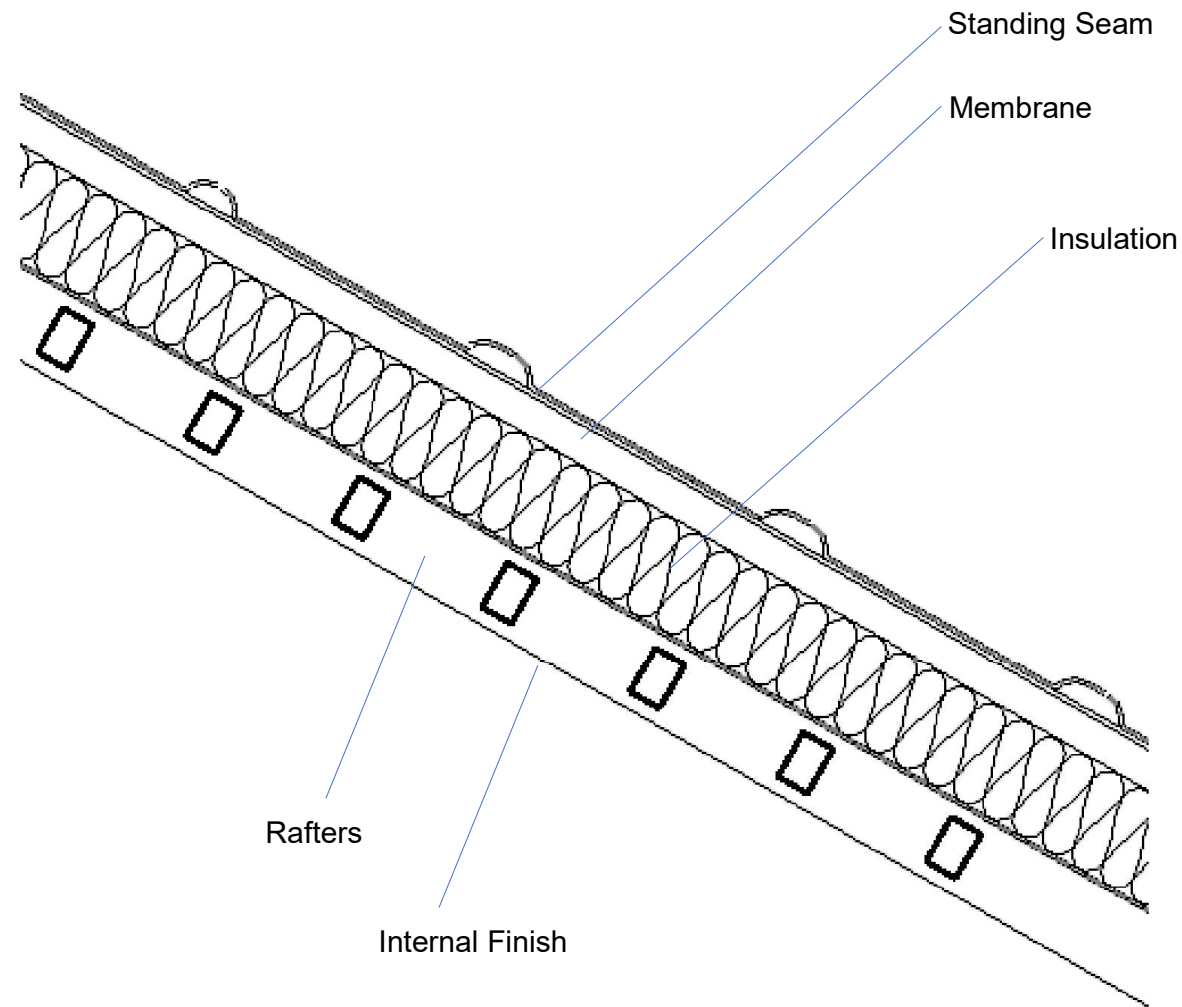
$$R_t = (R_{upper} + R_{lower}) / 2 = (4.810 + 4.810) / 2 = 4.810 \text{ m}^2\text{K/W}$$

(Correction for mechanical fasteners, Delta Uf = 0.0000W/m²K | Correction for air gaps, Delta Ug = 0.0000W/m²K)

(Alpha 0.0 m⁻¹ | Fasteners per square metre 0.0000)

(Fasteners cross-sectional area 0.000 mm² | Thermal conductivity of fastener 0.00 W/mK)

(Delta Uf + Delta Ug) is less than 3% of (1 / Rt) so U = (1 / Rt) = 0.17W/m²K



Rev	Description	Date

CODE	SUITABILITY DESCRIPTION
STATUS	PURPOSE OF ISSUE



PROJECT
Student Accomodation Project

TITLE
Roof Detail

CLIENT
Clients

DRAWN BY Author	CHECKED BY Checker	DATE 04/26/21
SCALE (@ A1)	PROJECT NUMBER 1	REV
DRAWING NUMBER A103		

Project ID : Online
Structure element : Pitched or mansard roof, ceiling at line of pitch
Description : Warm pitched roof - 41-60mm insulation above rafters
File reference : 1E11C17197.FCF

Calculated 'U' value = 0.17W/m²K (Calculated in accordance with BS EN ISO 6946:2007)

Condensation risk has been assessed up to and including Level 4 Humidity Class (dwellings with high occupancy) within UK worst case environmental conditions.

Element Description	Element Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Vapour Resistivity (MNs/gm)	Vapour Resistance (MNs/g)	Mean T (K)	Delta T (K)
Outside surface resistance	-	-	0.104	-	-	78.32	0.23
TILES / SLATES ON BATTENS ; PITCHED ROOF.	30.0	-	0.000	-	0.00	78.44	0.00
COUNTER BATTEN CAVITY	38.0	-	0.000	-	0.00	78.44	0.00
KINGSPAN NILVENT.17 BREATHABLE MEMBRANE	0.5	-	0.006	-	0.25	78.45	0.01
KOOLTHERM K7 - FIXED ABOVE RAFTERS IN A CONTINUOUS LAYER	60.0	0.020	3.000	-	100.00	81.78	6.65
KOOLTHERM K7 - BETWEEN TIMBER RAFTERS 12.7% roof timber - 47mm @ 400mm ctrs + 1% for noggins + loft hatches (60.0mm)	60.0	0.020	3.000	-	100.00	88.43	6.65
TIMBER RAFTER CAVITY; U/V. 12.7% roof timber - 47mm @ 400mm ctrs + 1% for noggins + loft hatches (90.0mm)	90.0	-	0.444	-	0.05	92.25	0.98
POLYTHENE VAPOUR CONTROL LAYER	0.5	-	0.001	-	500.00	92.74	0.00
PLASTERBOARD	12.5	0.190	0.066	50.00	0.63	92.82	0.15
PLASTER SKIM	3.0	0.180	0.017	60.00	0.18	92.91	0.04
Inside surface resistance	-	-	0.100	-	-	93.04	0.22

Detailed U-value Calculation Results

Construction includes 2 bridged layers.

Non-bridged layers

Outside surface resistance	0.104 m²K/W
KINGSPAN NILVENT.17 BREATHABLE MEMBRANE	0.006 m²K/W
KOOLTHERM K7 - FIXED ABOVE RAFTERS IN A CONTINUOUS LAYER	3.000 m²K/W
POLYTHENE VAPOUR CONTROL LAYER	0.001 m²K/W
PLASTERBOARD	0.066 m²K/W
PLASTER SKIM	0.017 m²K/W
Inside surface resistance	0.100 m²K/W
Resistance of non-bridged layers, R_{NB} =	<u>3.294 m²K/W</u>



1 01 - Ground Level Location Plan
1 : 2500

Rev	Description	Date

CODE	SUITABILITY DESCRIPTION
STATUS	PURPOSE OF ISSUE



PROJECT
Student Accomodation Project

TITLE
Location Plan

CLIENT
Clients

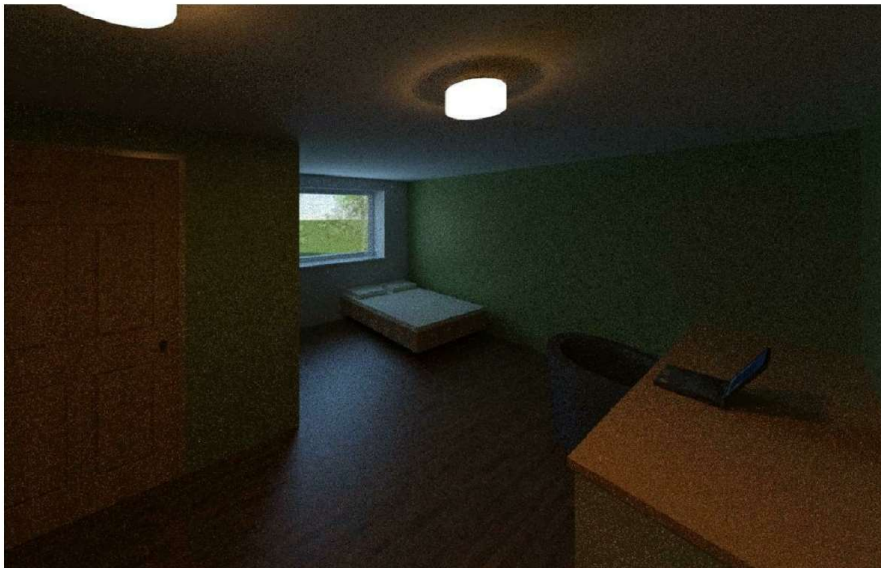
DRAWN BY Author	CHECKED BY Checker	DATE 04/26/21
SCALE (@ A1) 1 : 2500	PROJECT NUMBER 1	REV
DRAWING NUMBER A104		



1 3D View 1 external
1:1



2 3D View 2 external
1:1



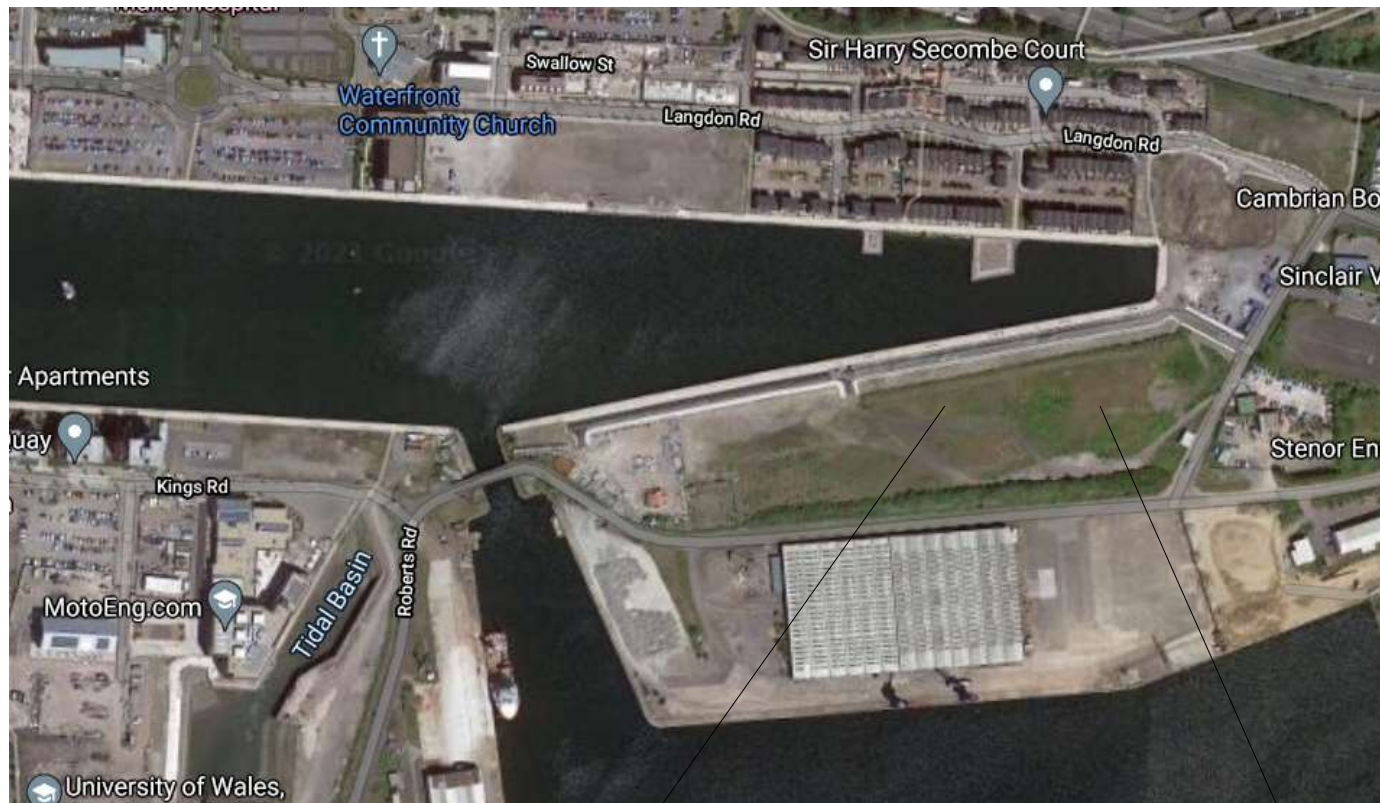
3 3D View Bedroom
1:1



4 3D View kitchen
1:1

Rev	Description	Date

CODE	SUITABILITY DESCRIPTION		
STATUS	PURPOSE OF ISSUE		
 AUTODESK www.autodesk.com/revit			
PROJECT Student Accomodation Project			
TITLE Rendered Views			
CLIENT Clients			
DRAWN BY Author	CHECKED BY Checker	DATE 04/26/21	
SCALE (@ A1) 1 : 1	PROJECT NUMBER 1		
DRAWING NUMBER A106			REV



1:50 000 scale superficial deposits description:

Marine Beach Deposits - Sand. Superficial Deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by shorelines (U).

Setting: shorelines (U). These sedimentary deposits are shallow-marine in origin. They are detrital, generally coarse-grained forming beaches and bars in a coastal setting.

1:50 000 scale bedrock geology description:

South Wales Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone. Sedimentary Bedrock formed approximately 318 to 319 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas.

Setting: swamps, estuaries and deltas. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).