

IMPORTANT NOTICE
The Road Restraint design is the responsibility of the Designer; the RRRAP tool is an integral part of the design process which assists the Designer in determining at each specific site the need for VRS and its performance requirements.
Users of this program take full responsibility for verifying the data entered into this program and only using

Record Information

Record Name:	A483 Rhosrobin, Wrexham
Project Name:	Castle Green Residential Site, New Road, Rhosrobin
Record Description:	RRRAP assessment of new 2.5m high noise barrier/fence adjacent to residential site and abutting A483
Record Status:	Live
Record Last Updated:	26-Jun-2024 12:42:16
RRRAP Version Number:	3.3
RRRAP Issue Date:	15-Sep-2009

Common Details

Basic Details

Project Id or Pin	-
Highway Authority	Welsh Government
Designer Reference	3648
Contract Type	other
Contract Sub Type	N/A
Region	Clwyd
Country	Wales

Reason for Design

New Section of Road	No
Widening existing carriageway	No
Upgrade/improvement to existing carriageway	No
Downgrade existing carriageway	No
Replacement of existing restraint	No
New restraint on existing road	No
Temporary Works	No
Road furniture/ equipment improvement	Yes
Assess existing parapet	No
Other	New Noise fence on private residential development

Section Details

Road Classification	All Purpose Road
Road Number	A383
Road Name	-
Road Sub Type	D2AP
Road Location	Mix
To Current Geometric Standards	Yes
From Junction Name	To Junction Name
From Junction No	To Junction No
From Marker Post	To Marker Post
From Section Label	To Section Label
From Chainage of section(m)	To Chainage of section(m)
0.0	327.7
Section/Direction being assessed	northbound
Nearside or Offside Verge being assessed?	N/S Verge
Does road have full-width (i.e. to standard) near side hardshoulder or hardstrip?	Hard strip >= 0.6m
Are Environmental considerations likely to influence provision?	No

Traffic Info

Permanent Speed Limit (mph)	50
Temporary Mandatory Speed Limit (HSR)	N/A
AADT (2-way unless motorway link or slip)	45000
Large Vehicles (%)	8.5
Medium Vehicles (%)	15.4
Model accident frequency (Nearside)	0.198
Model accident frequency (Offside)	

Scheme Duration and Barrier Costs

Start Year	2024
Use Default VRS Lifetime (20 years)?	Yes
Use the default Discount (i.e. inflation) Rate of 7.0% over the VRS lifetime?	Yes
Use default safety barrier and parapet costs?	Yes

300 Fencing

ID	Nature	Start Chainage	Length	Width	Offset from PSb
0300.0001	Close boarded fence - timber / concrete	0.0	327.7	0.15	12.95

End Offset from PSb	Angle	Height / Depth	Aggressiveness	Local Alignment
15.46	0	>1.8m height	0.9	Good alignment

Speed	Sleep	Other Features	Topography Factor	MF for runoff
Mean speed exceeds speed limit	A	W	1.0	0.93

Is risk without VRS acceptable	Level of risk with optimum length VRS	Min Length Advance	Min Length Beyond	Barrier Containment
--------------------------------	---------------------------------------	--------------------	-------------------	---------------------

Yes

VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure required?
			0.0	None

Comment

Hazard Issue(s) [0300.0001]

600 Earthworks

ID	Earthworks Profile		Start Chainage	Offset from PSb	Overall Width	
0600.0001	Rising at 50%		0.0	2.0	10.0	
Overall Height	Ave slope gradient	Local Alignment	Speed		Sleep	Other Features
5.0	50.0	Good alignment	Mean speed exceeds speed limit		A	W
Typical surface of		Typical location of Highway		Length	Aggressiveness	
Long grass / scrub		Beyond width of slope		155.0	0.25	
Topography Factor	MF for runoff rate	Is risk without VRS acceptable	Level of risk with optimum length VRS		Min Length Advance	Min Length Beyond
1.0	0.93	Yes				
Barrier Containment	VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure	
				0.0	None	
Comment						

Full Report

Report 26-Jun-2024 13:43:42

ID	Earthworks Profile		Start Chainage	Offset from PSb	Overall Width	
0600.0002	Rising at 3.3%		155.0	6.4	9.0	
Overall Height	Ave slope gradient	Local Alignment	Speed		Sleep	Other Features
0.3	3.3	Good alignment	Mean speed exceeds speed limit		A	W
Typical surface of		Typical location of Highway		Length	Aggressiveness	
Short grass		Beyond width of slope		20.0	0.25	
Topography Factor	MF for runoff rate	Is risk without VRS acceptable	Level of risk with optimum length VRS		Min Length Advance	Min Length Beyond
1.0	0.93	Yes				
Barrier Containment	VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure	
				0.0	None	
Comment						

ID	Earthworks Profile		Start Chainage	Offset from PSb	Overall Width
0600.0003	Nominally at Grade		175.0	5.0	8.0
Overall Height	Ave slope gradient	Local Alignment	Speed	Sleep	Other Features
0.0	0.0	Good alignment	Mean speed exceeds speed limit	A	W
Typical surface of	Typical location of Highway		Length	Aggressiveness	
Short grass	Beyond width of slope		5.0	0.25	
Topography Factor	MF for runoff rate	Is risk without VRS acceptable	Level of risk with optimum length VRS	Min Length Advance	Min Length Beyond
1.0	0.93	Yes			
Barrier Containment	VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure
				0.0	None
Comment					

Full Report

Report 26-Jun-2024 13:43:42

ID	Earthworks Profile		Start Chainage	Offset from PSb	Overall Width
0600.0004	Falling at 25%		180.0	7.3	2.0
Overall Height	Ave slope gradient	Local Alignment	Speed	Sleep	Other Features
-0.5	-25.0	Good alignment	Mean speed exceeds speed limit	A	W
Typical surface of		Typical location of Highway		Length	Aggressiveness
Small bushes / trees		Beyond width of slope		60.0	0.25
Topography Factor	MF for runoff rate	Is risk without VRS acceptable	Level of risk with optimum length VRS	Min Length Advance	Min Length Beyond
1.0	0.93	Yes			
Barrier Containment	VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure
				0.0	None
Comment					

ID	Earthworks Profile		Start Chainage	Offset from PSb	Overall Width
0600.0005	Falling at 50%		240.0	7.3	2.0
Overall Height	Ave slope gradient	Local Alignment	Speed	Sleep	Other Features
-1.0	-50.0	Good alignment	Mean speed exceeds speed limit	A	W
Typical surface of	Typical location of Highway		Length	Aggressiveness	
Small bushes / trees	Beyond width of slope		87.7	0.25	
Topography Factor	MF for runoff rate	Is risk without VRS acceptable	Level of risk with optimum length VRS	Min Length Advance	Min Length Beyond
1.0	0.93	Yes			
Barrier Containment	VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure
				0.0	None
Comment					

ID	Earthworks Profile		Start Chainage	Offset from PSb	Overall Width	
0600.0006	Falling at 50%		327.7	2.0	6.0	
Overall Height	Ave slope gradient	Local Alignment	Speed	Sleep	Other Features	
-3.0	-50.0	Good alignment	Mean speed exceeds speed limit	A	W	
Typical surface of		Typical location of Highway		Length	Aggressiveness	
Small bushes / trees		Beyond width of slope		End Earthwork for Section.	2.0	

1100 Kerbs and Edge of Pavement Details

ID	Nature	Start Chainage
1100.0001	Channel lined	0.0
Comment		

ID	Nature	Start Chainage
1100.0002	Channel lined	327.7
Comment		

1200 Traffic Signs or Signals

ID	Nature	Start Chainage	Length	Width	Offset from PSb
1200.0001	Sign on p.s. post(s)	98.0	0.2	3.3	1.6

Cluster of hazards	Height / Depth	Mounting height	Designed for collision loading?	Width of sign face	Aggressiveness	Local Alignment
Individual hazard	>3m	>1.5m mounting ht	No	3.5	0.25	Good alignment

Speed	Sleep	Other Features	Topography Factor	MF for runoff rate	Is risk without VRS acceptable
Mean speed exceeds speed limit	A	W	1.0	0.93	Yes

Level of risk with optimum length VRS	Min Length Advance	Min Length Beyond	Barrier Containment	VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure required?
							0.0	None

Is calculated risk level accepted for hazard that could give rise to a significant secondary

Yes

Comment

Trees

ID	Nature			Start Chainage	Length	Width	Offset from PSb
8700.0001	Tree >= 250 mm girth expected in lifetime			0.0	327.7	0.5	6.0
Cluster of Hazards		Aggressiveness		Local Alignment	Speed		Sleep
Cluster of hazards		2.0		Good alignment	Mean speed exceeds speed limit		A
Other Features	Topography Factor	MF for runoff rate	Is risk without VRS acceptable		Level of risk with optimum length VRS	Min Length Advance	Min Length Beyond
W	1.0	0.93	Yes				
Barrier Containment		VRS Class	VRS WW	Setback VRS	Cost Option	Relaxation / Departure required?	
					0.0	None	
Comment							

Hardshoulder / hardstrip width & Verge width details

Chainage	Width of Verge	Width of adjacent Hardstrip A		Carriageway width from Psb	Total nearside runoff distance	Total offside runoff distance
0.0	2.0	1.0	0.0	9.3	1.0	9.3
Comment						

Chainage	Width of Verge	Width of adjacent Hardstrip A		Carriageway width from Psb	Total nearside runoff distance	Total offside runoff distance
327.7	2.0	1.0	0.0	9.3	1.0	9.3
Comment						

End



Key:

- Site Boundary
- 1.8m high boundary fence
- 1.8m high screen wall / fence
- Private Drive
- Indicative Landscaping
- Number of parking spaces proposed to Semi-Detached and Detached Dwellings
- Parking space allocation to Terraced Dwellings
- Knee rails to parking bays to Mid-Terraced Dwellings
- Affordable Housing
- Existing Sewer & Easement
- Customer option garage

RHOSROBIN - SCHEDULE OF ACCOMMODATION				
HOUSETYPE	DESCRIPTION	SQFT	NUMBER	PERCENTAGE
Oakley (Affordable)	2 Bed, 2 Storey, Mid-Terrace	705 SQFT	26	12.44
	2 Bed, 2 Storey, End-Terrace	622 SQFT	18	8.61
Highfield (Affordable)	2 Bed, 2 Storey, End-Terrace	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
APSB (Affordable)	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Highfield	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Newlyn	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Valeway	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Oakley	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Stratford	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Bourneville	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Bewley	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Warrington	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
Warrington	2 Bed, 2 Storey	622 SQFT	18	8.61
	2 Bed, 2 Storey, Mid-Terrace	622 SQFT	18	8.61
TOTAL		20662 SQFT	268	
Gross Site Area		39 Acres	15.78 Hectares	
Matured Land within Green Belt		14.09 Acres	5.70 Hectares	
Landscaped POC within Green Belt		0.27 Acres	0.10 Hectares	
Development Area POC		1.25 Acres	0.51 Hectares	
Undevelopable: Entrance, Single Solid Road & Existing Landscaping		0.3 Acres	0.12 Hectares	
NETT SITE AREA		14.69 ACRES	5.96 HECTARES	
Gross Density		0.36 Units/Acre	35.65 Units/Hectare	
NETT DENSITY		54.83 UNITS/ACRE	36.88 UNITS/HECTARE	
Gross Footage		5380.82 SQFT/Acre	125.25 SQM/Hectare	
NETT FOOTAGE		3483.68 SQFT/Acre	343.69 SQM/Hectare	

Rev:	Description:	Date:
A	Blocks updated and mix amended	08.10.20
B	APD layout added	19.10.20
C	Road layout and mix amended	01.12.20
D	Additional plots added increasing number to 189.	05.01.21
E	Schedule corrected.	07.01.21
F	LEAP indicated	11.01.21
G	Turning heads by plots 118, 79 and between plots 25-26 extended to following vehicle tracking report.	26.01.21
H	Amends following planning officer comments.	07.04.21
I	Amends following planning officer comments.	25.05.21
J	Amends following planning officer comments.	15.06.21
K	Cycle path added on North West part of the site.	01.07.21
L	Plots 1-5 repositioned away from Diverted HV Cable.	05.07.21
M	Amends following comments from the Tree Officer.	18.10.21
N	Parking indicated for plot 27. Parking numbering corrected for plots 165 - 175.	03.11.21
O	Amends to plots near site entrance following review of levels. Internal issue.	---11.21
P	Plots 44-47, 97, 100, 101, 118, 160, 161 Handed. Burlington Roof configuration corrected.	16.02.22
Q	Substation and PBI revised.	04.05.22
Q1	Amends to area around plots 106-116.	15.06.22
R	Plot substitutions to plots 5, 6, 9 & 185. Detached garages removed from plots 786, 1568, 157, 1608, 161.	28.03.23
S	Elwy & Cloyd changed to Highfield & Oakley Affordables. Double parking bays widened from 4.8m to 5.1m on terraced units/semi's and associated paving amended. Henley house type block updated to new roof configuration	13.07.23
T	Plots 6 & 7 parking bays repositioned. Oxford block flagged on plot 162 has been amended	19.07.23
U	Flagging amended. Whitshire drives widened, plot 173 flag amended, plots 30-37 corrected	02.08.23
V	Plots 20-23 rear fence amended & roof type now gable.	30.08.23
W	Plot substitutions and Plot numbers increased to 209	26.09.23
X	Ashton Mids replaced with Eaton Mids	22.03.24
		22.04.24



Castle Green
Unit 20,
St. Asaph Business Park, St Asaph,
Denbighshire. LL17 0LJ.
Tel. 01745 536677

Site:

Main Road, Rhosrobin, Wrexham

Title:

Proposed Site Plan (1 of 2)

Scale:

1:1000@A0

Date:

18.07.19

Ref:

RHRO-SP01

Rev:

X

