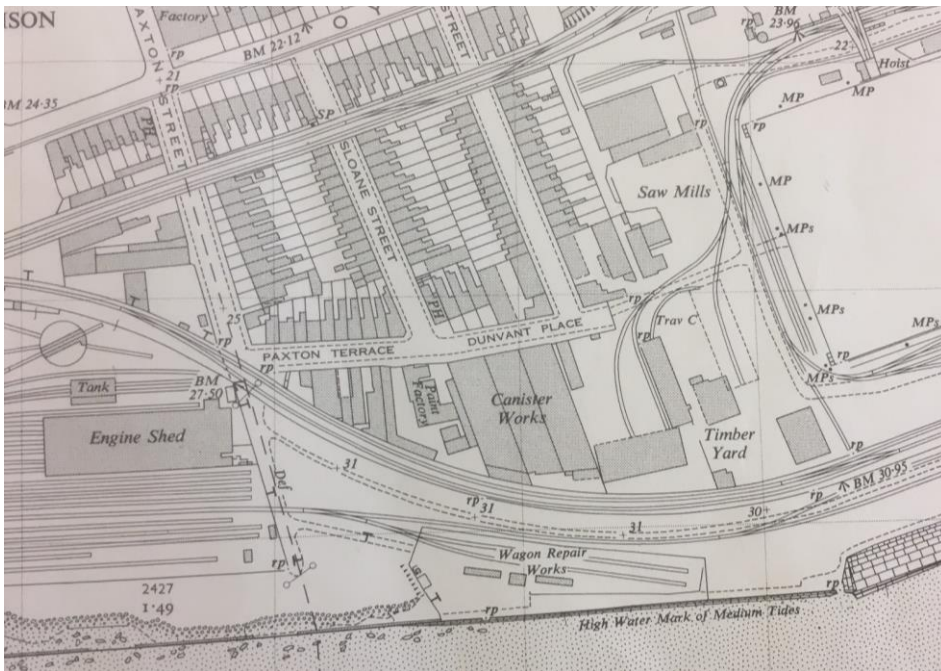




Swansea Foreshore Ice-
Cream Parlour
Andrew Hillier (P104142)
Construction Technology 1

PART 1

Desk top study and preliminary observations

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1.0 Introduction

1.1 General

This desk top study and site assessment is at the request of the City and County of Swansea and the Marriott Hotel. The land in question is located on the Swansea Marina front between the County Hall and Marriott Hotel.

This report contains initial investigations of the following, based on readily available data:

- Site location and use (current and historical)
- Environmental investigations
- Physical site inspection
- Proposals for further investigation

The findings of this report will be used to aid in the production of drawings, proposing suitable foundations, material choices and building elements.

This report is based on desk top research and should be reviewed following further intrusive site investigations.

1.2 Proposed Development

The proposed development is to create a new restaurant, ice-cream parlour and manager's apartment on the foreshore location. The building is to share parts of the car park of both County Hall and the Marriott Hotel. The building is to have a GIA of 300 m² at ground floor level. This containing the restaurant, café bar, ice-cream parlour, kitchen and food stores. At first and second floor levels there is to be a self-contained manager's apartment and staff welfare facilities. These are to have a notional GIA of approximately 150m².

2.0 The Site

2.1 Location and Description

The site is located east of the marina South Dock area, OS grid reference SS 65390 92286, as shown in Figure 1.

Strict site boundaries are not defined and the proposed area covers approximately 0.5 hectares. The only strict site boundary is dictated by the pedestrian promenade to the south of the site. The nearest OS benchmark reading found shows the site as 5.8m AOD (at SS 6500 9260).

The site spans the two car parks shown in Figure 1 as well as a foot path and vehicular access to the promenade. There is also a raised seating area on one of the dunes.

2.2 Surrounding Land Use

The car parks of County Hall and the Marriott border the north, east and west of the site. There is pedestrian promenade to the south. There is further council car parking to the north across the closest road which is Duvant Place.

3.0 Site History

Through accessing the West Glamorgan Archives and searching through the map records of the British Geological Survey, an overview of the site history since 1846 can be traced. Images these maps and documents can be found in Appendix A.

Table 1: Maps		
Map Source	Scale	Dates
British Geological Survey	NTS (Screen shot from online database)	1846, 1872, 1907, 1940, 1972, 2011
Ordnance Survey	1:2500	1951
City of Swansea	1:2500	1982

The 1846 map shows the harbour area with a single rail road running the length of the coast, and an infirmary shown near to the proposed site area. By 1872 the dock now known as South Dock has been developed although it is unclear to see any further development on the site.

The 1907 map shows evidence of further industrialisation of the site area, with increased rail lines and more buildings located in the area. This is further supported by images from 1900-1920 showing the dock, factories and built up railway track.

The 1951 Ordnance Survey map shows a clear image of the layout of the site and surrounding areas. There is a wagon repair works shown on the site, with neighbouring businesses including the engine shed, canister works, paint factory, timber yard and saw mill all nearby. There are also numerous railway tracks crossing the site and a build-up in the sea defences. There are terraced houses to the North along Paxton St, Sloane St, Paxton Terrace and Dunvant Place.

By 1972 the site is still in use as an industrial area with no evidence of the hotel or Civic Centre.

Moving to 1982 the proposed areas of development for the hotel to the east and car park to the north can be seen. It was also in 1982 that the Civic Centre opened to the east.

There is no evidence of further development of the site through to 2011 following the construction of the Marriott and Civic Centre. It can be seen looking at the latest OS map that a footpath leading from Dunvant Place through to the promenade in between to the two car parks is the only major development.

4.0 Environmental Information

4.1 Mining

A readily available Coal Authority report was not available and will have to be ordered.

4.2 Geology

The 1:50,000 British Geological Survey online maps describe both site bedrock and superficial geology, shown in Appendix B.

The site bedrock is shown as South Wales Middle Coal Measures Formation – Mudstone, Siltstone and Sandstone. Sedimentary bedrock formed approximately 310 to 318 million years ago in the Carboniferous Period.

The superficial geology of the site is Blown Sand. This consists of sand and superficial deposits formed up to 3 million years ago in the Quaternary Period.

Given the recent construction works undertaking in developing the area in the past 30-40 years, it is reasonable to assume the existing site contains a certain amount of made ground.

This is further supported by a copy of a borehole investigation taken from the proposed County Hall development, shown in Appendix B.

4.3 Hydrogeology & Flood Risk

The proposed site is located approximately 6m from the coastal defences across the promenade. No immediate flood risk warnings are present upon checking the NRW mapping service. There are no publicly available written reports covering the site area.

A summary of the site hydrogeology is shown in Table 2. Information taken from a Hydrogeology of Wales 2016 report by British Geological Services.

Table 2: Site hydrogeology	
Geological feature	Aquifer Characteristics
Made Ground	Highly variable permeability and porosity. Perched water may be present with variable flow directions.
Blown Sand	Variable moderate permeability and porosity with intergranular flow possible.
South Wales Middle Coal Measures Formation	Variable permeability coal bearing sandstones, mudstones/siltstones.

4.4 Potential Contamination

Based on the previous industrial buildings surrounding the site up until 1970 there may have been some elements of ground or water contamination. This could include metals, asbestos and chemicals.

The introduction of made ground and land remodelling for the Civic Centre and Marriott hotel developments is likely to have removed a certain amount any previously contaminated land close to the surface.

5.0 Site Visit Preliminary Observations

The site spans the two adjacent car parks as well as a raised seating area and public footpath. All photographs referenced can be found in Appendix C.

Located in the County Hall side are parking spaces, street lighting and surface water drains. The proposed site covers approximately 11 of the existing car parking bays in this car park. (IMG13, IMG17) The car park will need to be remodelled in order to accommodate the proposed development.

The central footpath leads from Dunvant Place to the promenade in between two built up grassy dunes. (IMG08, 09, 12) There is a public right of way connecting this footpath with the Marriott hotel to the east. Under the Highways Act 1980, a public right of way can be closed 'to enable development' by making an application under section 257 of the Town and Country Planning Act 1990. This is something that will need to be considered in the planning application for the project. (IMG18, IMG19)

To the east the proposed site covers approximately 13 of the existing car parking spaces as well as a raised seating area accessed by steps from within the Marriott site. The raised seating area is paved and has power supplies in the corners. (IMG01, 02, 03, 04) There is a vehicular access road leading from the Marriott car park to the promenade with a manual vehicle barrier present to prevent public access. (IMG07)

The promenade to the south of the site is approximately 6m wide and has street lighting at intervals, benches and waste bins along the front. (IMG14, 15) As the promenade meets the central footpath there is a manhole in centre of the path. Two further manholes can be seen rising up the grass dune to the West. (IMG10,11)

The grass dunes vary in height and contain a variety of flora including trees, bushes and grasses. These could provide a habitat for local fauna.

Appendix A

Available Site Investigation Data

Map record details

Map series	Geological Survey of England and Wales 1:63,360 geological map series [Old Series]
Sheet number	37
Sheet title	[The South-Western part of the Glamorgan Coalfield. Neath, Kidwelly, Llanelly, Swansea, Gower.]
Map type	Solid
Scale	1:63 360
Publication year	1846
Variant	1
Author statement	[W.E. Logan, H. De. La. Beche]
Published statement	[Geological information published 1846?]
View map	View map Request a paper map or scanned copy

Terms of use

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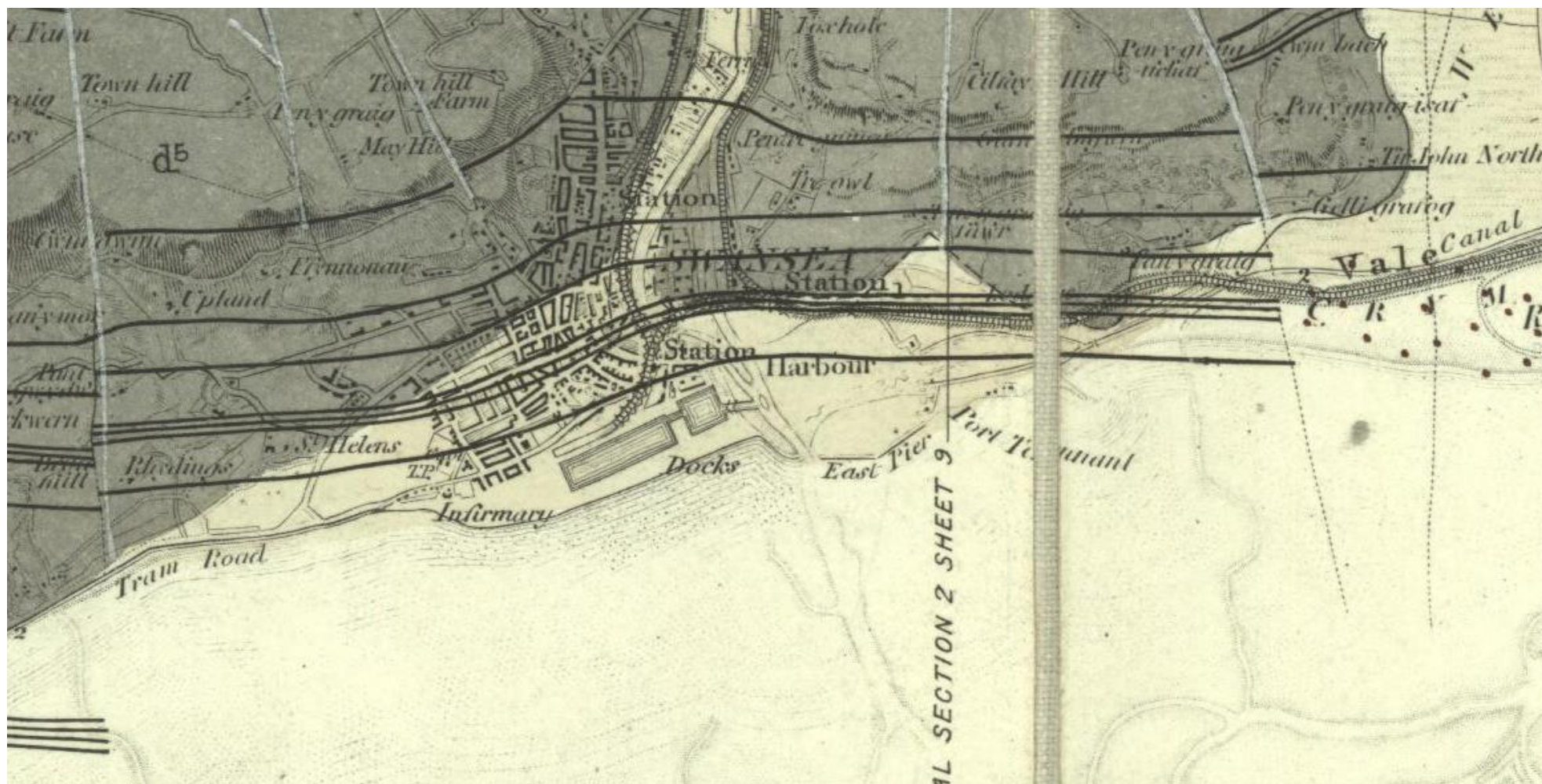


Map record details

Map series	Geological Survey of England and Wales 1:63,360 geological map series [Old Series]
Sheet number	37
Sheet title	[The South-Western part of the Glamorgan Coalfield. Neath, Kidwelly, Llanelly, Swansea, Gower.]
Map type	Solid
Scale	1:63 360
Publication year	1872
Variant	4
Author statement	Geologically surveyed by W.E. Logan & Sir H. De. La. Beche. Geological lines re-engraved with revisions by Horace B. Woodward on the South-east margin 1872
Published statement	[Geological information published] 1872
View map	View map Request a paper map or scanned copy

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1872

Map record details

Map series	Geological Survey of England and Wales 1:63,360/1:50,000 geological map series, New Series
Sheet number	247
Sheet title	Swansea.
Map type	Drift
Scale	1:63 360
Publication year	1907
Author statement	Original geological survey on the one-inch scale by Sir H.T. De la Beche, Sir W.E. Logan and D.H. Williams,published on sheet 37 Old Series before 1845. Resurveyed on the six-inch scale by A. Strahan, M.A., R.H. Tiddeman, M.A. (SW and SE parts), W. Gibson (NE corner), A. Strahan, M.A District Geologist.
Published statement	Published with Drift 1907. Published in color by the Director General Ordnance Survey... 1907.
View map	View map Buy direct from BGS Bookshop Request a paper map or scanned copy

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Swansea Foreshore Ice-Cream Parlour



1940

SS 6592.

1951.

PLAN SS 6592
(21.6/592)

ORDNANCE SURVEY

Scale: 1:2500 or 25344 inches to 1 Mile

PLAN SS 6592
(21.6/592)



Printed and Published by the Director General of the Ordnance Survey, Southampton, Surrey, 1951.
 PLAN SS 6592
 (21.6/592)

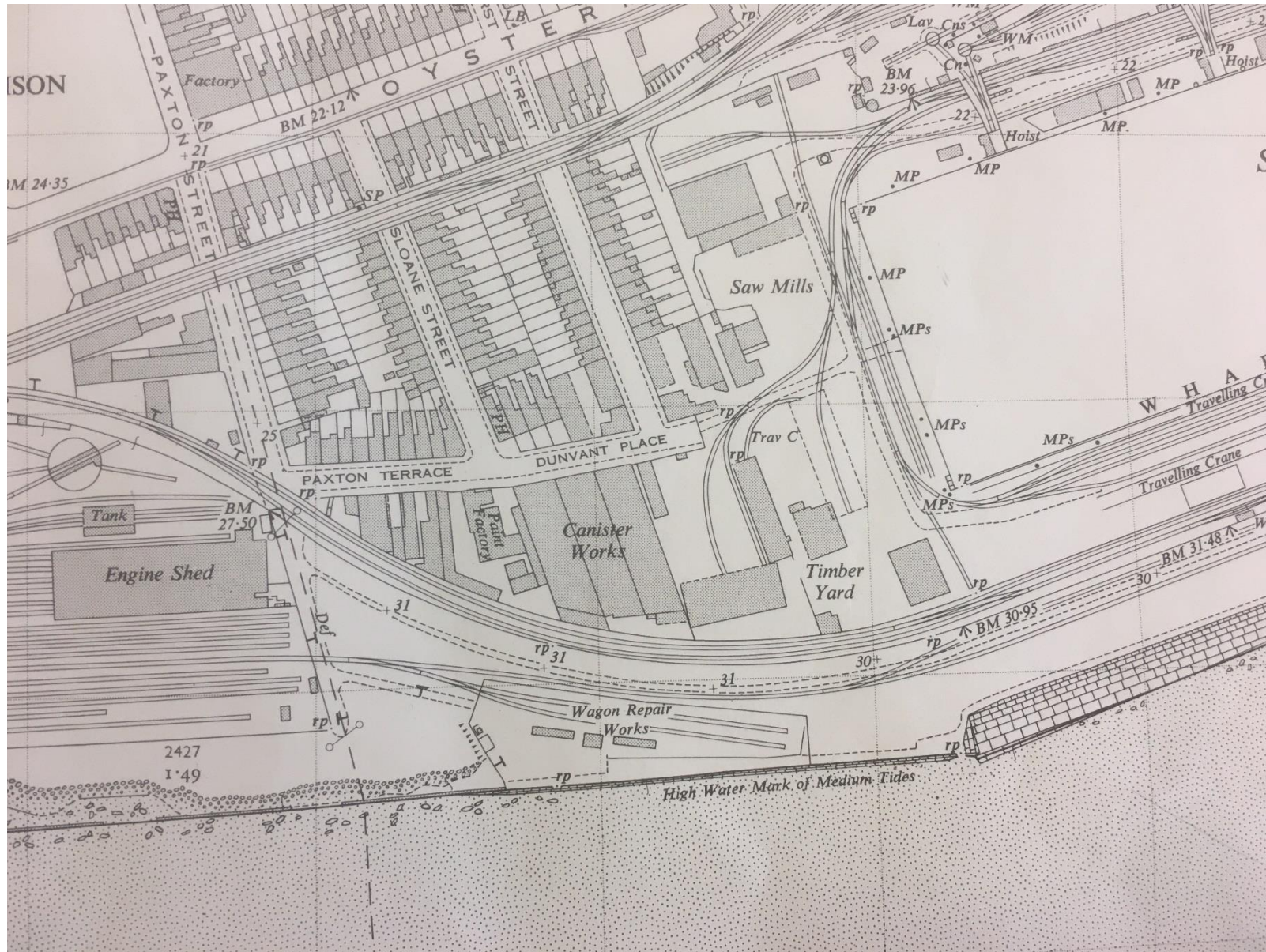
Date of Revision
 1/11/1950
 1/11/1950

1/11/1950	1/11/1950
1/11/1950	1/11/1950

The information on this plan is a result of a survey or
 inspection in the vicinity of the features of a right of way.
 It is not a plan of the features of a right of way.
 It is not a plan of the features of a right of way.
 It is not a plan of the features of a right of way.

1951

Swansea Foreshore Ice-Cream Parlour



1951
enlarged

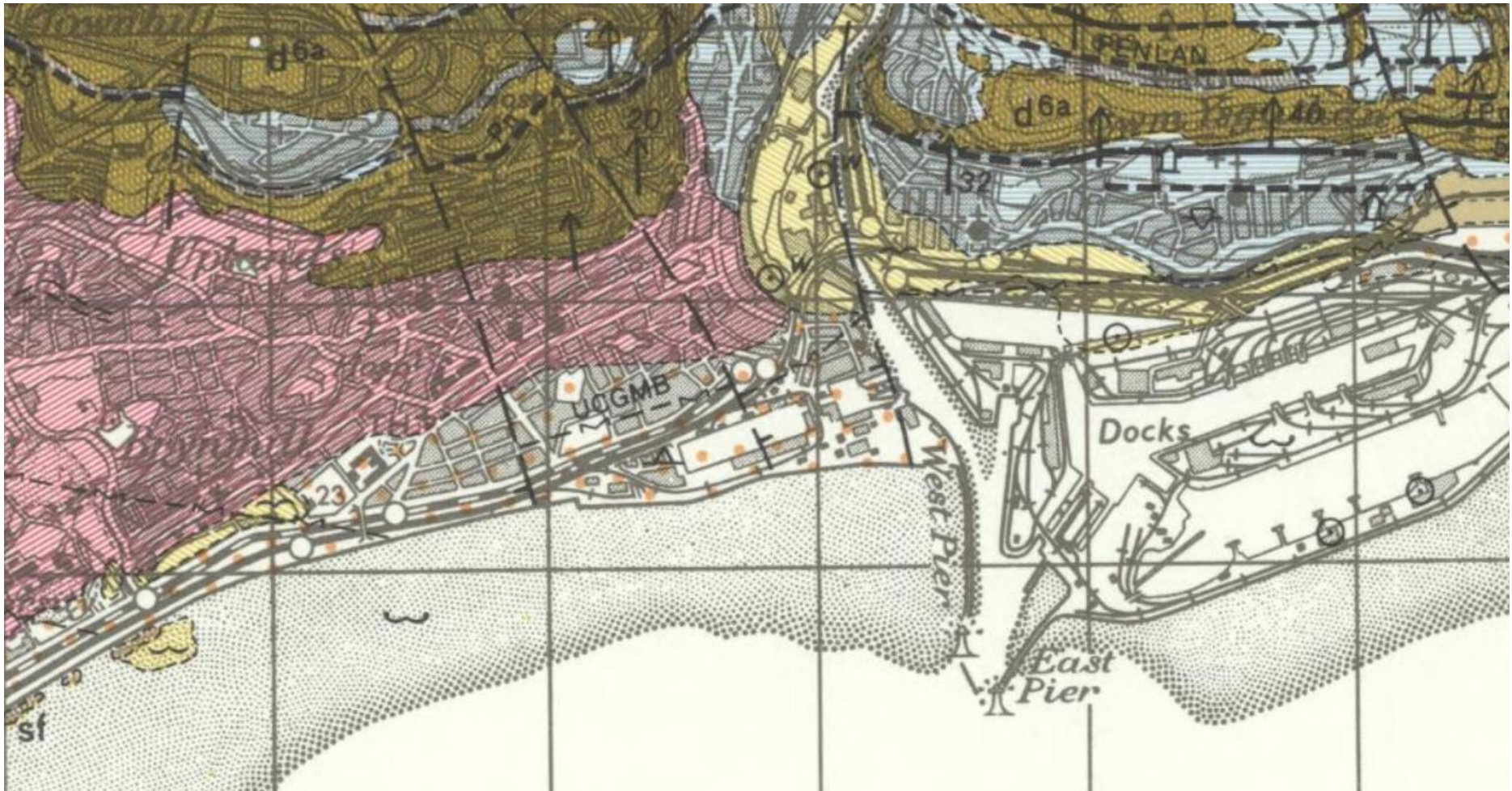
Map record details

Map series	Geological Survey of England and Wales 1:63,360/1:50,000 geological map series, New Series
Sheet number	247
Sheet title	Swansea.
Map type	Drift
Scale	1:63 360
Publication year	1972
Author statement	Original geological survey on the one-inch scale by Sir H.T. De la Beche, Sir W.E. Logan and D.H. Williams. Published on Old Series Sheet 37 before 1845. Surveyed on the six-inch scale by A. Strahan, R.H. Tiddeman, W. Gibson and S.B. Wilkinson in 1896-1902. Published on the one-inch scale colour-printed in Drift and Solid Editions in 1907. Resurveyed on the six-inch scale by J.V. Stephens, W.B. Evans, R.A. Downing and A.A. Archer in 1946-54; R.W. Pocock and V.A. Eyles, District Geologists.
Published statement	2nd colour printed edition published 1972. Print code: 3000/72.
View map	View map Buy direct from BGS Bookshop Request a paper map or scanned copy

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Swansea Foreshore Ice-Cream Parlour



1972

MARITIME QUARTER PROPOSALS	
 City of Swansea	Maurice Howell BA Msc Director of Planning The Guildhall Swansea SA1 4NL West Glamorgan Tel (0792) 50821
	Scale 1:2500 Drawn Date 16.12.82

Tel (0792) 50821

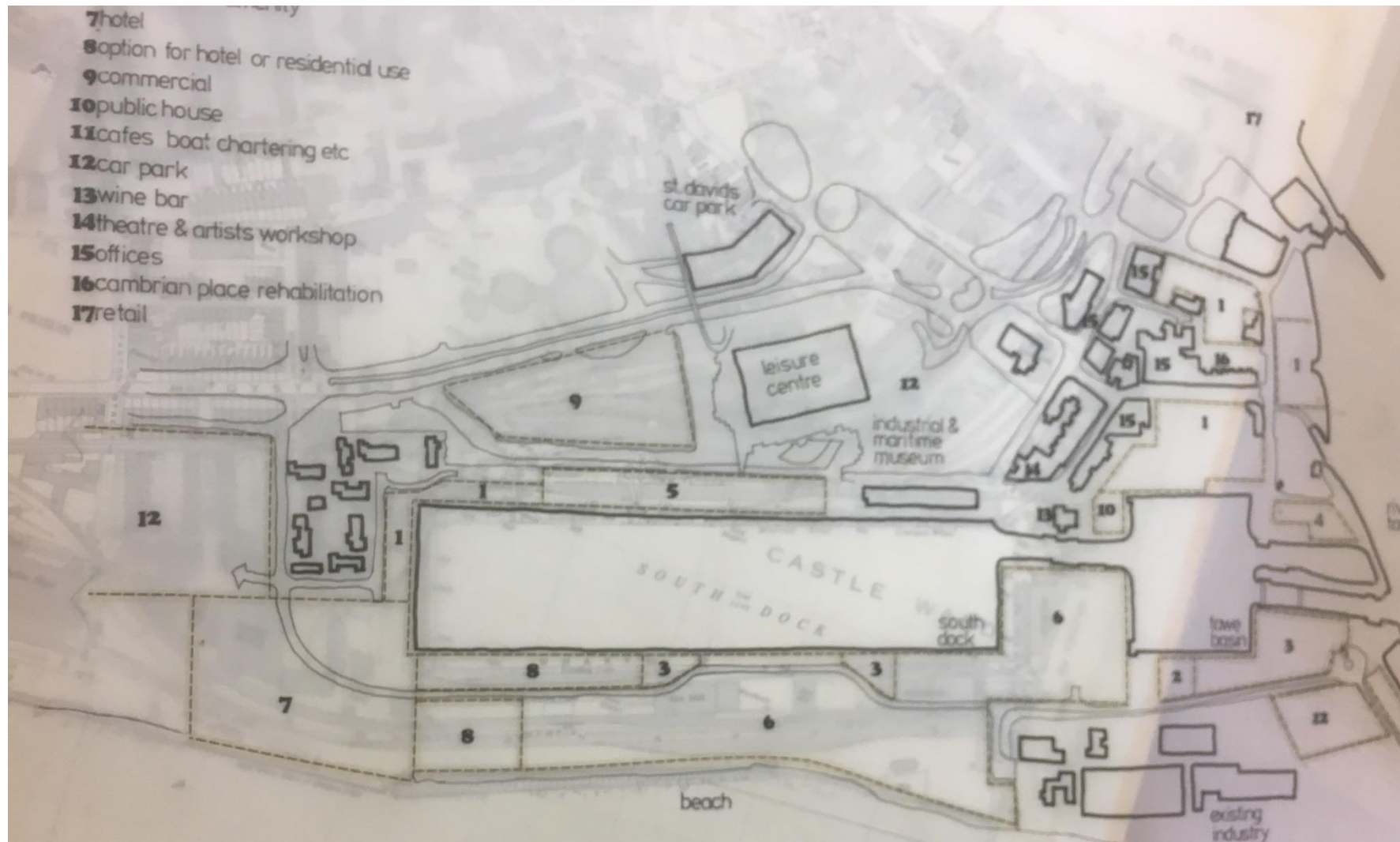
Drawn

2500

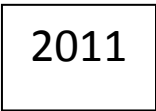
KEY

- 1 residential
- 2 light industrial
- 3 marina associated uses
- 4 possible boatel + mixed uses
- 5 mixed residential/commercial
- 6 residential + amenity
- 7 hotel
- 8 option for hotel or residential use
- 9 commercial
- 10 public house
- 11 cafes boat chartering etc
- 12 car park
- 13 wine bar
- 14 theatre & artists workshop
- 15 offices
- 16 cambrian place rehabilitation
- 17 retail

Swansea Foreshore Ice-Cream Parlour

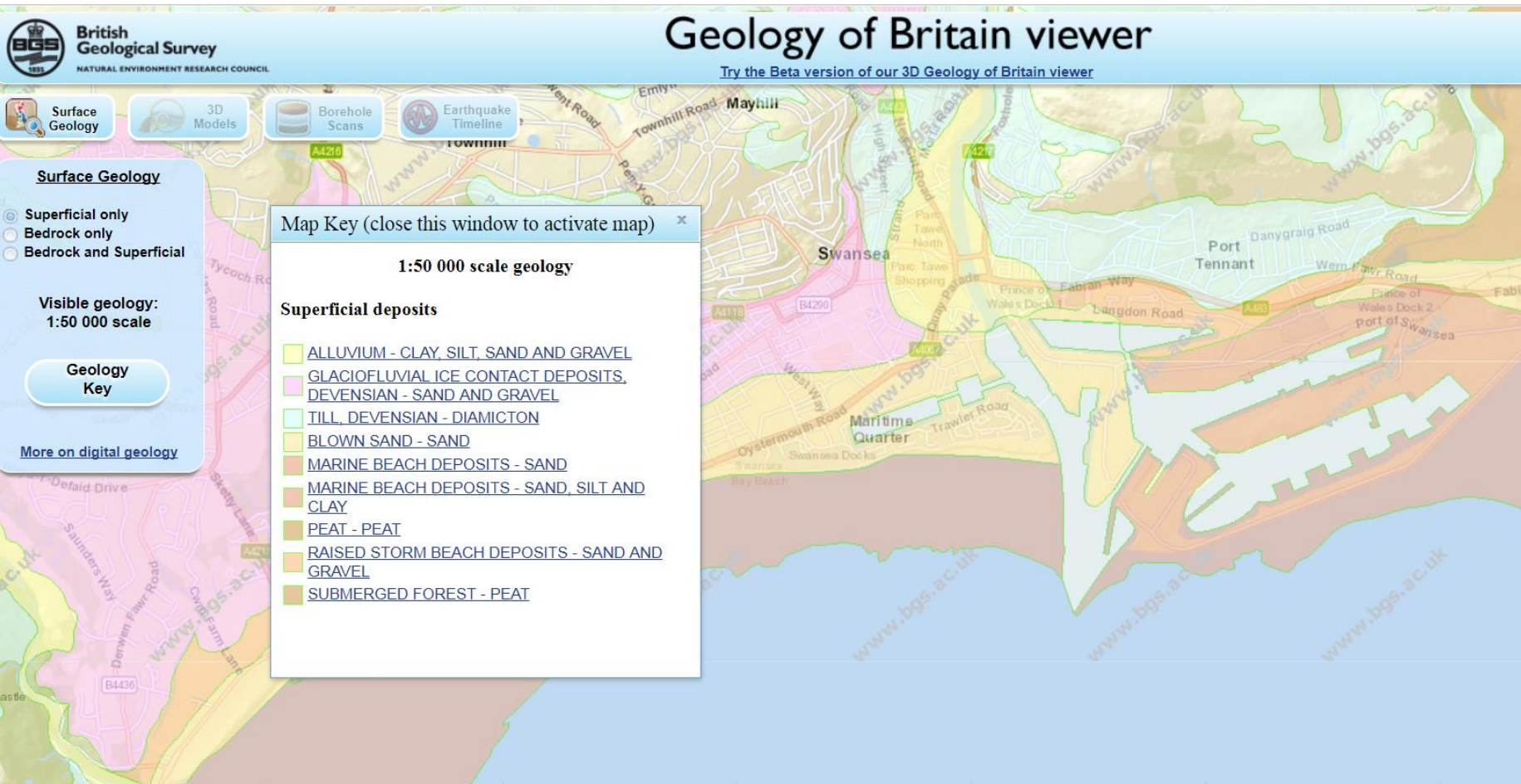


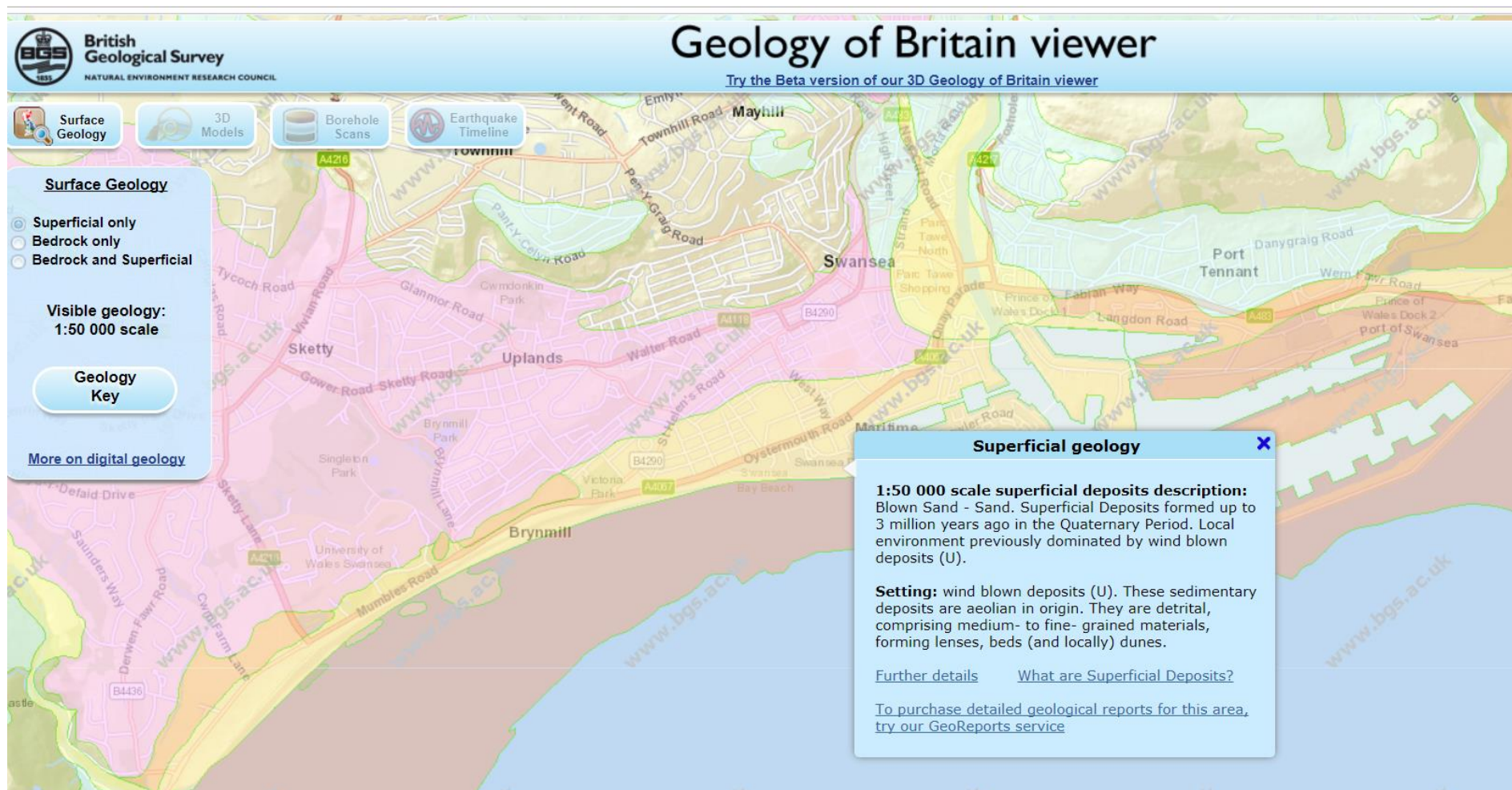
1982



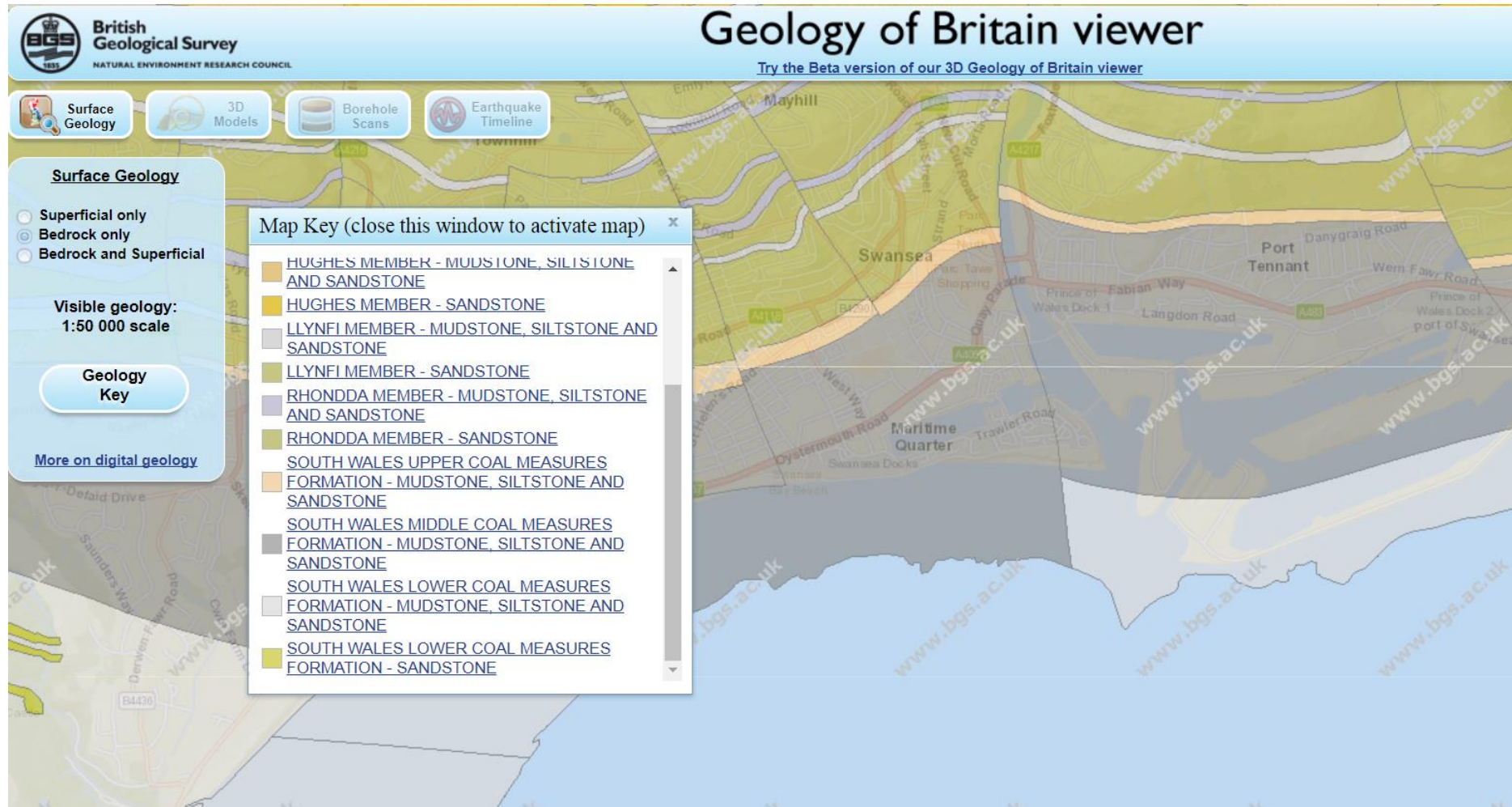
Appendix B

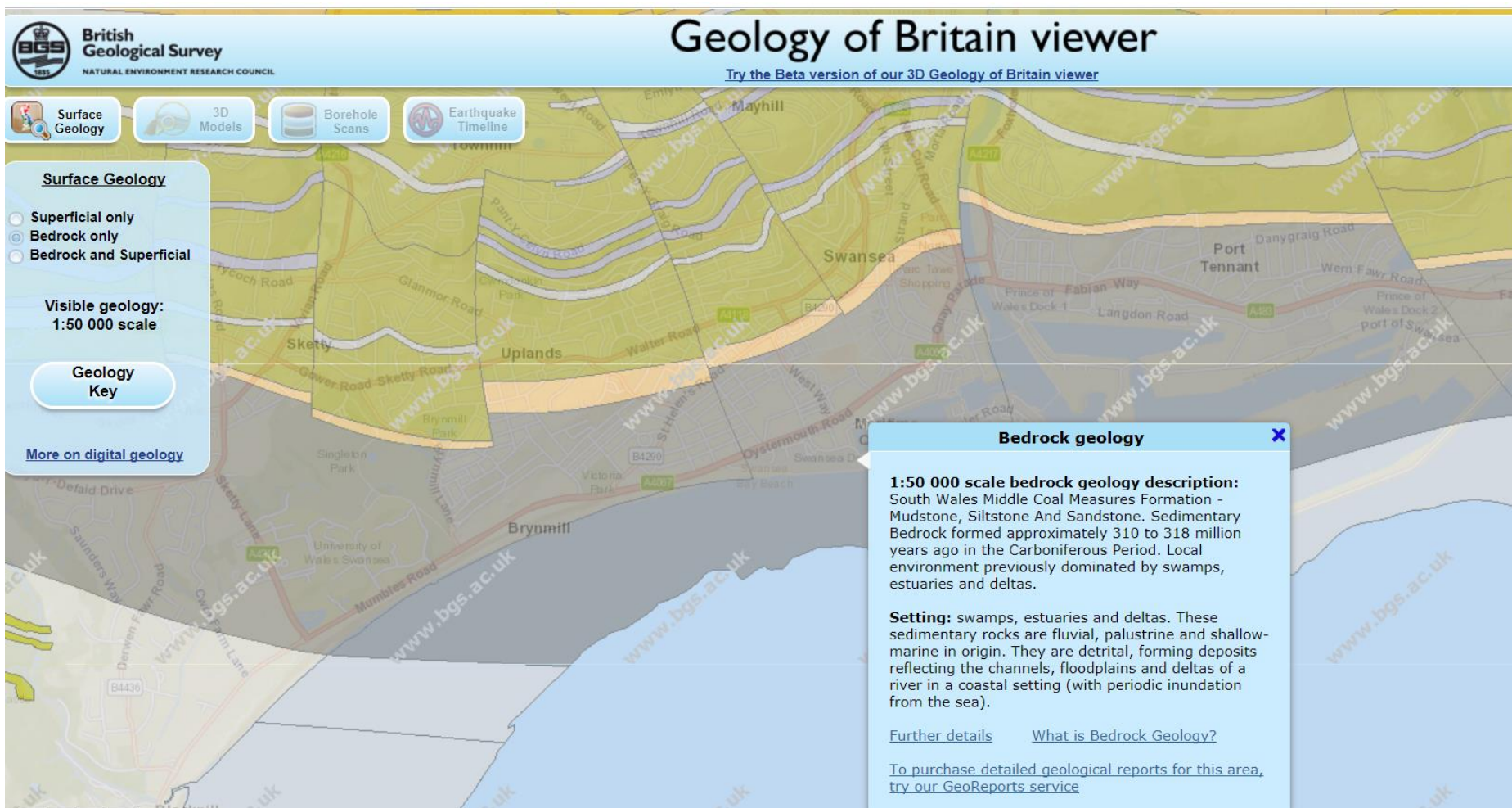
Available Site Investigation Data





Swansea Foreshore Ice-Cream Parlour





Swansea Foreshore Ice-Cream Parlour



DRILLING METHOD		GROUND LEVEL		BENCHMARK / GRID REFERENCE		BENCHMARK NUMBER	
Percussion 200 mm dia. to 15.0m Open hole rotary drilling From 15.0m		+ 9.15 m O.D.		SS 65390228		2	
Dando "Investigator"		Vertical		PROPOSED NEW COUNTY HALL PAXTON STREET SWANSEA			
SOIL SAMPLES DEPTH AND TYPE	DRILLING AND CASING PROGRESS	WHICH RECOVERY TO AND B.M. LEVEL	R. Q. D.	DESCRIPTION OF STRATA	THICKNESS m	O.D. LEVEL	SYMBOLIC LOG
1.00 P N=8	2.2.75	2.2.75	1.00	MADE GROUND consisting of cobbles.	0.50	5.8	
1.50 P N=8			1.50	MADE GROUND consisting of loose, light grey fine-medium sand.	1.00	6.8	
2.00 P N=8			2.00	MADE GROUND consisting of grey sand with layers of soft sandy clay.	1.05	7.8	
3.00 P N=8			3.00	MADE GROUND consisting of soft red-brown sand clay with brick shale.	0.55	8.3	
4.00 P N=75 for 150 mm			4.00	MADE GROUND consisting of dense bricks, oshes, sand and clay.	1.45	9.8	
5.00 P N=105 for 225 mm			5.00	Very dense brown sandy GRAVEL with traces of sandy clay.	2.05	11.8	
6.00 P N=75 for 150 mm	2.2.75	2.2.75	6.00	Very dense brown SAND with some gravel.	0.95	12.8	
7.00 P N=77			7.00	Stiff grey-brown gravelly BOULDER CLAY	3.05	15.8	
8.00 P N=34			8.00				
9.00 P N=67			9.00				
10.00 P N=65			10.00				
REMARKS: Borehole drilled by STRATA SURVEYS Ltd. Cheeshire. Scale 1:50 P= Standard Penetration Test N= Number of blows for 300 mm (unless otherwise stated) Borehole drilled from 4.0m to 15.0m							
WEST GLAMORGAN COUNTY COUNCIL COUNTY ENGINEER AND SURVEYOR'S DEPT.							

SITE					SHEET 2 OF 3		BENCHMARK NUMBER	
PROPOSED NEW COUNTY HALL PAXTON STREET SWANSEA					SS 65390228		2	
SOIL SAMPLED DEPTH AND TYPE	DRILLING AND CASING PROGRESS	WHICH RECOVERY TO AND B.M. LEVEL	R. Q. D.	DESCRIPTION OF STRATA	THICKNESS m	O.D. LEVEL	SYMBOLIC LOG	
11.00 P N=75 for 150 mm	6.2.75	6.2.75	11.00	Very stiff grey gravelly BOULDER CLAY	1.00	16.8		
12.00 P N=75 for 150 mm	7.2.75	7.2.75	12.00					
13.00 P N=75 for 150 mm			13.00					
14.00 CP N=75 for 150 mm			14.00					
15.00 CP N=105 for 225 mm	10.2.75	10.2.75	15.00					
16.50 CP N=75 for 150 mm			16.50					
18.00 CP N=75 for 150 mm			18.00					
19.50 CP N=75 for 150 mm			19.50					
20.00 CP N=75 for 150 mm			20.00					
21.00 CP N=75 for 150 mm			21.00					
REMARKS: P= Standard Penetration Test CP= Standard Penetration Test - solid cone N= Number of blows for 300 mm (unless otherwise stated)								
WEST GLAMORGAN COUNTY COUNCIL COUNTY ENGINEER AND SURVEYOR'S DEPT.								

Swansea Foreshore Ice-Cream Parlour

[illegible]

Appendix C

Site Visit Pictures



IMG01



IMG02



IMG03



IMG04



IMG05



IMG06



IMG07



IMG08

Swansea Foreshore Ice-Cream Parlour



IMG09



IMG10



IMG11



IMG12



IMG13



IMG14



IMG15



IMG16



IMG17



IMG18



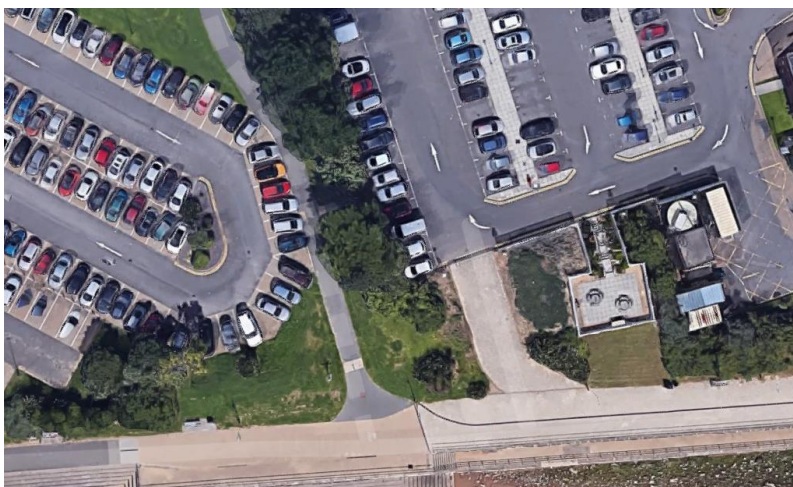
IMG19

Figure 1

Proposed Restaurant, Ice Cream Parlour and Manager's Apartment - Swansea foreshore.

THE SITE





Swansea Foreshore Ice-Cream Parlour

Andrew Hillier (P104142)
Construction Technology 1

PART 2

Further site investigation proposals

Further Site Investigation Proposals

Prior to any redevelopment of the site, a comprehensive intrusive investigation should be conducted across all areas of the site. This will allow any design of the proposed development to be made using accurate bespoke data on existing ground conditions. This will also allow a more accurate costing to be made.

Further site investigations should consider the following:

- Foundation design
- The extent of any ground remediation required prior to construction
- Control of groundwater
- Any Tree Protection Orders or other environmental restrictions in place

The further geological and environmental issues to be addressed are:

- Strata level foundation to be confirmed
- Extent of coal mining, if any
- Extent of any ground contamination
- Considerations for waste disposal
- The extent of any existing underground drainage and utilities

The techniques used to assist in obtaining this information should include:

- A topographic and underground utility service of the site area (*see drawing AH_001*)
- Trial pits to examine ground conditions and sample soil (*see drawing AH_002*)
- Drilling of boreholes to investigate deeper ground conditions (*see drawing AH_003*)
- Laboratory testing to properties of existing soil and the extent of any contamination
- A drainage survey of the wider site area (*see drawing AH_004*)
- Ground gas monitoring (*see drawing AH_005*)
- Groundwater sampling and investigation (*see drawing AH_006*)

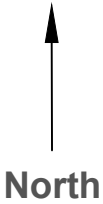


Scope of work - To carry out a topographic and underground utility survey of the area hatched **red** shown above.

Minimum survey requirements

- Site address
- OS co-ordinates of site centre (6 figures Easting and Northing)
- Site area in hectares
- Boundaries of survey clearly shown
- Position of all manholes and gullies with their likely use
- Surface finishes or materials e.g. Grass, concrete, paving etc.
- Bushes and trees including approximate height
- Existing underground utilities, location depth and type if known
- 2D and 3D Autocad Geo-Referenced drawing files

 PRIFYSGOL CYMRU Y Drindod Dewi Sant UNIVERSITY OF WALES Trinity Saint David University of Wales Trinity Saint David Mount Pleasant Campus Swansea SA1 6ED Tel: 01792 481000	Name: Andrew Hillier (P104142)	
	Client: CCOS/Marriott Hotel	
	Title: Foreshore Ice-Cream Parlour - Topo Survey Area	
	Scale: NTS	Date: 11/01/2018
Drawing No: AH001		Rev: A



Proposed trial pit location

All ground investigation to be carried out in accordance with BS 5930:2015 Code of practice for ground investigations

All laboratory testing to be carried out in accordance with BS 1377-2 :1990 methods of test for soils for engineering purposes



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Tel: 01792 481000

Name: Andrew Hillier (P104142)

Client: CCOS/Marriott Hotel

Title: Foreshore Ice-Cream Parlour - Trial Pits

Scale: NTS

Date: 11/01/2018

Drawing No: AH002

Rev: A

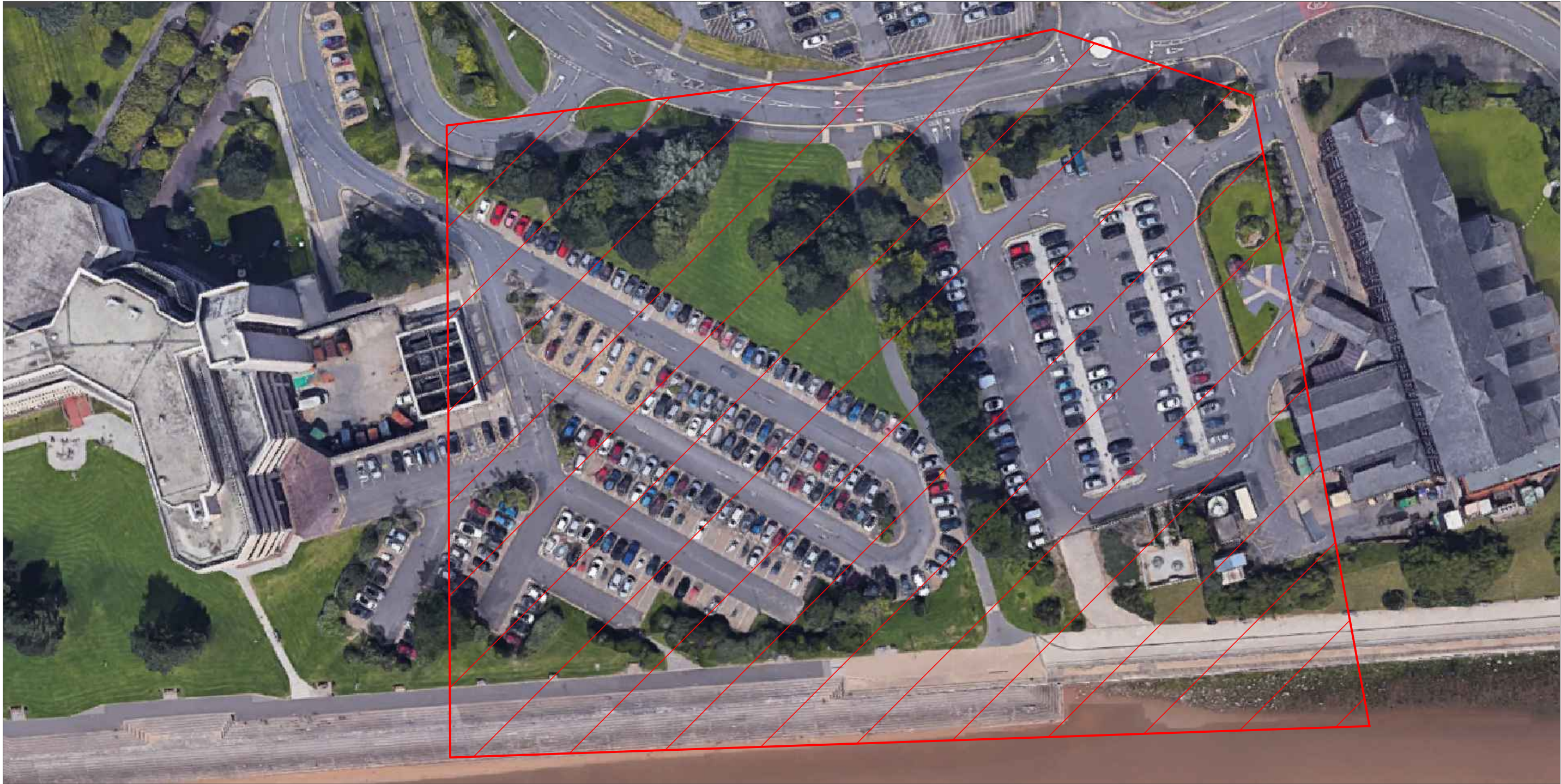
North

Proposed borehole location

All ground investigation to be carried out in accordance with BS 5930:2015 Code of practice for ground investigations



 PRIFYSGOL CYMRU Y Drindod Dewi Sant UNIVERSITY OF WALES Trinity Saint David University of Wales Trinity Saint David Mount Pleasant Campus Swansea SA1 6ED Tel: 01792 481000	Name: Andrew Hillier (P104142)	
	Client: CCOS/Marriott Hotel	
	Title: Foreshore Ice-Cream Parlour - Boreholes	
	Scale: NTS	Date: 11/01/2018
	Drawing No: AH003	Rev: A

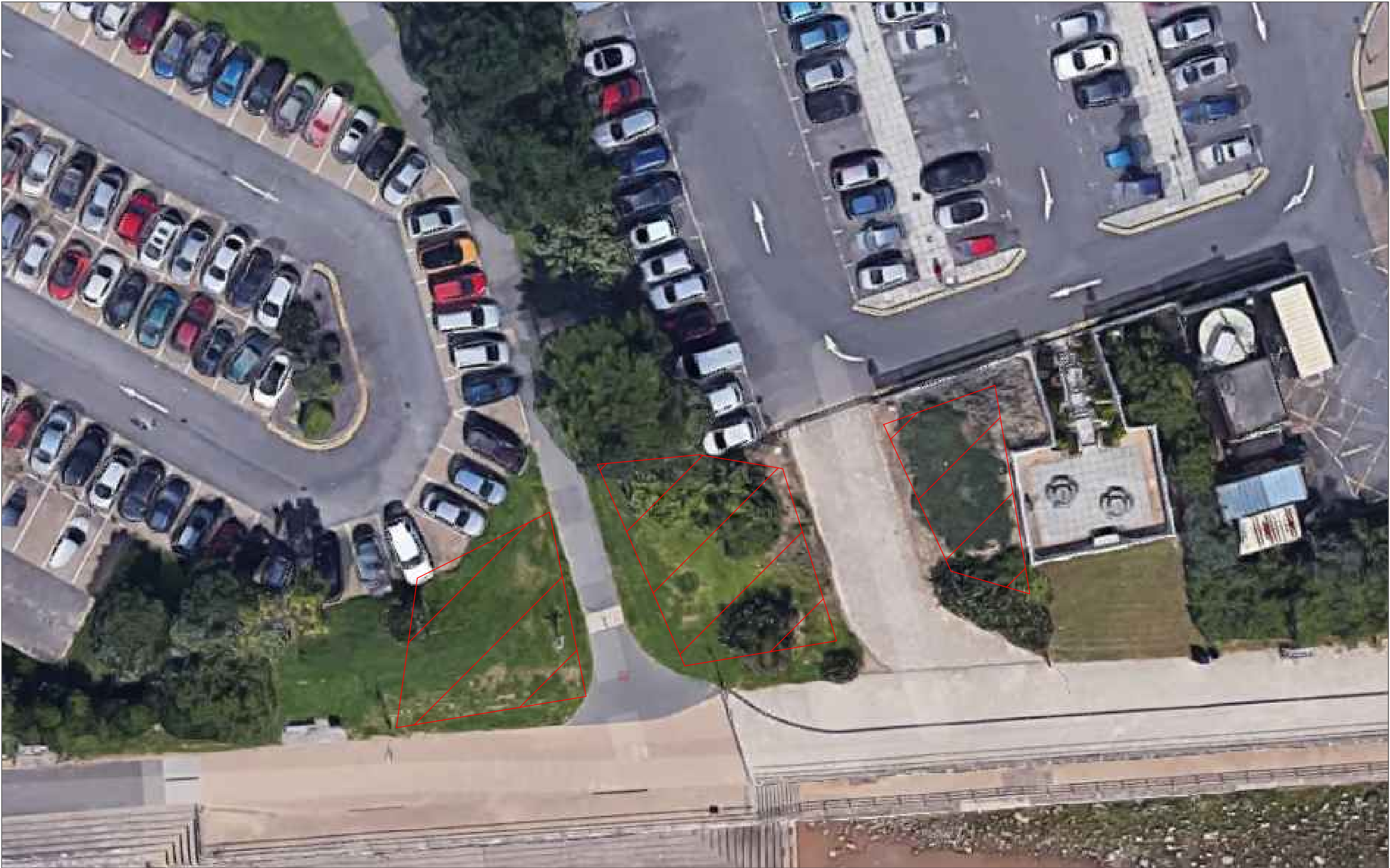
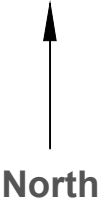


Scope of work - To carry out CCTV drainage survey to the wider site area hatched **red** shown above.

Minimum survey requirements

- CAD drawings mapping the network of drainage system locations
- The ownership e.g. Water company/private
- Report on the structural condition and any mis-connections or blockages
- DVD footage and still images of all lines surveyed
- Recommendations to fix any areas that will impact the proposed construction/site
- Any new proposals to conform to BS EN 1610:1998 (Construction and testing of drains and sewers)

 PRIFYSGOL CYMRU Y Drindod Dewi Sant UNIVERSITY OF WALES Trinity Saint David University of Wales Trinity Saint David Mount Pleasant Campus Swansea SA1 6ED Tel: 01792 481000	Name: Andrew Hillier (P104142)	
	Client: CCOS/Marriott Hotel	
	Title: Foreshore Ice-Cream Parlour - Drainage Survey	
	Scale: NTS	Date: 11/01/2018
Drawing No: AH004		Rev: A



Scope of work - To undertake ground gas monitoring of the areas hatched **red** shown above.

Minimum survey requirements

- By using an infrared gas meter measure the concentrations of Carbon Dioxide (CO₂), Methane (CH₄) and Oxygen (O₂) or other gases in percentage by volume.
- Monitoring to be undertaken in conjunction with trial pit and borehole inspections
- Report on an potential risks identified during the monitoring process
- Carry out all investigation in accordance with BS 8576:2013 (Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs))



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Name: Andrew Hillier (P104142)	
Client: CCOS/Marriott Hotel	
Title: Foreshore Ice-Cream Parlour - Gas monitoring	
Scale: NTS	Date: 11/01/2018
Drawing No: AH005	Rev: A



Scope of work - To carry out groundwater sampling in the area hatched **red** shown above.

Minimum survey requirements

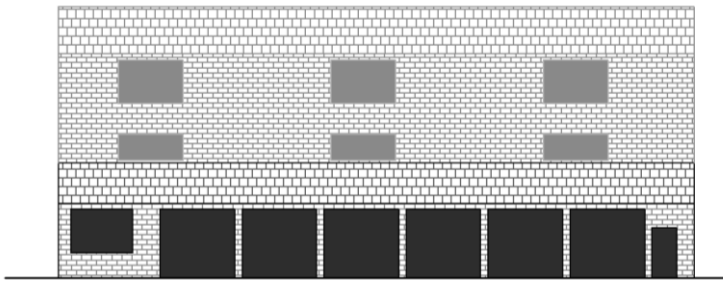
- Identify any contamination of aquifers caused by potentially hazardous surface or sub-surface activities
- Establish whether migration of contaminants is occurring in order to assess the impact on groundwater quality
- Develop an understanding of groundwater quality and flow variations
- Carry out investigations with BS 5930:2015 (Code of practice for ground investigations)
- Carry out investigations in accordance with BS ISO 5667-11:2009 (Water quality. Sampling. Guidance on sampling of groundwaters)



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Name: Andrew Hillier (P104142)	
Client: CCOS/Marriott Hotel	
Title: Foreshore Ice-Cream Parlour - Ground water survey	
Scale: NTS	Date: 11/01/2018
Drawing No: AH006	Rev: A

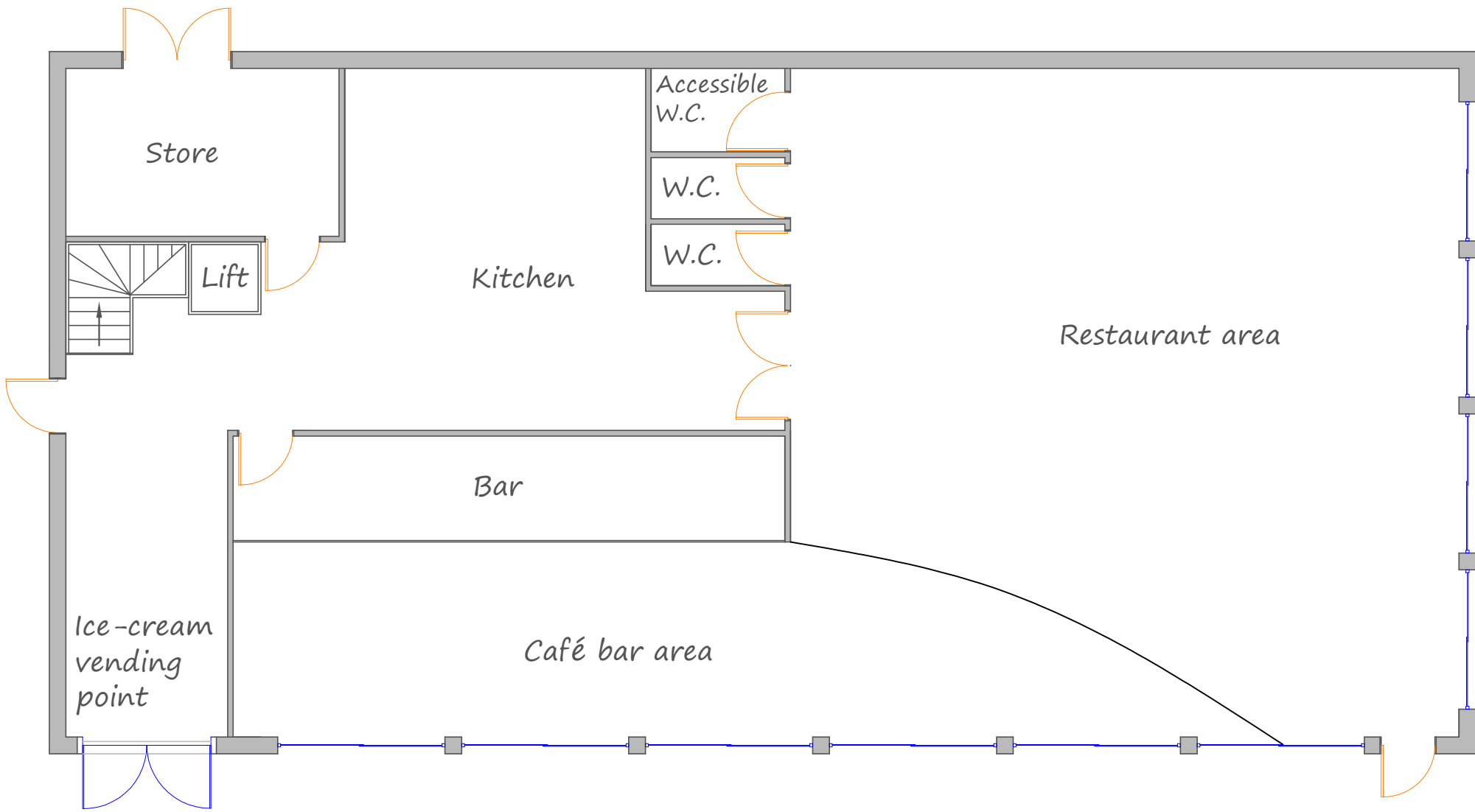


PARTS 3 & 4

Proposed foundations, building materials, construction
interfaces and site set up

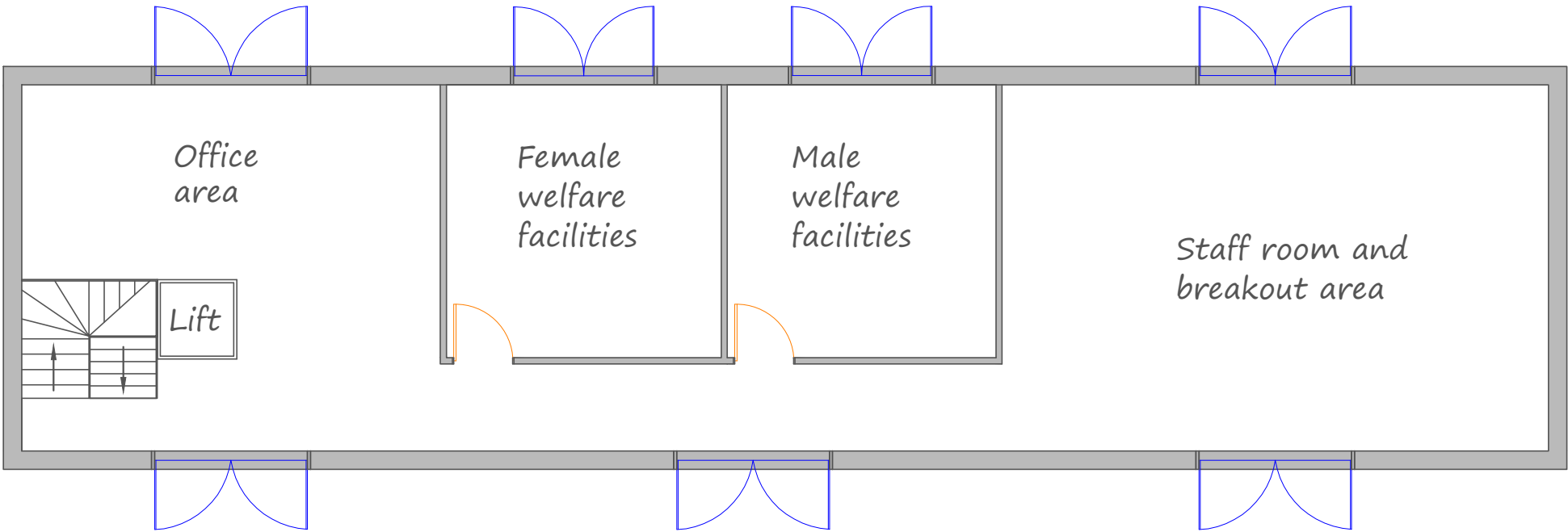
Andrew Hillier (P104142)
Construction Technology 1

Proposed Ground Floor Layout



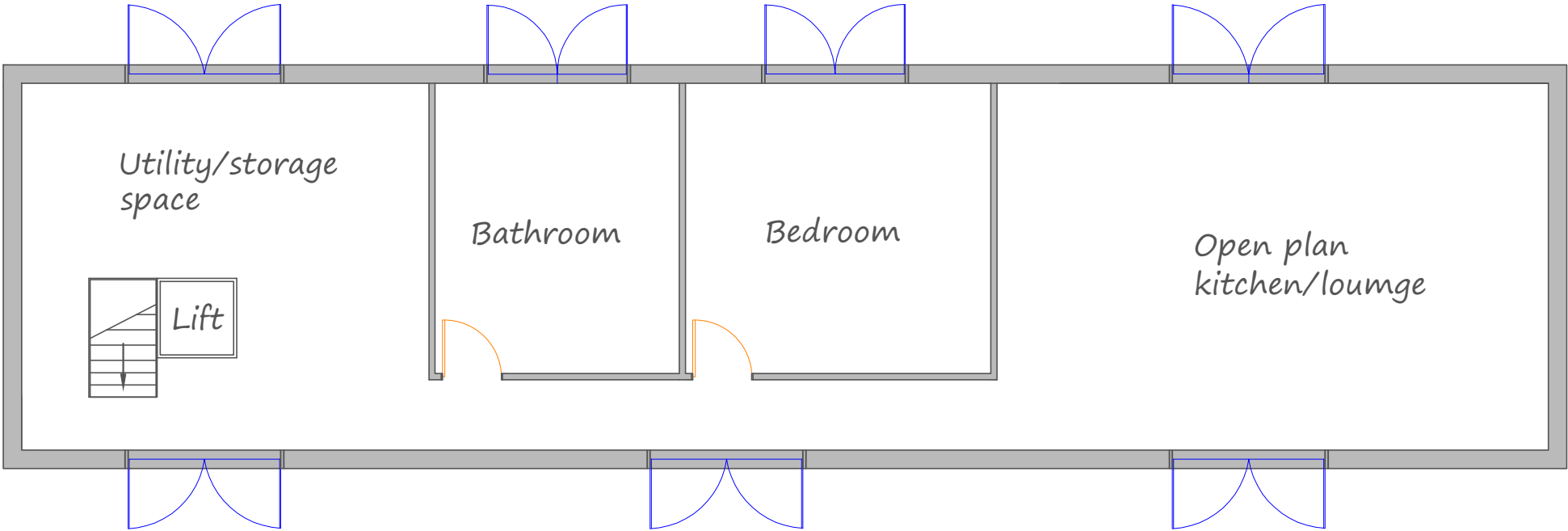
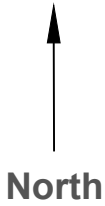
 PRIFYSGOL CYMRU Y Drindod Dewi Sant UNIVERSITY OF WALES Trinity Saint David University of Wales Trinity Saint David Mount Pleasant Campus Swansea SA1 6ED Tel: 01792 481000	Name: Andrew Hillier (P104142)	
	Client: CCOS/Marriott Hotel	
	Title: Foreshore Ice-Cream Parlour - Ground Floor	
	Scale: 1:100 @ A3	Date: 11/01/2018
	Drawing No: AH007	Rev: A

Proposed First Floor Layout

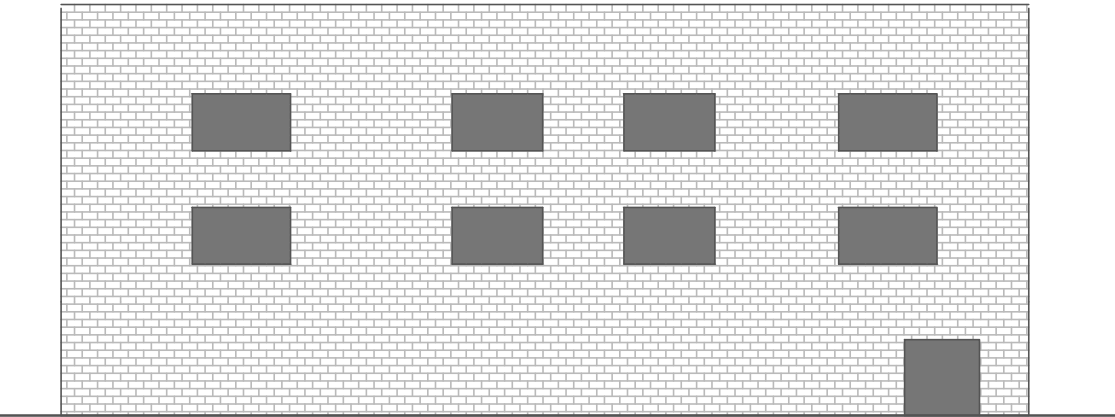


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	Client: CCOS/Marriott Hotel	
	Title: Foreshore Ice-Cream Parlour - First Floor	
	Scale: 1:100 @ A3	Date: 11/01/2018
	Drawing No: AH008	Rev: A

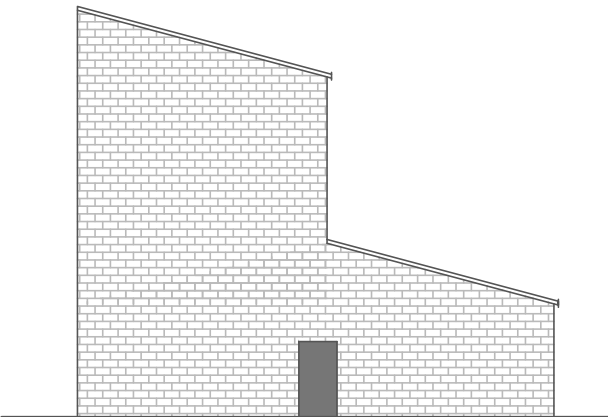
Proposed Second Floor Layout



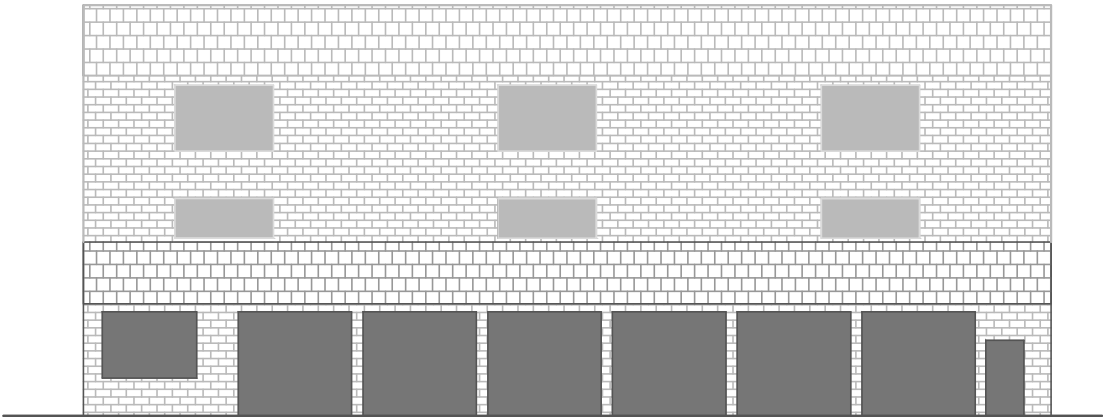
 PRIFYSGOL CYMRU Y Drindod Dewi Sant UNIVERSITY OF WALES Trinity Saint David University of Wales Trinity Saint David Mount Pleasant Campus Swansea SA1 6ED Tel: 01792 481000	Name: Andrew Hillier (P104142)	
	Client: CCOS/Marriott Hotel	
	Title: Foreshore Ice-Cream Parlour - Seconds Floor	
	Scale: 1:100@ A3	Date: 11/01/2018
	Drawing No: AH009	Rev: A



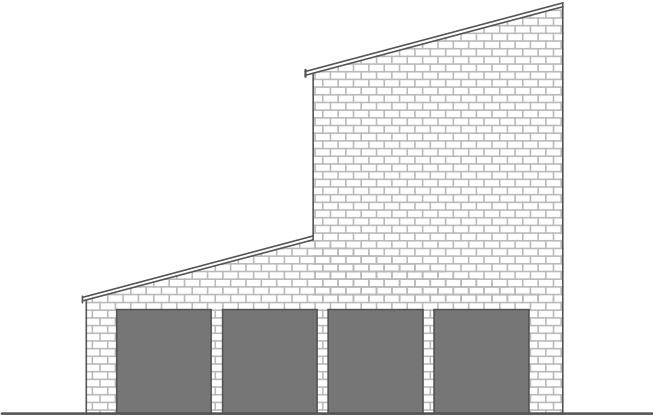
North Elevation



West Elevation



South Elevation



East Elevation

To be read in conjunction with drawing AH011

Foundations

Given that the superficial geology of the site consists of blown sand and the bearing capacity of the subsoil is uncertain, it is proposed that short bore pile foundations are used for the building.

The piles are to be minimum 250mm in diameter precast concrete driven piles, to a depth of between 2-4m, dependant on ground conditions. The piles are to be designed by an appointed Contractor so they are able to carry the load of the building. As the building is in close proximity to the sea and a marine environment, all load bearing concrete is to be sulphate resistant to guard against sulphate attack and any potential deterioration. Cement should comply with BS 12 Portland Cement. The piles are to be cast at intervals and below load bearing walls to adequately support a reinforced concrete ground beam. The ground beam is to be laid in a shallow trench on a 50mm blinding layer of coarse clinker or ash. Static testing shall be carried out to determine the proposed safe working load of the piles can be met.

All work should be carried out in accordance with British Standard BS 8004 for Foundations.

Sub-structure

The sub structure is to consist of compacted hardcore, sand a void and pre-cast concrete floor.

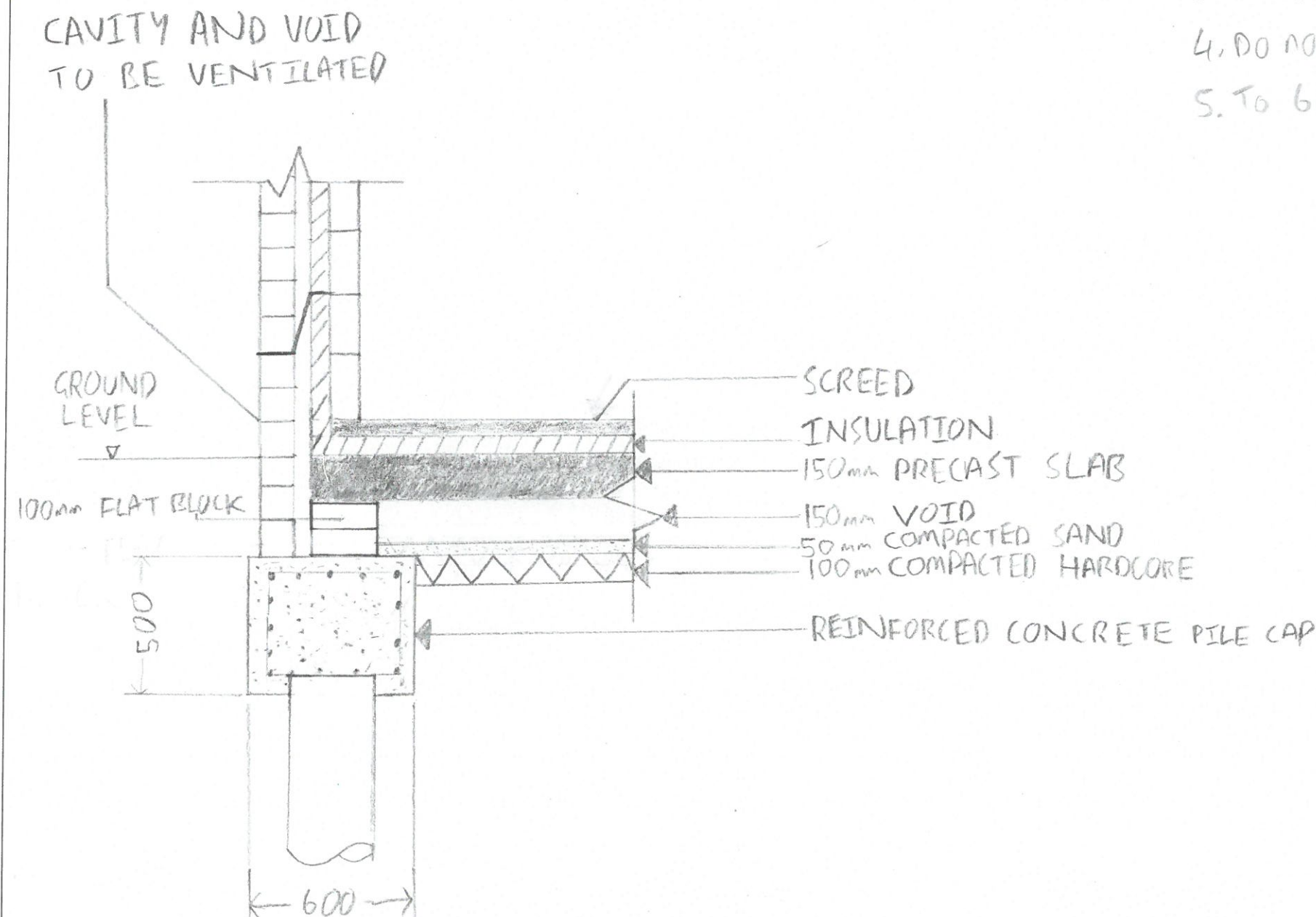
The subsoil is to be excavated to the required level and covered with 100mm of well compacted hard-core followed by 50mm compacted sand blinding. The 150mm void is to be ventilated through to the external cavity to allow airflow and also provide space for site services and drainage. The precast concrete floor is to be 100mm thick. The concrete floor will then be covered with insulation and a cement screed to prepare for the installation of a floor covering.

The sub-structure is to be built in accordance with BS 8102: Code of practice for protection of below ground structures against water from the ground.

Approved document A of the Building Regulations (Structural Safety) needs to be considered when detailing the final design for foundations (*Part A diagram 23*) and sub structure of the building.

NOTES

1. This is a proposed construction based on available site investigation data
2. Further investigation and design by a structural Engineer should be carried out prior to construction
3. All dimensions in millimetres
4. Do not scale off this drawing
5. To be read in conjunction with REF: S001



SCALE 1:20

To be read in conjunction with drawings AH012, 13 and 14

Wall, Window and Door Intersections

It is suggested that a two leaf masonry cavity wall is used to construct the walls to the north, east and west elevations and upper levels, with a glazed south elevation facing the promenade at ground level. Consideration should be given to the specification of any proposed brick. Engineering bricks would be suitable to better resist the wet coastal weather conditions.

The cavity will prevent moisture travelling from the outer skin to the inner skin of the building. The cavity will need to be adequately vented so moisture is able to evaporate. Thermal partial fill insulation will be fixed to the inner leaf of the cavity wall.

In order to achieve compliance with Approved Document L2A of the Building Regulations (Conservation of fuel and power in buildings other than dwellings) the worst acceptable parameter U-value for a wall is $0.35 \text{ W/(m}^2\text{K)}$. For example, by constructing the cavity using a lightweight blockwork and 50mm Kingspan Kooltherm K108 in the cavity, a U-value of $0.23 \text{ W/(m}^2\text{K)}$ can be achieved.

The worst acceptable parameter for windows and pedestrian doors and roof lights under Approved Document L2A is $2.2 \text{ W/(m}^2\text{K)}$.

The proposed construction will contain bi-fold glazed doors, double glazed windows roof lights and pedestrian doors. The combined U-values of these should be factored in to the building design.

Suitable external windows and doors would be thermally broken aluminium frame sections with hermetically sealed, kite marked, insulating double glazed units.

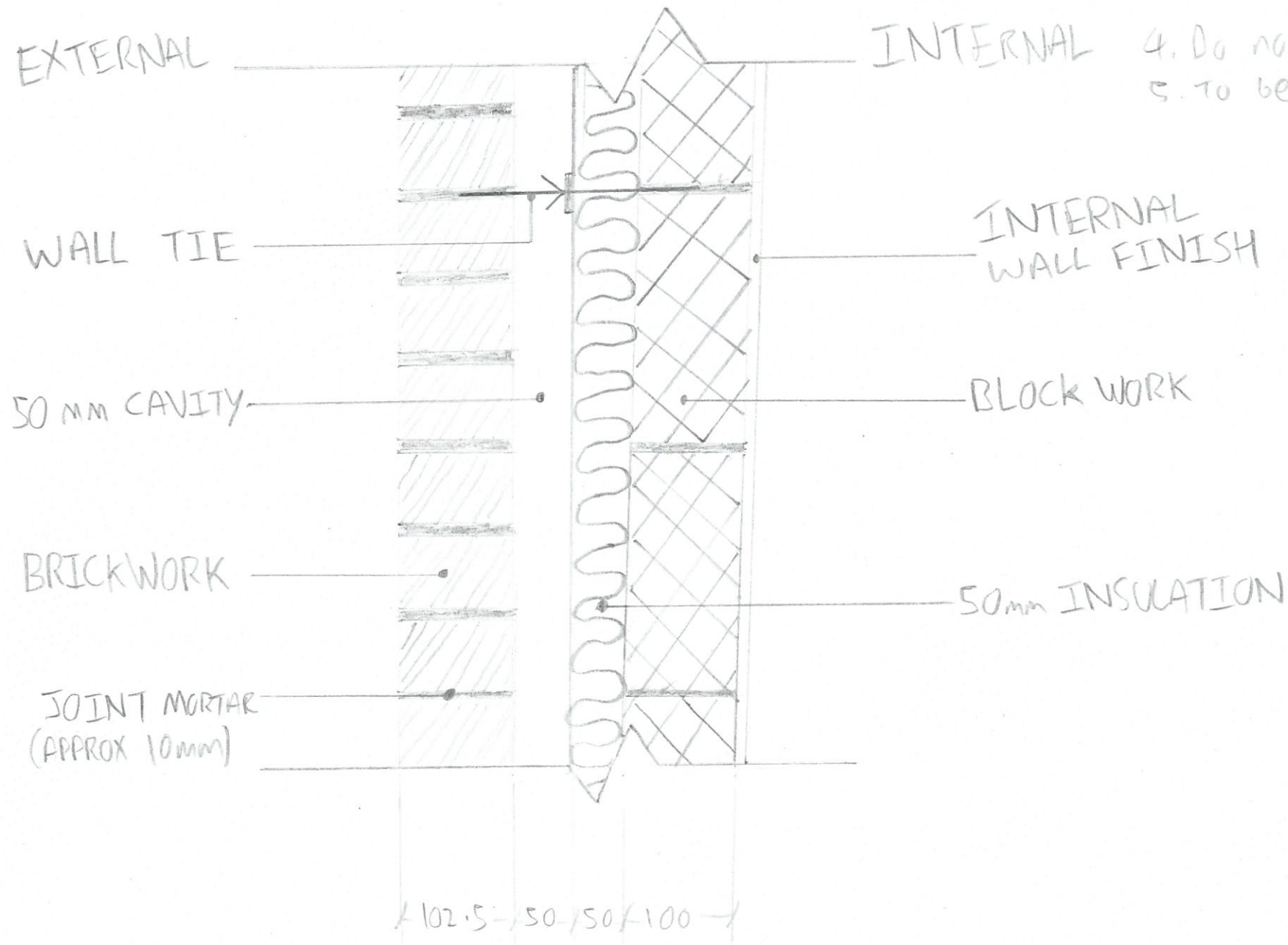
The door widths should comply with Part M of the Building Regulations (Access to and use of buildings), to enable adequate access to wheelchair users and ambulant disabled persons.

Part A of the Building Regulations (Structural Safety) must be considered when specifying the final details. It addresses issues such as acceptable wall thickness

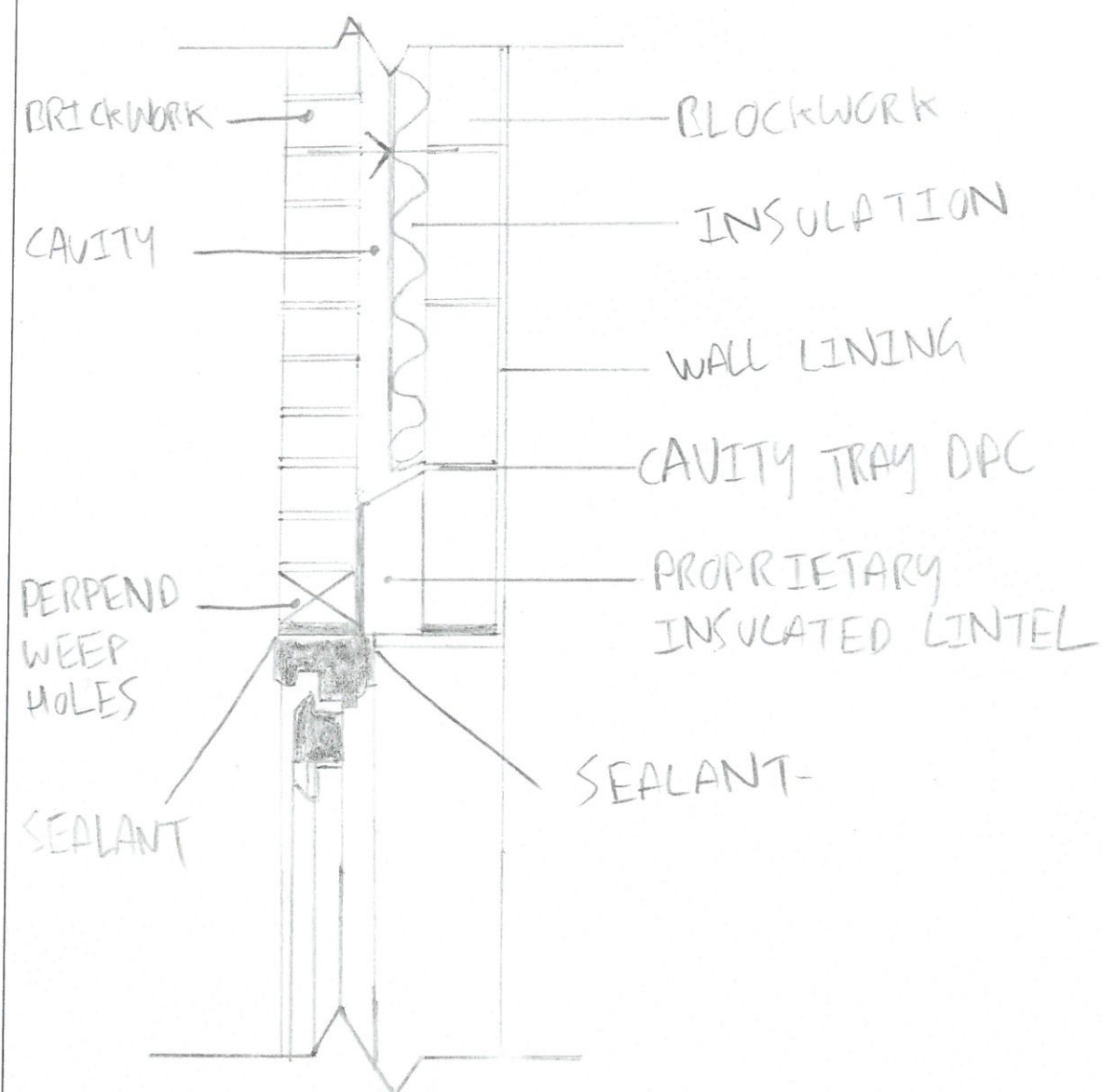
(*Part A diagram 18*), maximum floor area (*Part A diagram 5*), building height (*Part A diagram 7*), cavity wall ties (*Part A table 5*) and imposed loads (*Part A table 4*).

Notes

1. This is a proposed construction detail based on available site investigation data
2. Further investigation and design should be carried out prior to construction
3. All dimensions are in millimetres
4. Do not scale off this drawing
5. To be read in conjunction with Ref 5002



SCALE 1:5

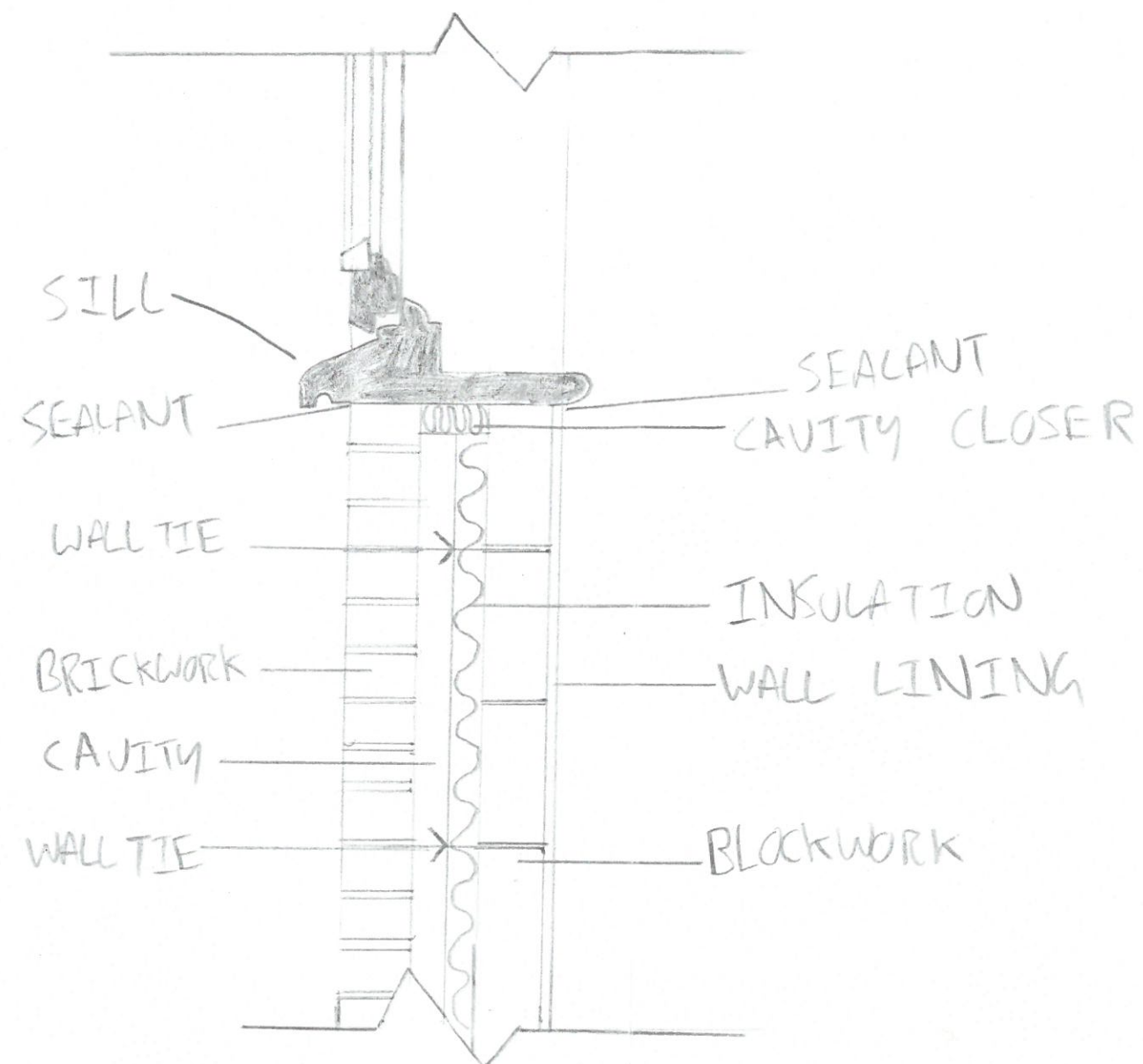


SCALE 1:10

WINDOW HEAD INTERSECTION

NOTES

1. This is a proposed construction detail based on available site investigation data
2. Further investigation and design should be carried out prior to construction
3. All dimensions in millimetres
4. Do not scale off this drawing
5. To be read in conjunction with Ref 5002



SCALE 1:10

WINDOW SILL INTERSECTION



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Name: Andrew Hillier

Client: CCOS/Marriott Hotel

Title: Window intersections

Scale: 1:10

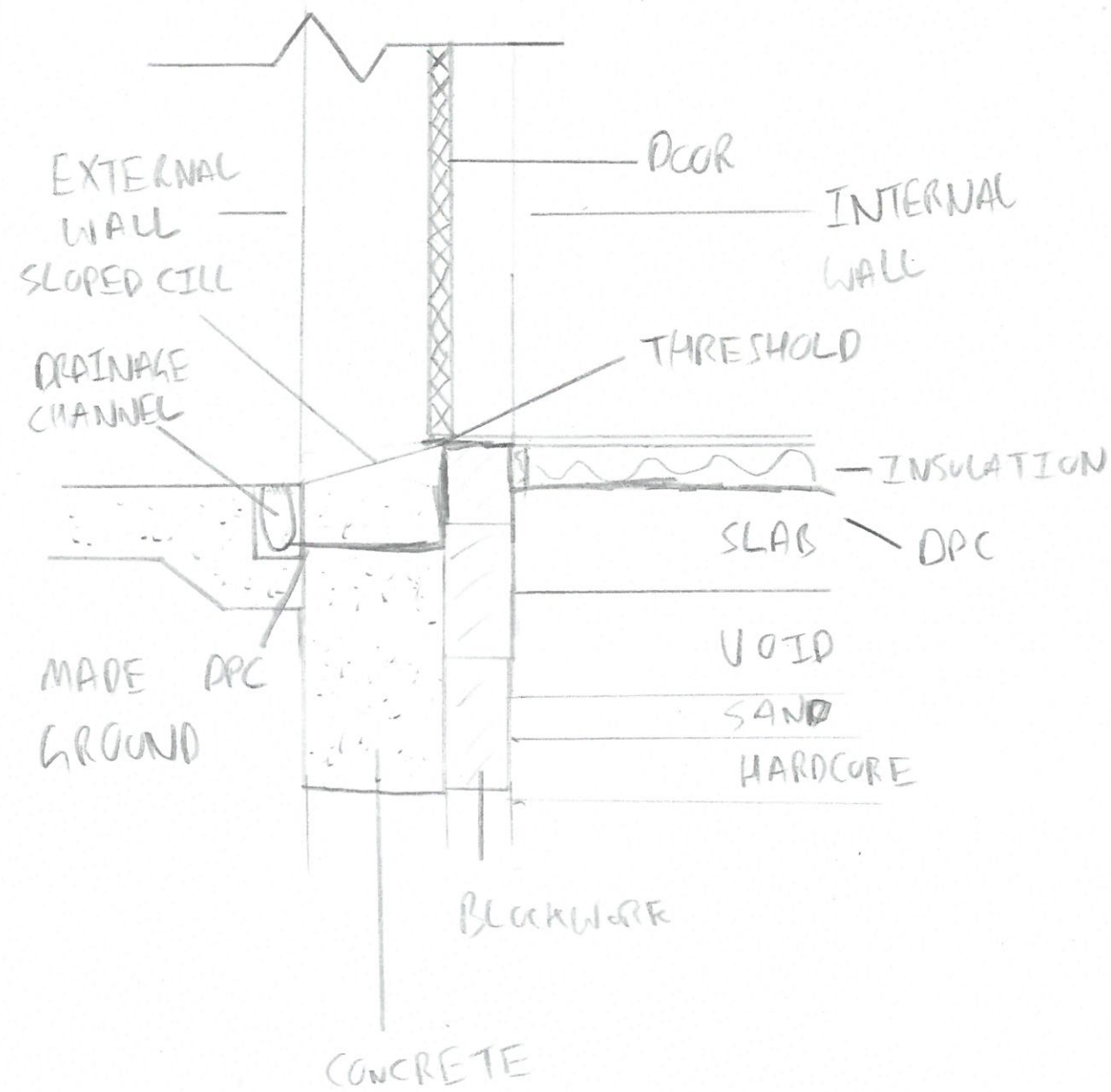
Date: 3/4/18

Drawing No: AH013

Rev:

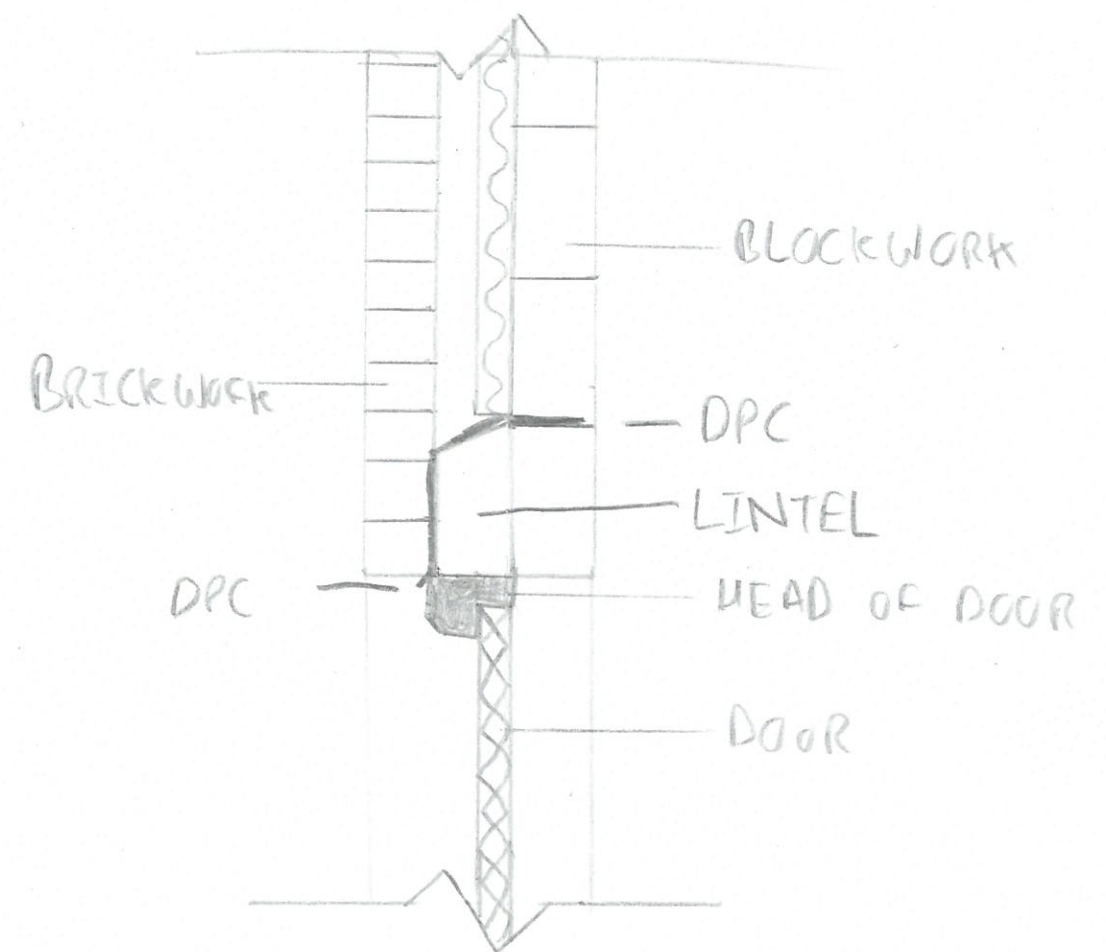
Notes

1. Further investigation and design required prior to construction
2. Do not scale off this drawing
3. To be read in conjunction with Ref: S002



SCALE 1:10

DOOR DETAIL AT GROUND



DOOR HEAD DETAIL
SCALE 1:10



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Client: CCOS/Marriott Hotel

Title: Door intersection detail

Scale: 1:10

Date: 22/4/18

Drawing No: AH014

Rev:

To be read in conjunction with drawing AH015

Roof weathering and structure to the restaurant and kitchen area

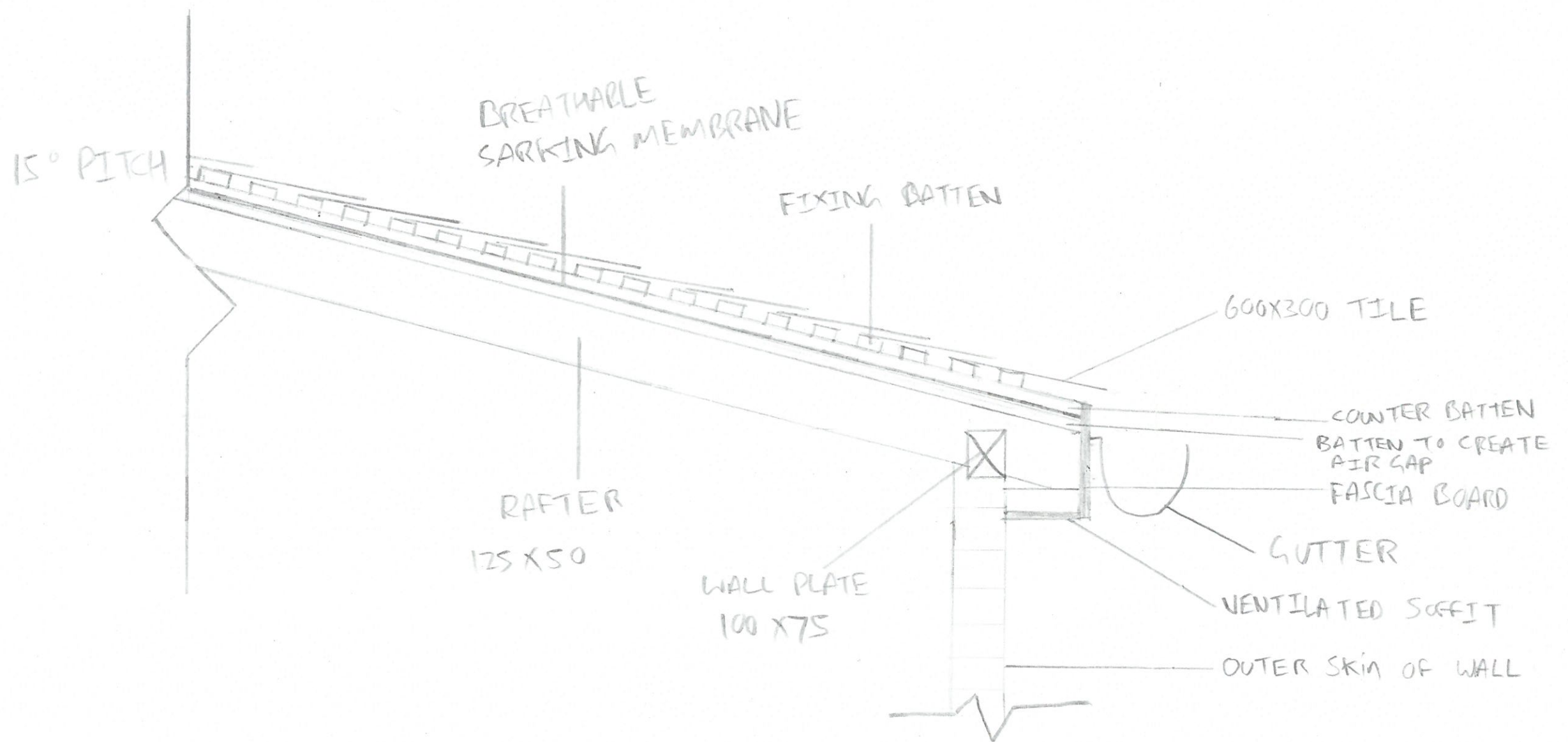
The proposed construction of the roof is a cold deck, shallow timber pitched roof at 15 degrees. The 125mm deep timber rafters placed at 600mm centres will be partially filled with insulation then topped with additional timber battens to allow an air gap between the insulation and a breathable sarking membrane. This membrane is then to be covered with 38mm square counter battens and slate fixing battens, in order to fix 600mm x 300mm fibre cement slates. The slates are to be laid in alternate courses with a 110mm lap, then centre nailed using 30mm x 2.65mm copper nails and restrained at the bottom with a copper disc rivet. The internal ceiling finish below the rafters and insulation is to be 3mm skim coated insulated plasterboard.

In order to achieve compliance with Approved Document L2A of the Building Regulations (Conservation of fuel and power in buildings other than dwellings) the worst acceptable parameter U-value for a roof is 0.25 W/(m²K). Using this proposed construction with a product such as Kingspan Thermapitch TP10 insulation at 100mm thick, a U-Value as low as 0.13 W/(m²K) can be achieved when used with an internal finish of 82.5mm insulated plasterboard.

The fibre cement tiles should be fitted in accordance with BS 5534, the code of practice for slating and tiling, including shingles, for pitched roofs and vertical tiling. The tiles chosen should also conform to BS EN 495 (Fibre-cement slates and fittings. Product specification and test methods).

It is important to consider Part A of the Building Regulations (Structural Safety) when calculating the loading of the roof (1.00kN/m² for spans not exceeding 12m)

In order to comply with Part B of the Building Regulations (Fire Safety) the ceiling linings should achieve a National Classification of Class 3 of reaction to fire, to prevent fire spread in to the residential dwelling above.



Notes

1. Further investigation and design is required prior to construction
2. Do not scale off this drawing
3. All measurements in millimetres
4. To be read in conjunction with Ref: S003



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Title: Roof weathering structure

Scale: 1:10

Date: 22/4/18

Drawing No: A4015

Rev:

To be read in conjunction with drawing AH016

Abutment between catering facility and exterior wall

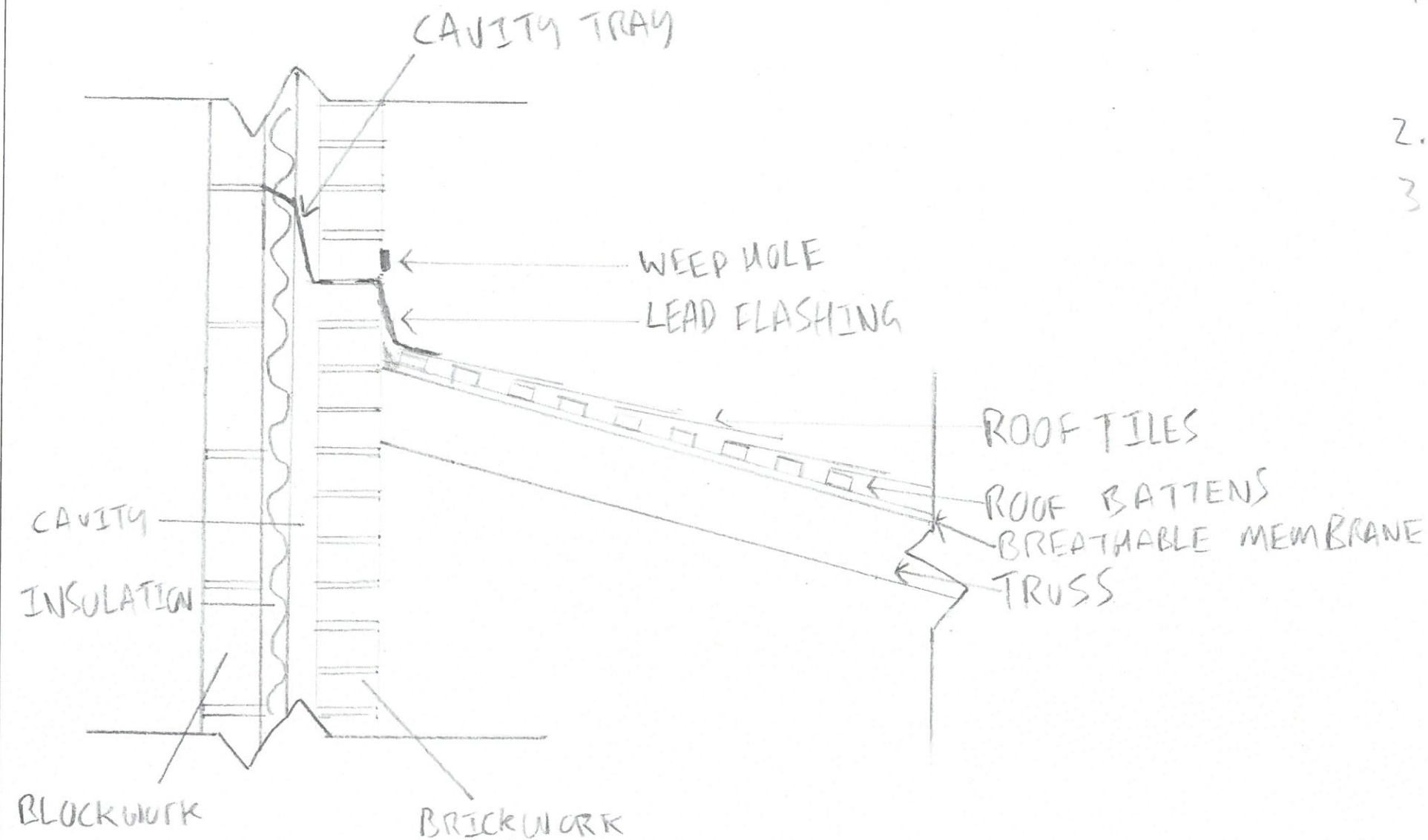
The breathable sarking membrane is to be turned up the abutment to a minimum distance of 50 mm. The fibre cement roof tiles are to be fixed close to the abutment to create a weatherproof junction.

The abutment should be weathered using lead. The lead flashings should lap at least 100mm and not exceed 1.5m in length. The flashings should be tracked in to the mortar joint at least 100mm above the fibre cement tile level and tucked in to the mortar joint at least 25mm. The flashings are to be a minimum of Code 4 in line with BS EN 12588:2006 (Lead and lead alloys. Rolled lead sheet for building purposes).

The cavity tray is to be linked and dressed over the lead flashing to prevent any water penetration. The stepped cavity tray is to be linked with 150mm wide stepped lead flashings. Weep holes are to be installed at 450mm intervals along the brickwork to maintain ventilation within the cavity wall.

Notes

1. Further investigation and design is required prior to construction
2. Do not scale off this drawing.
3. To be read in conjunction with REF:5004



SCALE 1:10

ROOF AND EXTERIOR WALL ABUTMENT DETAIL

Typical site set up and plant requirements

Given the restrictions placed on the area of maintaining access along the promenade and keeping disruption to the car parks to a minimum, it is important to make the best use of the space in the site set up. The site layout and plan of work must be carefully considered to comply with the Construction Design and Management Regulations 2015 (CDM). Under CDM the Principal Contractor appointed by the client is in charge of managing safety during the construction phase of the project. A Principal Designer is appointed by the client to plan and manage the pre-construction phase of the project, providing the contractors with as much pre construction information as possible to help expedite work in a safe manner.

There is more than just the construction of the building to consider when laying out the site.

Traffic Management/Site Access

Given the limited room for movement on site, a single vehicular access gate will need to be made available for deliveries to site. These deliveries will need to be co-ordinated to avoid peak times such as rush hour or events in the area. A separate pedestrian access gate must be provided to keep pedestrians and vehicles separate and also control who enters and leaves site. Arrangements should be made to provide a park and ride service or similar so cars do not need to be parked near the site throughout the project.

Security/Protection of the public

Site hoardings will need to be erected around the full perimeter of the site for security and safety purposes. Any scaffolding erected close to the perimeter of the site must be suitably enclosed with edge protection to prevent anything falling on to the promenade. A record of persons coming and going from site should be kept so employees can be accounted for in an emergency or if an incident occurs that requires investigation.

Site Welfare

Under CDM, site welfare facilities must be in place prior to any work commencing. These include, toilets, washing facilities, lockers, changing rooms and rest facilities. These should be sited near the pedestrian entrance so they can be easily accessed when arriving and leaving site.

Site Office

A site office is required for the following purposes. To display the F10 (notification to the HSE of the construction project), store and review any risk assessments or method statements, the health and safety file and construction phase plan. It also provides space for site meetings, inductions and toolbox talks.

Management of materials and waste

There must be designated areas for the storage of plant, materials and waste. Certain materials will need to be stored separately from each other (i.e. flammable fuels away from plastics or gases). Materials can be stored at height on the scaffold in order to save on space, as long they are suitably protected from falling with guard rails.

Deliveries should be planned to keep the amount of materials on site to a minimum and site cleanliness is key to prevent any dangerous occurrences.

It should be established what waste streams there are and where the responsibility lies for the removal and disposal of waste from site. These arrangements must be made in advance so the different trades know what is expected of them. Where possible waste should be segregated in to landfill, recyclable or hazardous and dealt with as required. Planned collections will help keep the site safe and free of excess waste.

Facilities should be available to wash vehicles as they are leaving site to reduce the spread of mud in to the surrounding areas.

Signage

Signage displayed prior to entering the site such as, where visitors must report to, what PPE is to be worn, the location of the first aid point, any site specific hazards, no smoking and supervisor contact details. All signage should be bilingual (Welsh and English) where possible. Other site signage should include, emergency routes and muster points, speed limits, emergency telephone numbers and any other relevant, prohibition, warning or mandatory signage.

Plant

Typical types of plant required for this project include, breakers, concreting plant, cranes, dumpers and earth moving equipment, excavators, piling equipment and possibly MEWP's.

Any plant that is too large to keep on site will have to be hired in (such as cranes). It may even be the case that the crane can operate from outside the site, with careful planning. Any down time where plant is not used can be costly, so visits and programmes should be planned carefully.

Unless a reliable water source can be located, a bowser will be required on site to provide water for work.

Site Layout

Issues will occur on site if there is inadequate allocation and division of space for specific tasks, poorly sited plant or welfare facilities, inadequate access or poor wayfinding.

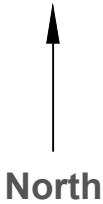
It is important that the dimensions of any plant or quantity of materials coming to site is considered during the design phase so they can be accounted for. If not it will result in lost time, money or potentially dangerous working conditions during the construction phase.

It is possible the site layout will change and develop as different phases of the build progress. This is why regular communication and sharing of information is important between all parties throughout the project.

Proposed building location based on measurements taken on preliminary site walkover.
Do not scale off this drawing
Further site investigation required before building location can be agreed

Proposed building location

Proposed site area



Close footpath
for duration of
project

Break out concrete
to maintain car
park flow

7no bays to be
taken out of use

3no bays to be
taken out of use



Proposal

The proposed building location is shown hatched red. Following completion of the project, the existing footpath will be diverted around the west of the building to the promenade, with the loss of two parking bays in the west car park. Vehicular access to the promenade will be maintained to the east of the building.

During the construction phase, vehicular access to site will be via a gate in the north east corner of the site from the Marriott car park, with pedestrian access via a pedestrian gate to the north of the site where the existing footpath meets the site boundary.

Promenade to
be kept
unobstructed

Maintain
emergency
vehicle access

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Title: Proposed Building ans Site Location	
Scale: NTS	Date: 11/01/2018
Drawing No: AH017	Rev: A