



Vito Construction

Document 1_Vito_Construction_Pre_Construction_

Project_Summary

**By Nathan Daniel and Contribution from Other Members of
Vito Construction**

P144299

Integrated Group Project:

Construction Cohorts: Project A

2019 / 2020

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1.0 Introduction

Vito Construction are a team of upcoming industry professionals, who are keen to be working with UWTSD on the Regeneration of the industrial land in SA1 Area of Swansea. We believe that with the combined ambition of ourselves at Vito Construction, UWTSD and Swansea Council we can assist in the growth of the university and Swansea by embarking on our proposed development of Student Halls of Residence.

1.1 The Need

Following the migration of UWTSD's Mount Pleasant and Townhill campuses' down to their new location on SA1 Waterfront Swansea. Since the closure of Townhill Student Accommodation in 2018 the only UWTSD owned student accommodation is Lllys Glas, contains 80 single occupancy rooms. It would only be righteous to provide suitable accommodation closer to campus and the exciting lifestyle of Swansea City Centre which is ever growingly encouraging overseas students to take the leap to embark on their studies here in Swansea.

We at Vito Construction believe that constructing a purpose build hall of residence inclusive of multifunction areas to include common spaces, restaurants, bars and shops would immerse its new residents in a friendly student lifestyle to encourage a good balance between education and enjoying student life on Swansea's waterfront. Additional to this we believe that in creating this new student hub in SA1 this will encourage students to move from the Expensive and not Fit for Purpose Mount Pleasant and Townhill HMO properties to a more comfortable, enjoyable and affordable life closer to campus.

1.2 Location

Following on from a Team Review of the SA1 Redevelopment Masterplan. [Appendix A]. We shortlisted a number of potential plots of land to accommodate our proposed Halls of residence. The plots that look most promising for the development are.

- B4
- C4
- E1
- E2
- E3



Figure 1 Map of Proposed Development

After internal deliberation between members of the Vito Construction team where visits to each of the plots was made along with a discussion on the advantages and disadvantages of each location were tabled we as a project team have come to the conclusion that the most beneficial location for our proposed development would be C4.

The reasons which assisted us to come to this conclusion are as follows.

Land at C4, SA1 Swansea, is the closest in proximity to UWTSD's Campus. This is great for overseas students to make the most of the campus' facilities including Library and IT Suites but additionally on the opposite side is a great dockside location which is perfect for multifunctional spaces to relax and socialise. As a team we feel that this location in comparison to the others is most suited due to the ease of access to University, City Centre, but also provides areas for other students of the university to use the multifunctional spaces we are looking to provide which will be ideal due to the lack of shops and eateries in close vicinity of the university. Rather than travelling back and forth from private accommodation students are in close proximity to the university, allowing for a more cost-effective university experience.

1.3 Constraints

Although C4 is a great location for the finished product of our proposed development, the construction in this location will no doubt be challenging. Reasons why this would be challenging are due to the built-up nature of the SA1 Area which would cause restrictions on storage, contractor parking facilities and material deliveries, these would need to be done within certain times along with smaller lorries to prevent causing more traffic than needed, In order to minimise the impact on the local area. Signs would need to be erected and a possible gates-man in place at all times to assist in deliveries and prevention of traffic jams.

Other constraints that could arise are the foundation types required, if piling is required this would need to be carefully planned to minimise the disruption caused from delivery of the piling rig, to vibrations and noise from the piling in progress. Excessive vibrations in this area could also cause damage to the dockside wall or basement parking facilities of nearby apartment complexes.

The proposed development is directly adjacent to the water on two sides and a road on another that the UWTSD IQ building requires access to for loading and unloading purposes. With only one side on which to really be able to access the site from this could prove to be the limiting factor when it comes to the progression of the development.

With the high wind, rain and humidity in the proposed area the materials able to be used in the construction of the development itself are rather limited. Some materials such as external render wouldn't be suitable for the development.

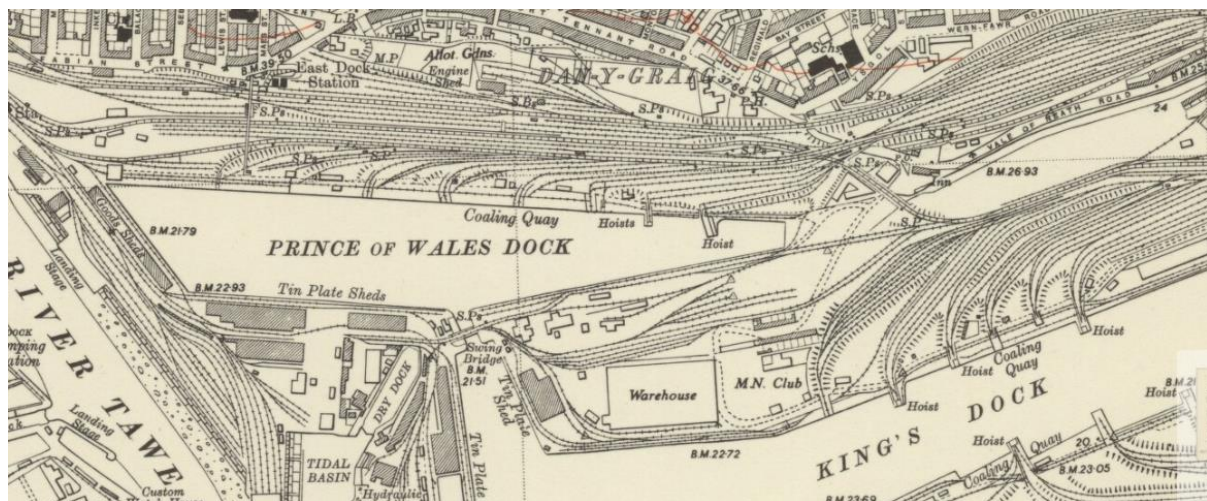
To get to the proposed development itself construction plant will have to go through domestic areas, we may therefore have to limit the size of lorries for deliveries or the number of deliveries within a certain time period. This may turn out to limit the amount of work which can occur in one day as the supply of materials may be the limiting factor for the progression of the development.

On initial visual inspection of the land it is assumed that the land at C4, SA1 has been remediated. Prior to construction begins on site further investigations will be carried out to ensure that the land is suitable for its proposed use. If excessive contamination is found remediation strategies will be completed to acceptable standards.

2.0 Site Investigation

2.1 Site Background & Location

The SA1 Development is a locally renowned brownfield development planned to rejuvenate life in to one of Swansea's most heavily industrialised areas. The proposed area has multiple land parcels up for sale to be redeveloped in to Commercial, Residential and Leisure facilities, situated on the former Docks of Swansea. As shown in *Figure 1.0* below. As mentioned above the area was heavily industrialised previously used as a large dock which exported large quantities of minerals such as Coal and Copper, sourced locally in the Vicinity of Swansea. In the mid to late 1800's the docks quickly expanded due to the increase in industrial exportation of Copper, Zinc, Iron, Tinplate and Coal, add this with the growth in transportation methods such as large steamships replacing smaller sailing vessels the docks grew along with supporting infrastructure such as Canal links and Multiple Railway lines which terminated in the current SA1 Area.



The SA1 Development is situated directly to the Southeast of Swansea City centre, and easily accessible from Fabian Way which is one of Swansea's main access roads, with great links to the M4 and remainder of South Wales. The Area is situated on the embankment of the River Tawe and around the Prince of Wales Docks.

Our chosen parcel of land within the development C4 is situated to the South of the SA1 Development on the edge of the Prince of Wales Dock. To the West of the proposed site are the existing residential high-rise apartments with basement parking facilities. To the South is the new UWTSD SA1 Campus, and to the East are road links to other undeveloped areas of the docks as well as live working docklands and warehousing facilities.

2.2 Ground Investigation

2.2.1 Archaeological Setting

Aforementioned above due to the history of Swansea and its increase in exportation this resulted in the South Wales coast being a main target during World War 2. Due to this known fact there is a high chance of explosives to still be deposited in the ground in this area.

As well as the risk mentioned above there is likely to be contamination due to previous industrial use, it is recommended that trial pits be incorporated into the ground investigation as this reveal contaminates better than any other ground investigation method.

Other than the above no other known risks are pertinent to the area.

2.2.2 Topography

Land at C4 SA1, Swansea from preliminary plans and brief site visit as a team on 23rd October 2019, has determined that the undeveloped area of land which lay approximately 5 metres from the edge of the water of the Prince of Wales docks is of compact gravel and concrete make up and of a relatively flat topographical arrangement.

2.2.3 Geology

Upon review of Site Investigation reports on the SA1 Area and data available from the British Geological Survey (BGS). The site lays on a complicated Geological make up. From historic records data of two boreholes from C4 are available through BGS.

- **Borehole 1: BGS Reference: SS69SE297**
- **Borehole 2: BGS Reference: SS69SE298**

Borehole 1.

This was situated on the northern edge of the land within close proximity of the edge of the Prince of Wales Dock, this borehole achieved a depth of 8.22M. The make-up of this borehole of varying quality ground, the initial findings were of small running gravel and dirty sand and further in-to the borehole the ground became more peat, clay and fine gravel.

Borehole 2

Data from borehole number two is fairly consistent to that found within Borehole number 1. With an achieved depth of 9.14M. it is clear to assume from the data available that the ground in this area would require piled foundations to ensure stability in the new structure.

More information in Appendices B, C & D.

2.2.4 Hydrology

South Wales has always been known for high tidal movement, having a low-lying site such as the land at C4, SA1, Swansea we have a high risk of hydrology influence.

Surface Water influence as mentioned above we are on the edge of the Prince of Wales docks and approximately 500-600m from the river Tawe to the West.

Below ground influence may differ, as data from historic bore holes provides evidence that the water table has been located at depths of 2.8m this cannot be discounted in this area to which is influenced by the

3.0. Designs

3.1 Proposal A – Preliminary Design

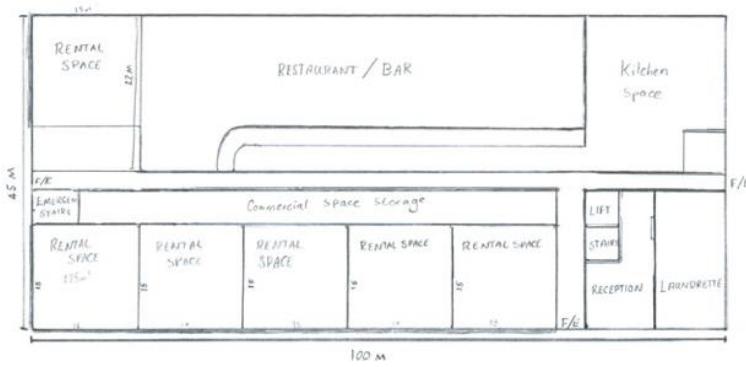


Figure 2 – Preliminary Design – Ground Floor

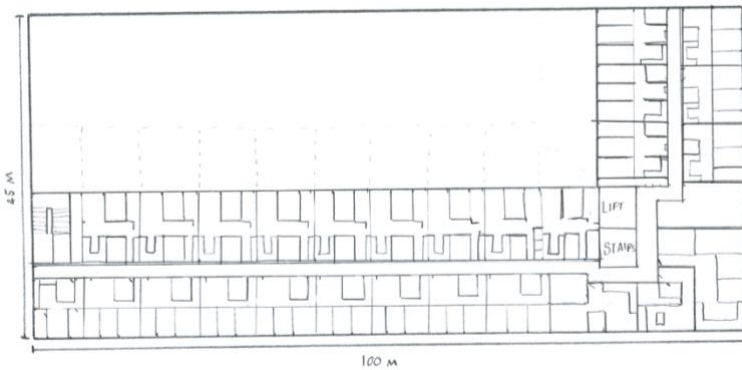


Figure 3 - Preliminary Design – Upper Floors

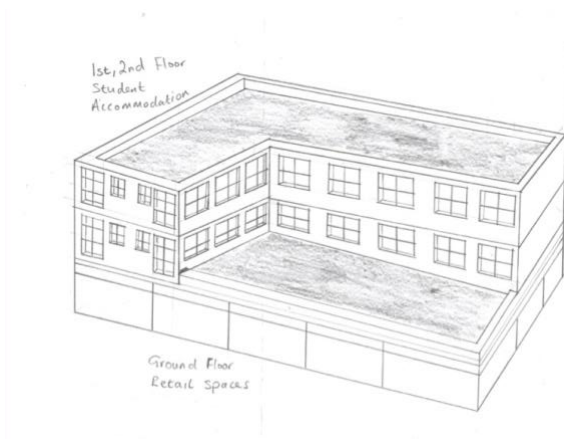


Figure 4 - Preliminary Design – Elevation 001

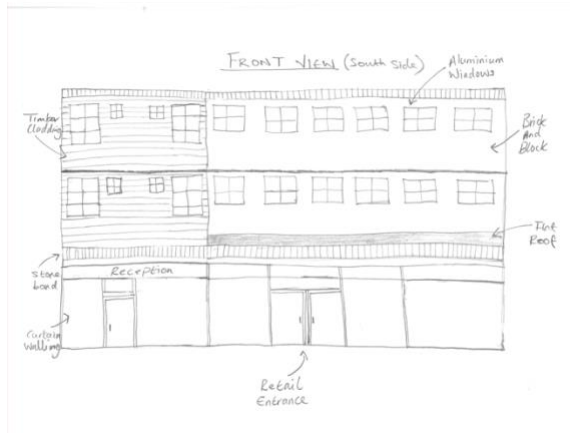


Figure 5 - Preliminary Design – Elevation 002

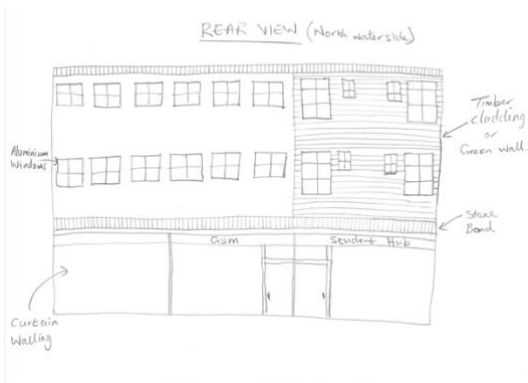
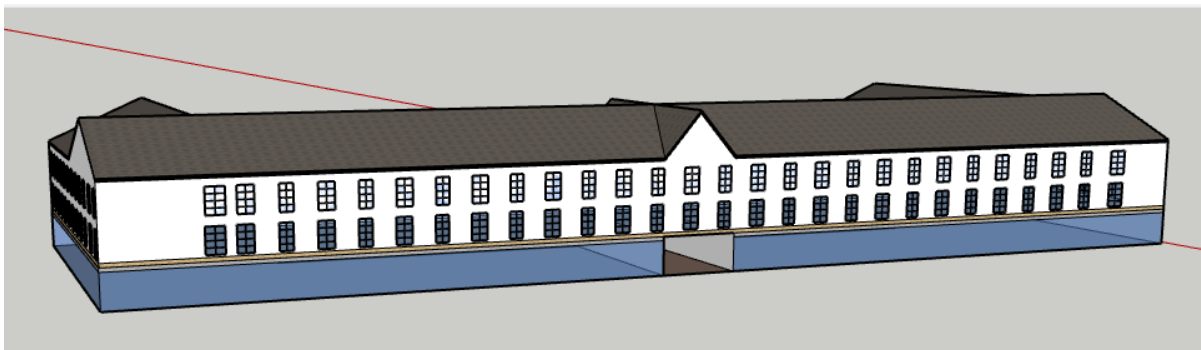


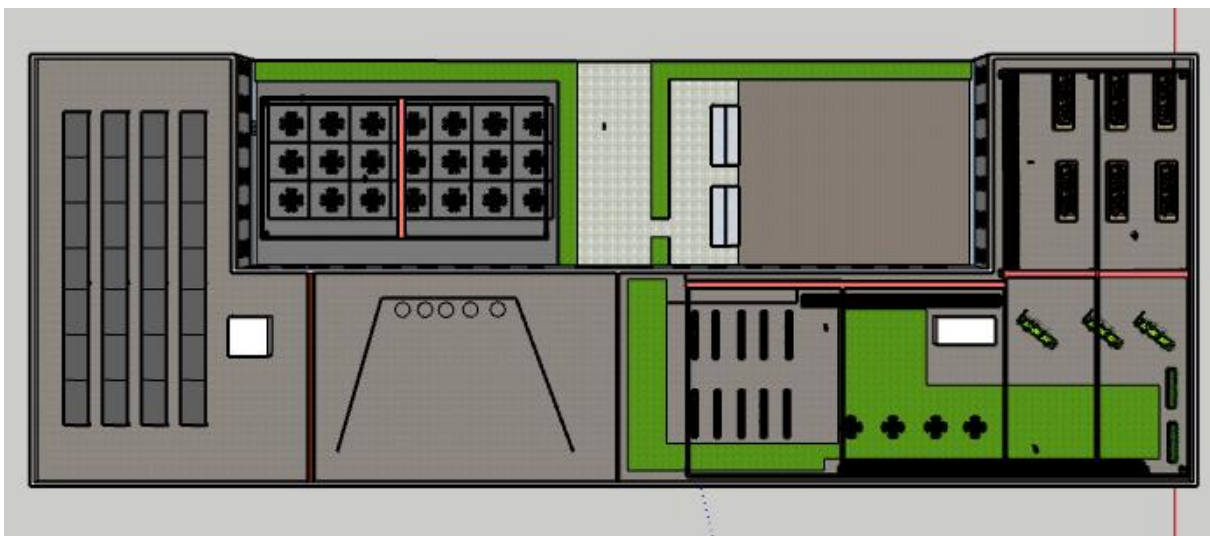
Figure 6- Preliminary Design – Elevation 003

3.2 Proposal B – Advanced Design



3.3 Proposal C – Final Design

Further information on the Final Design can be found in
Document2_Vito_Construction_Final_Design



4. Costings

4.1 Market Research

In the Swansea area there is a highly competitive Rental Market for Residential and Commercial Spaces.

University Owned Accommodation

University	Location	Room Type	Room Size	Rental Cost	Per Annum
UWTSD	Llys Glas	Standard	Medium	£ 125.00	£ 5,000.00
		Standard	Large	£ 133.00	£ 5,320.00
		Standard	Extra Large	£ 140.00	£ 5,600.00
Swansea University	Singleton - Cefn Bryn	Standard	Medium	£ 125.00	£ 5,000.00
		Standard	Large	£ 131.00	£ 5,240.00
	Singleton - Kilvey & Rhossili	Standard	Medium	£ 139.00	£ 5,560.00
		Standard	Large	£ 140.00	£ 5,600.00
	Singleton - Presli	Ensuite	Small	£ 130.00	£ 5,200.00
		Ensuite	Medium	£ 136.00	£ 5,440.00
		Ensuite	Large	£ 142.00	£ 5,680.00
	Singleton Caswell, Langland, oxford	Ensuite	Medium	£ 142.00	£ 5,680.00
		Ensuite	Large	£ 147.00	£ 5,880.00
	Singleton Penmaen & Horton	Ensuite	Medium	£ 147.00	£ 5,880.00
		Ensuite	Large	£ 152.00	£ 6,080.00
		Ensuite	Extra Large	£ 158.00	£ 6,320.00
	Bay Campus	Standard	Twin Room	£ 182.00	£ 7,280.00
		Ensuite	Medium	£ 148.00	£ 5,920.00
		Ensuite	Premium/Large	£ 154.00	£ 6,160.00
		Ensuite	1 Bed Flat	£ 202.00	£ 8,080.00
		Ensuite	1 Room 2 Bed Flat	£ 256.00	£ 10,240.00

Privately Owned Accommodation

PRIVATE	Location	Room Type	Room Size	Rental Cost	Per Annum
Student Roost	St. Davids	Ensuite	Bronze	£ 125.00	£ 5,000.00
		Ensuite	Silver	£ 139.00	£ 5,560.00
		Ensuite	Gold	£ 149.00	£ 5,960.00
		Ensuite	Platinum	£ 169.00	£ 6,760.00
Prime Student Living	Kingsway Swansea	Ensuite	Standard	£ 135.00	£ 5,400.00
		Ensuite	Classic	£ 143.00	£ 5,720.00
		Ensuite	Deluxe	£ 151.00	£ 6,040.00
		Ensuite	Premium	£ 155.00	£ 6,200.00
		Ensuite	Superor Ensuite	£ 163.00	£ 6,520.00
		Ensuite	Standard Studio	£ 185.00	£ 7,400.00
		Ensuite	Classic Studio	£ 189.00	£ 7,560.00
		Ensuite	Deluxe Studio	£ 195.00	£ 7,800.00
		Ensuite	Premium Studio	£ 199.00	£ 7,960.00
		Ensuite	Superior Studio	£ 209.00	£ 8,360.00
			Average Cost	£ 156.91	£ 6,276.47

Commercial Rental Values in Swansea

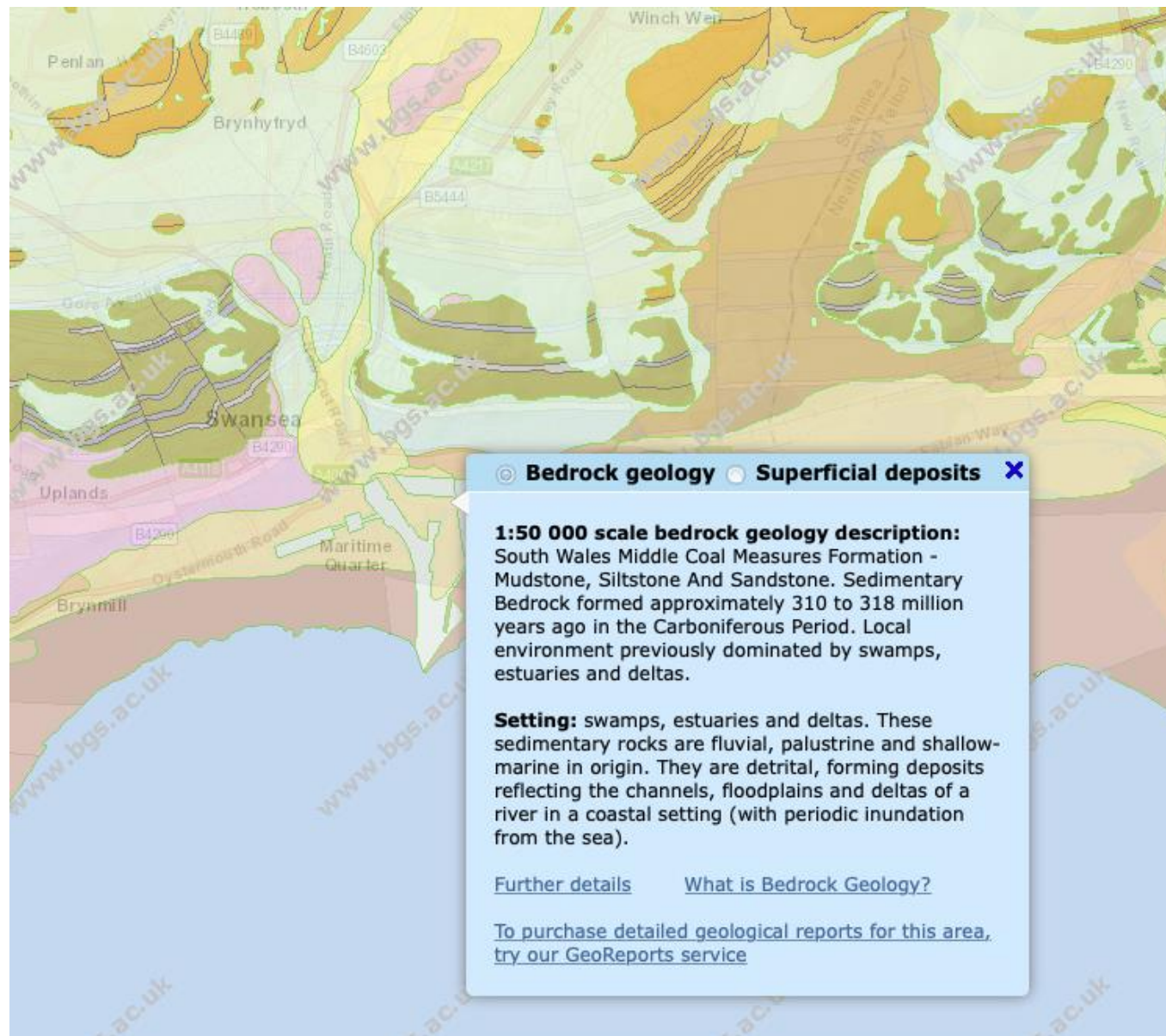
Location	Type	£ / Sq M	£ / Sq Ft	Per Annum
Parc Tawe	Kiosk Units	£ 405.41	£ 37.50	£ 15,000.00
Former Mariner Street Car Park	Mixed	£ 193.08	£ 10.75	£ 33,500.00
6 The J Shed, sa1	Mixed	£ 127.78	£ 11.87	£ 11,500.00

Average	£ 242.09	£ 20.04	£ 20,000.00
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Please see the following documents for more information;

Document 2_Vito_Construction_Final_Design







111121 11/10/2010 10:00 0:00 A.S.W.L.A.L. 0:00

RECORD OF ~~SHALLOW~~ BORES FOR MINERALS

County: Gloucestershire

Quarter Sheet: 24 NW

1" N.S. Grid Map: 247

1" O.S. Grid Map: 247

Name and Number given by owner (if different from above): Swansea Harbour, East Docks

Town or Village: Swansea

Exact site: see tracing

Purpose for which made: location of foundations for berths, etc.

Level at which bore commenced relative to O.D.: 88.00 If not down bore, state if horizontal or up

Made by: for Messrs.

Information from: Mr. McKeown (Resident Engineer)

Date received: 1/10

Specimens: 1 Dip of strata: 1°

Geological Classification	DESCRIPTION	Thickness	Dip
~~SS 69 SE 292~~	No 1 Bore 83.0 A.D. 66469 92921	4.0	1
	Small running dirty sand	8.50	12.50
	coarse sand with stones	9.50	23.00
~~SS 69 SE 293~~	No 2 Bore 85.97 A.D. 66635 92984	6.00	12.50
	mid. gravel	6.00	12.50
	gravel	15.00	15.00
	clay	1.50	16.50
	coarse sand & stones	7.50	24.00
~~SS 69 SE 294~~	No 3 Bore 100.37 A.D. 66959 92950	15.00	10.00
	sand & stones	15.00	10.00
	peat & clay	13.00	25.00
	clay	2.00	27.00
	gravelly sand	5.00	34.00
	hard sandy clay with some stones	4.00	38.00
~~SS 69 SE 295~~	No 4 Bore 104.11 A.D. 67179 92834	7.00	7.00
	lipped ashes from works	12.00	19.00
	peat & sand	1.00	20.00
	hard sandy clay		
~~SS 69 SE 296~~	No 5 Bore 99.64 A.D. 67129 92827	1.50	1.50
	chalk & cinders	2.00	4.50
	cinders	2.00	9.50
	small gravel	7.50	16.00
	peat	2.00	18.00
	sand & blue clay	6.00	24.00
	clay & sand with some stones	5.00	29.00
	fine gravel	2.00	31.00
	clay & fine gravel	2.00	33.00
	clay & small gravel	4.00	37.00
	gravel		

Geological Survey and Museum, SOUTH KENSINGTON, LONDON, S.W.7.

G.S.M. Office File No. 67129 92827 Site marked on 6" Map by 1/10 Site marked on 1" Map by 1/10

111121 11/10/2010 10:00 0:00 A.S.W.L.A.L. 0:00

RECORD OF ~~SHALLOW~~ BORES FOR MINERALS

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Level at which bore commenced relative to O.D.: 88.00 If not down bore, state if horizontal or up

Made by: for Messrs.

Information from: Mr. McKeown (Resident Engineer)

Date received: 1/10

Specimens: 1 Dip of strata: 1°

Geological Classification	DESCRIPTION	Thickness	Dip
~~SS 69 SE 297~~	No 6 Bore 74.82 A.D. 66891 92810	4.00	4.00
	clay	5.00	9.00
	peat	12.00	17.00
	fine clay	10.00	27.00
	clay & sand with stones		
~~SS 69 SE 298~~	No 7 Bore 81.60 A.D. 66744 92809	7.50	7.50
	clay	1.50	1.50
	sand & gravel	3.00	4.50
	gravel	2.00	6.50
	sand & gravel	10.00	16.50
	clay & sand with stones	6.00	22.50
	coarse sand with some stones		
~~SS 69 SE 299~~	No 8 Bore 82.60 A.D. 66731 92807	4.00	4.00
	clay	4.00	8.00
	clay & sand	1.00	9.00
	sand & gravel	3.00	12.00
	gravel	3.00	15.00
	sand & gravel	5.00	20.00
	coarse sand with some stones	10.00	30.00
~~SS 69 SE 300~~	No 9 Bore 81.12 A.D. 66643 92805	5.00	5.00
	clay	6.00	11.00
	gravel	3.50	14.50
	sand & gravel	12.00	26.50
~~SS 69 SE 301~~	No 10 Bore 84.60 A.D. 66822 92818	5.00	5.00
	clay	7.50	12.50
	sand & some gravel	14.00	26.50
~~SS 69 SE 302~~	No 11 Bore 77.58 A.D. 66710 92481	1.00	1.00
	sand & gravel	11.00	12.00
	sand with fine gravel	2.00	14.00
	gravel with some sand	2.00	16.00
	sand & gravel	1.00	17.00
	blue clay	2.00	19.00
	coarse sand with some stones	2.00	21.00
~~SS 69 SE 303~~	No 12 Bore 76.47 A.D. 66712 92455	3.00	3.00
	coarse gravel	2.00	5.00
	running sand	5.00	10.00
	gravel	4.00	14.00
	coarse sand & clay with stones	3.00	17.00
	sand & fine gravel	4.00	21.00
	good hard sandy clay		

SS69SE 292-305
County Glamorgan
Quarter Sheet 24 EW

DESCRIPTION	LOCAL	THICKNESS	DEPTH
No 13 Bore	74.68 AFD 66757 92375	1.00	1.00
fine brown sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 14 Bore	73.56 AFD 66740 92314	1.00	1.00
fine brown sand		2.00	3.00
fine sand		3.00	6.00
fine clay		2.50	8.50
fine sand		1.00	9.50
fine sand and rock gravel		6.00	15.50
fine sand and clay		2.50	18.00
fine sand and fine gravel		2.00	20.00

SS69SE 292-305
Quarter Sheet 24 EW

Price of Wales Dock, Swansea

Best docks, Swansea.

(Admitted 1980) from Mr. Schenk.

DESCRIPTION	LOCAL	THICKNESS	DEPTH
No 1 Bore	83.0 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 2 Bore	88.97 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 3 Bore	100.37 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 4 Bore	110.41 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 5 Bore	119.64 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 6 Bore	129.82 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 7 Bore	134.60 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 8 Bore	144.60 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 9 Bore	154.60 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 10 Bore	164.60 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 11 Bore	174.60 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00
No 12 Bore	184.60 OD	1.00	1.00
fine sand		2.00	3.00
fine sand		3.00	6.00
fine sand		2.00	8.00
fine sand		1.00	9.00
fine sand with some small stones		6.00	25.00

SS69SE/1#
292-305

British Geological Survey Prince of Wales Dock, Swansea (continued)

No. 13 Bore 74.68 OD. ? 7.468 OD.

sd	1.0	1.0
gravel	7.0	8.0
running sd	9.0	17.0
fine gravel	2.0	19.0
sd	1.0	20.0
see disty sd in a few small btt.	6.0	26.0

No. 14 Bore 73.56 OD. ? 7.356 OD.

see bore sd	1.0	1.0
gravel	6.0	7.0
blue clay	3.0	10.0
gravel	2.8	12.8
running sd	1.0	13.8
slightly sd gravel	6.0	19.8
brown clay clay	2.5	22.3
sd fine gravel	2.0	24.3

