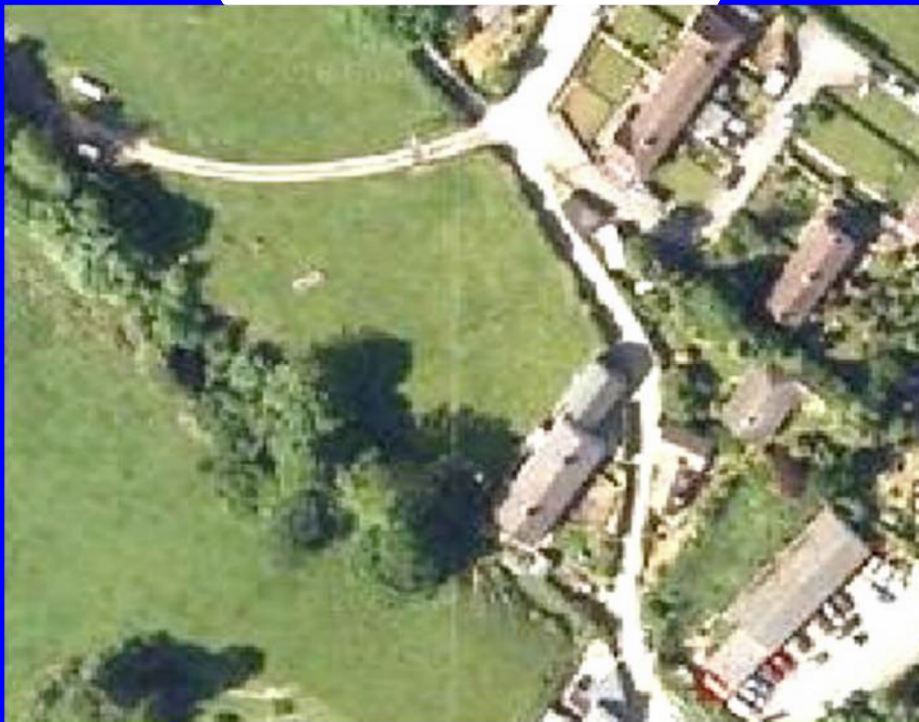


ACCESS ASSESSMENT

**FOR A PROPOSED RESIDENTIAL DEVELOPMENT
AT
THE REAR OF SMITHY COTTAGES
PONTFADOG**

ISSUE 2



FOR

GARETH MORRIS CONSTRUCTION LTD

REPORT VERIFICATION

SITE ADDRESS	The Rear of Smithy Cottages Pontfadog
REPORT TITLE	Access Assessment
JOB NUMBER	356-18
PREPARED BY	JRS

ISSUE NO.	DATE	STATUS	REPORT VERSION	ISSUED BY
1	04-09-18	For Planning	01	JRS
2	09-01-19	For Planning	02	JRS

ISSUE 2 NOTE

At the request of the Highway Authority speed readings have been taken at the site and the following paragraphs updated:

2.6, 2.8, 3.5, 3.6, 4.1 & 4.2

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Appendix 2	Photographs
Appendix 3	Design & Planning Associates Proposed Site Layout Plan 17101 P-02G
Appendix 4	Vehicle Speed Measurements
Appendix 5	Speed & Visibility Splay Calculations

1. BRIEF

- 1.1. Sumner Consultancy has been appointed by Gardt Morris Construction Ltd to provide an access assessment in connection with the proposed residential development comprising 6 dwellings adjoining Seion Chapel and to the rear of Smithy Cottages Pontfadog.
- 1.2. The assessment has been requested as a result of a memorandum dated 5th July 2018 from the Service Manager Environment to the Head of Environment and Planning which was recommending refusal of the planning application (Ref: P/2018/0436).

2. SITE INFORMATION

- 2.1. The Site is located on the northern side of Pontfadog adjoining the Seion Chapel.
- 2.2. The Site is located on the western side of the Classified County Highway No. C282 at Grid Reference X323427 Y338197 with the nearest post code of LL20 7AW. The Site Location Plan is in Appendix 1.
- 2.3. The highway to the Site from the B4500 is a narrow rural road with a width to the south of the site adjoining the Seion Chapel of 5.3m where there is a tight left hand bend on the approach to the Site. Adjoining the Site the width is 3.0m with a 0.6m verge. The road is subject to a 30mph speed limit.
- 2.4. The gradient of the highway adjoining the site is between 1 in 12.3 to the south and 1 in 8.4 to the north.
- 2.5. Photographs 1 & 2 in Appendix 2 show the views along the road from the proposed Site Access, and Photographs 3 & 4 towards the proposed Site Access.
- 2.6. The proposal for the site is to construct 6 residential dwellings with a 36m long estate road. A copy of the Architect's revised Proposed Site Layout Plan 17101 P-02I is in Appendix 3.
- 2.7. The Architect is proposing to widen the existing road along the site frontage by approximately 1.4m
- 2.8. At the request of the Highway Authority, speed readings have been taken passed the proposed access with a handheld radar gun. The speed readings were taken on 08-01-19 between 14:00 & 16:30, where there were 17 vehicles travelling in a northerly direction and 25 in a southerly direction. The 85th Percentile speeds for northbound vehicles was 17mph, and for southbound 16mph. A copy of the Vehicle Speed Measurements is in Appendix 4.

3. VISIBILITY SPLAYS

- 3.1. The Department for Transport publication, Manual for Streets (MfS) specifies the visibility requirements for new streets and existing streets subject to re-design.
- 3.2. Measurements for visibility splays are generally taken from a point where the centreline of the minor road meets the channel of the major road, Point A. This is normally at the 'give way' line (or an imaginary 'give way' line if no such markings are provided). The distance back along the minor arm to Point B, from which visibility is measured is known as the X distance. This distance is normally measured along the centreline of the minor arm for simplicity, but in some circumstances (for example where there is a wide splitter island on the minor arm) it will be more appropriate to measure it from the actual position of the driver.
- 3.3. The appropriate X distance for an access to this site would be 2.4m back from the road edge.
- 3.4. The Y distance represents the distance that a driver who is about to exit from the minor arm can see to his left and right along the main alignment. For simplicity it is measured along the nearside kerb line of the main arm to Point C, although vehicles will normally be travelling a distance from the kerb line. Therefore a more accurate assessment of visibility splays is made by measuring to the nearside edge of the vehicle track. The measurement is taken from the point where this line intersects the centreline of the minor arm, Point A, (unless, as above, there is a splitter island in the minor arm).

- 3.5. If the speed readings are taken in dry weather, then a reduction of 2.5mph can be applied to the speed readings as outlined in TA 22/81 Vehicle Speed Measurement on All Purpose Roads. Therefore the 85th Percentile speed northbound will be 14.5mph, and southbound 13.5mph. Based on these speeds the visibility splay in a southerly direction is 16.9m, and in a northerly direction 15.6m. The Speed & Visibility Splay Calculations are in Appendix 5.
- 3.6. The potential visibility splays are shown on the revised Architect's Proposed Site Layout Plan 17101 P-021 in Appendix 3, where the splay line has been taken to the nearside edge of the vehicle track, which is taken to be 1.0m from the road channel, as outlined in Manual for Streets.

4. CONCLUSION

- 4.1. The proposed road widening of approximately 1.4m, as shown on Architect's Proposed Site Layout Plan 17101 P-021 will enable easier vehicular movements into and out of the proposed Site Access.
- 4.2. Based on the speed readings with a dry weather reduction, vehicle speeds of 14.5mph northbound and 13.5mph southbound, the visibility splays are 16.9m to the south and 15.6m to the north. Measured to the nearside edge of the vehicle track, which is taken to be 1.0m from the road channel the visibility splays can be accommodated with the site area or the existing highway.

John Sumner IEng MICE
Sumner Consultancy Ltd
September 2018

APPENDIX 1

SITE LOCATION PLAN

SITE LOCATION PLAN
Nearest Post Code LL20 7AW
Grid Reference X323427 Y338197

Nearest Post Code LL20 7AW
Grid Reference X323427 Y338197



APPENDIX 2

PHOTOGRAPHS



PHOTOGRAPH 1
From Site entrance looking north



PHOTOGRAPH 2
From Site entrance looking south



PHOTOGRAPH 3
Looking south towards proposed site access



PHOTOGRAPH 4
Looking north towards proposed site access

APPENDIX 3

**DESIGN & PLANNING ASSOCIATES
PROPOSED SITE LAYOUT PLAN 17101 P-02I**

DO NOT SCALE THIS DRAWING

IMPORTANT
DRAWING TO BE READ IN
CONJUNCTION WITH STRUCTURAL
ENGINEER'S DRAWINGS &
INFORMATION

PLEASE NOTE

Due to the age, materials, construction & layout of existing buildings dimensions and levels may vary according to location.
Whilst best efforts are made, wall thicknesses sometimes differ according to height & walls which are not straight & may 'bend' mid-run. Also due to slightly sloping ceilings/floors, clear heights may differ dependant on where existing measurements are taken.

This drawing and the works depicted are the copyright of Design and Planning Associates Ltd (DPA) and may only be reproduced with written permission. No alteration to the design or specification in part or whole to be made without the written approval of DPA.

All dimensions and levels depicted are subject to checking and verified on site prior to construction. Any discrepancies are to be immediately notified to DPA. Figured dimensions to be used only.

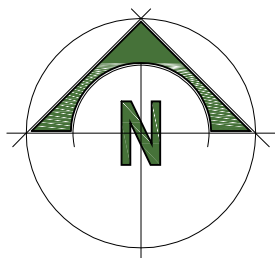
The information contained in this drawing must only be used at the named location. The location of any services indicated on this drawing are approximate only and must be checked on site by the main contractor before commencing works.

Client/Contractor is to be responsible for locating any underground services.

CDM Regulations - Where applicable the designers hazard identification sheets to be read in conjunction with all consultants drawings, specifications and existing record drawings. It is considered that a competent contractor will be able to identify hazards associated with the project from the information above, and take the necessary precautions to deal with any risks to health and safety.
CDM - for the avoidance of doubt the Principal Contractor is reminded that he is fully and solely responsible for the day-to-day management of site safety.

Compliance with the construction design and management regulations(CDM) is the sole responsibility of the client unless we are otherwise instructed in writing.

CONSTRUCTION NOTES GENERALLY:
Notwithstanding anything contained in this document or any other document forming part of the basis of the works every aspect of the works/installation is to comply with all requirements and all recommendations of all relevant Associations, Manufacturers, BRE Digests, British Standards, Codes of Practice, Building Regulations, Bye-Laws, Acts, Regulations, Planning Authority, Environmental Health Department, Fire Authorities, Water Authorities, Gas Authority, Electricity Authority, Institute of Heating and Ventilating Engineers and IEE Regulations.



Garth Y Poeth

MAES MEREDYDD

the existing stone wall fronting the site to be taken down and re-built a minimum of 1mtr back from existing highway edge to allow for road widening across the full site frontage. wall to be positioned behind visibility splay

foul water connection to existing public sewer to Dwr Cymru approval
new site access road with 2.4mtr x 18.0 & 14.0mtr visibility splay, all to Highways Authority approval
existing boundary wall shown dashed

proposed bin collection zone. bins to be stored in rear gardens on non-collection days

permeable surfacing to access road and parking areas to SUDS design

boundary native species hedge screening to rear of properties to South

existing bank top to be cut bank to angle of repose to be agreed with engineer - approx height 1800mm above level of rear access path
1200mm stock proof post and rail fence to site boundary

first two panels 1800mm high close boarded fence with concrete posts to plot boundaries, thereafter 1200mm high

existing overhead cables to be re-routed

possible location of communal 4000ltr LPG tank on hardstanding/concrete base

surface water outfall to stream through hydro-brake to engineer's details

outline of existing Sycamore tree to be felled as detailed in Arboricultural Report prepared by Old Oak Tree Care dated 18 January 2018

surface water outfall to stream through attenuation tank/ hydro-brake to engineer's details

existing overhead cables to be re-routed

SITE LAYOUT PLAN

1:200@A1

SITE LAYOUT AS PROPOSED

1:200 0 2m 4m 6m 8m 10m 12m 14m 16m

Scale bars for information only and not for construction

NOT APPROVED FOR CONSTRUCTION

I	Dwellings moved & visibility splay amended	09.01.18	BB	
H	Dwellings moved away from Root Protection Area	14.11.18	BB	
G	entrance/boundary wall/highway clarified	03.09.18	BB	
F	6m shown for reversing out of parking spaces	17.07.18	GE	
E	Units 1&4 moved rearwards, Unit 1 layout amended.	04.07.18	BB	
D	Fencing to top of bank amended	29.05.18	BB	
C	General layout revisions to Pennal requests	26.04.18	BB	
B	General layout revisions to client requests	02.03.18	BB	GE
A	Parking layout and levels amended	07.02.18	BB	GE
rev	description	date	author	checked

PLANNING

client
GARETH MORRIS CONSTRUCTION

project
Residential Development on land behind
SEION CHAPEL
Pontfadog

drawing
SITE LAYOUT PLAN

project no.
17101

date
01/18
drawn
BB

scale
1/200 @ A1

drawing no.
P-02

revision

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SK=SKETCH/FEASIBILITY
P=PLANNING
T=TENDER
BR=BUILDING REGULATION
AB=AS BUILT

APPENDIX 4

VEHICLE SPEED MEASUREMENTS

VEHICLE SPEED MEASUREMENT



Site Location **Rear of Smithy Cottages Pontfadog**

Grid Reference **X323427 Y338197**

Nearest Post Code **LL20 7AW** Weather **Dry**

Speed readings taken on **08/01/19** Using a handheld radar gun

Timespan **14:00** to **16:30** Hours **02:30**

Traffic Direction
North Bound

Traffic Direction
South Bound

VEHICLE No.	SPEED mph
1	13
2	13
3	12
4	16
5	12
6	19
7	16
8	15
9	13
10	16
11	20
12	14
13	14
14	16
15	15
16	15
17	14
18	
19	
20	
21	
22	
23	
24	
25	

VEHICLE No.	SPEED mph
1	11
2	10
3	16
4	16
5	14
6	17
7	15
8	12
9	13
10	15
11	13
12	17
13	14
14	19
15	13
16	12
17	16
18	11
19	11
20	11
21	10
22	14
23	12
24	13
25	12

	North	Bound	South	Bound
No. of Speed Readings	17	n	25	n
Sum of Speed Readings	253	v	337	v
Sum of Squares of Speeds	3843.0		4681.0	
Mean Speed	14.9	m	13.5	m
Standard Deviation	1.9	s	2.1	s
85th Percentile	17	mph	16	mph

APPENDIX 5

SPEED & VISIBILITY SPLAY CALCULATIONS

SPEED & VISIBILITY SPLAY CALCULATIONS

Manual for Streets (MfS)



Site Location **Rear of Smithy Cottages Pontfadog**

Grid Reference **X323427 Y338197**

Nearest Post Code **LL20 7AW**

Speed readings were taken on 08/01/2019 Using a handheld radar gun

Traffic Direction Northbound mph
85th Percentile 17.0

Traffic Direction Southbound mph
85th Percentile 16.0

Speed in wet weather

TA 22/81 Vehicle Speed Measurement on All Purpose Roads

Speed reduction for wet weather 2.5 mph (4 kph for AP Single Carriageways)

Traffic Direction Northbound mph
85th Percentile 14.5

Traffic Direction Southbound mph
85th Percentile 13.5

Visibility Distances From Manual for Streets

SPEED	Km/h	16	20	24	25	30	32	40	45	48	50	60
	mph	10	12	15	16	19	20	25	28	30	31	37
SSD (metres)		9	12	15	16	20	22	31	36	40	43	56
SSD adjusted for bonnet length		11	14	17	18	23	25	33	39	43	45	59

Traffic Direction Northbound
85th Percentile Visibility Splay 16.9 m Adjusted for speeds in wet weather

Traffic Direction Southbound
85th Percentile Visibility Splay 15.6 m Adjusted for speeds in wet weather

Where:

Stopping Sight Distance = $vt + v^2/2(d+0.1a)$

v = Speed (m/s)

t = Reaction Time (s) = 1.5

d = Deceleration Time (g) = 0.450

g = Gravity (m/s²) = 9.81

Bonnet Length (m) = 2.4

a = Longitudinal Gradient (%)

Northbound Gradient (%) = 12.0%

Southbound Gradient (%) = 12.0%

Note: The calculations above are based on the formula in Manual for Streets 2 for determining the Stopping Sight Distance