6 Wider Site Analysis

The second part of the SFCA was to undertake assessment on a number of issues highlighted by the Local Authority across the wider site. These are addressed below.

6.1 Critical Drainage "Hotspots"

Rhondda Cynon Taf CBC provided a report "Arrangements during Flood Incidents" (November 2007) which identified 790 sites through the Rhondda, Cynon and Taff areas. This detailed the culverts throughout the area and identified the location, owner and district within which these were located. Furthermore, 'priority culverts' were identified which are culverts with known blockage and / or flooding issues and therefore required regular maintenance to ensure that they operated as efficiently as possible. This list is shown in Appendix B.

The list was transferred into an electronic spreadsheet and from this the priority culverts extracted. Because the precise location of the priority culverts was not known, the culverts were groped into specific towns or villages, and within these the number of priority culverts identified. In addition to the priority culverts identified above Rhonda Cynon Taf have identified further locations of culverts which are considered to pose the greatest flood risk in the event of blockage. These have also been identified within GIS.

The priority culverts were identified using the colour coding system detailed in Table 6-1, the number of priority culverts in each of the areas identified. A comparison of these with the candidate sites is shown in Figure 6-1.

Table 6-1: Colour coding system used to highlight the number of priority culverts within communities across the study area.

Symbol	Number of Priority Culverts per Community
	1 - 5.
	6 - 10
	11 -15
	16 – 20
	20+

In addition to the priority culverts identified above Rhonda Cynon Taf have identified further locations of culverts which are considered to pose the greatest flood risk in the event of blockage. These are highlighted in Table 6-2 and are included in the analysis of Figure 6-1.

Table 6-2: Culverts highlighted by Rhondda Cynon Taf Drainage Engineers as those Posing Greatest Flood Risk.

Culvert Ref No.	Town Location	Street Location	Grid Structure	Owner
4	Aberman	Gwawrbrook	No	RCT
596	Tonyrefail	Tonyrefail Byepass	No	RCT
688	Treorchy	o/s Glyncoli Farm	Yes	RCT
739	Ynyshir	Upper Gynor Place	Yes	RCT
779	Ynysybwl	Rear or the Spar Grocers	Yes	RCT

The results of the priority culvert analysis are summarised in Table 6-3 below:

Table 6-3: Results of the Priority Culvert Analysis

Culvert Assessment	No
Total No of Culverts	786
Priority Culverts	511
RCT Owned Priority Culverts	172
Privately owned Priority Culverts	317
Unidentified Priory Culverts	22

48 settlements are potentially at risk of flooding from the critical drainage issues identified. These areas are highlighted on Figure 6-1. The towns and communities in the Rhondda Valley are most at risk from these sources of flooding. It is therefore recommended that site specific FCAs are undertaken in these areas to inform the Environment Agency and the LPA of the flood risk and ensure that development only continues if the flood risk is manageable in line with policy requirements.

6.2 Artificial Flood Risk

The risk of flooding from artificial sources such as canals or reservoirs is highest where the body of water is contained above ground, and failure of the supporting structure will lead to large volumes of water flowing down slope. Although this type of flood risk is uncommon, the consequences may be extremely high. Therefore, these are required to be identified in this SFCA and, if appropriate, investigated further in detailed FCAs.

The artificial sources were identified from a review of the geographical data for the study area and from liaison with relevant stakeholders. From this, those artificial sources that were above ground level and / or supported by a dam or embankment have been identified. These have been identified in GIS and DTM data the local topography has been evaluated to ascertain what direction water would flow in the event of a breach or failure. This has been shown with arrows.

From this, the communities potentially at risk from the artificial sources were identified and the candidate sites within these communities identified.

The potential artificial sources of flood risk are listed in Table 6-4 – there are no canals identified in the study area.

Table 6-4: Reservoirs and Major Lakes Identified for flood Risk Analysis.

Major Artificial Water Bodies	Type	Major Artificial Water Bodies	Type
Clydach Reservoir	Reservoir	Llwyn-on Reservoir	Reservoir
Perthcelyn Reservoir	Reservoir	Nant-moel Reservoir	Reservoir
Llyn Fawr (Rhigos)	Reservoir	Dare Valley County Park	Lake
Lluest Wen Reservoir	Reservoir	Clydach Vale Country Park	Lake
Castell Nos Reservoir	Reservoir	Cwm Colliery & Coking Works	Lake
Penderyn Reservoir	Reservoir	Mwyndy	Lake

From evaluation of the data collated it has been concluded that 10 settlements are potentially at risk of flooding should one of the reservoirs or lakes identified overtop or failure. From cross referencing these communities with the candidate site register, 39 sites are found to be potentially at risk of flooding (Table 6-5). It is therefore recommended that site specific FCAs are undertaken in these areas to inform the Environment Agency and the LPA of the flood risk and ensure that development only continues if the flood risk is manageable in line with policy requirements.

Figure 6-1: Critical Drainage Hotspots and the Candidate Site across the study area

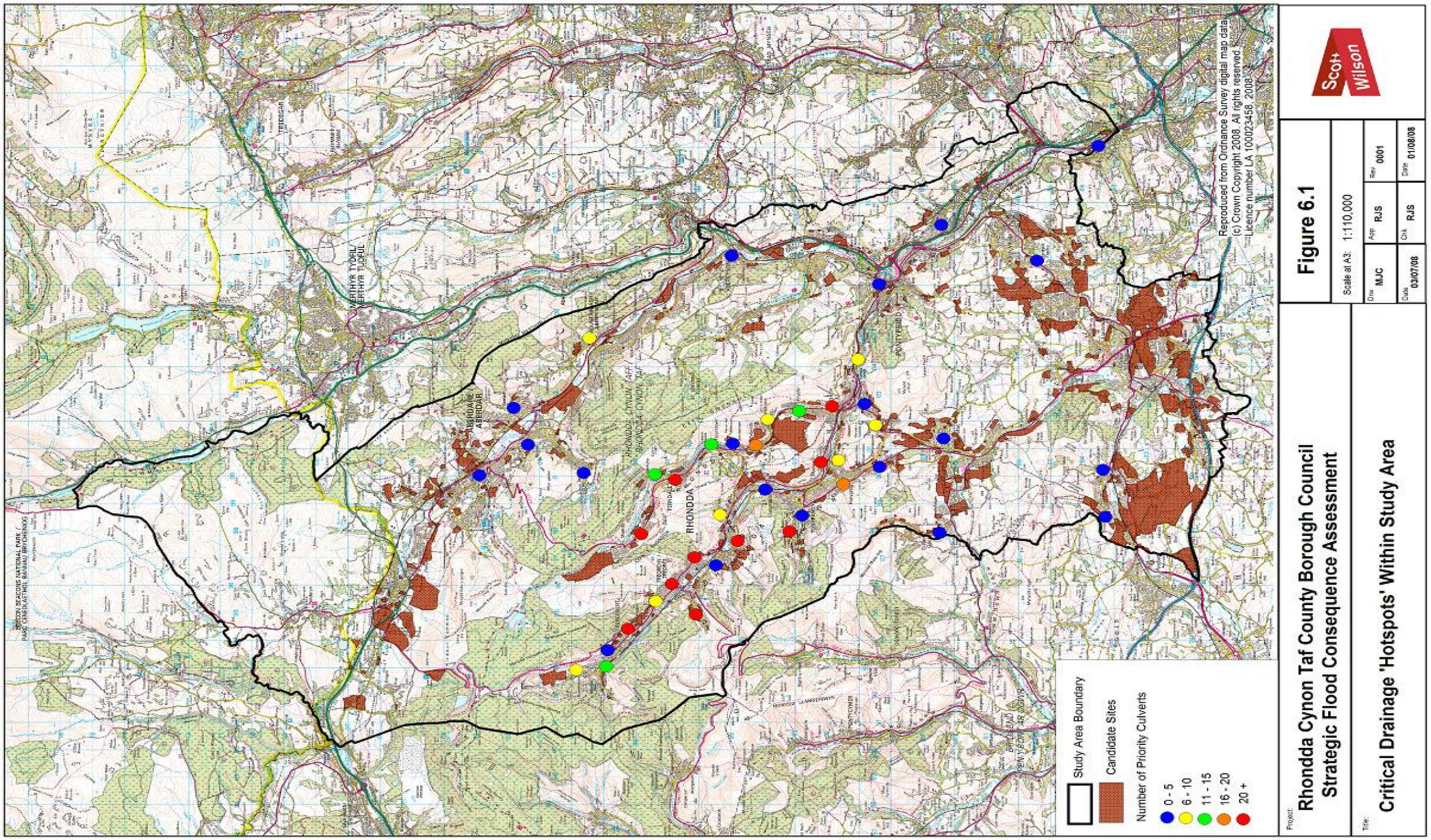

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Table 6-5: Candidate Sites Potentially at Risk from Artificial Flooding Sources

Major Artificial Water Bodies	Candidate Site Potentially at Risk From Artificial Flooding Sources				
	Site ID	Settlement	Site Name	Proposal	Area(Hectares)
Clydach Reservoir	**282**	Ynysybwl	Land to the south west of Darren Ddu Road	Residential development	2.3
	371	Ynysybwl	Land at Buarth y Capel	Residential development	20.99
	404	Ynysybwl	Land situated in Ynysybwl (north of Cyncoed)	Residential development	2.32
	510	Ynysybwl	Middle section of Cribbin Ddu Quarry	Residential development	0.33
Perthcelyn Reservoir		Brynterion, Tyntetown and Ynysboeth; North of Abercynon	No development identified	No development identified	
Nant Moel Reservoir	**270**	Penywaun	Land at Maesycwmrig, Hirwaun Road	Residential development	0.92
	274	Penywaun	Land south of Hirwaun road	Residential or Employment	0.8
	288	Penywaun	Land east of Trenant	Residential development	3.35
	335	Penywaun	Site 1 - Land south of Gamlyn Terrace	Employment/Residential/Retail	2.78
	485	Penywaun	Land south of Penywaun (Tower Colliery)		18.82
	516	Penywaun	Land opposite 9 and 10 Cwm Nant yr Hwch - off Heol Caradog	Residential development	1.89
	517	Penywaun	Land between Aberdare Bypass and cemetery	Residential development	0.42
Llwyn-on Reservoir		No settlements in study area	No developments identified in study area.		
Llyn Fawr & Penderyn Reservoir	**328**	Rhigos	Land at Werfa Farm - revised large site	Residential development	21.14
	388	Rhigos	Land at Cwm-hwnt (adjacent to Plough Inn)		0.74
Lluest Wen and Castell Nos Reservoir	**10**	Ferndale	Station Road	Residential development	0.36
	11	Ferndale	Station Road, east of the river bridge	To be confirmed	0.63
	12	Ferndale	Playing Fields	Residential development	3.71
	3	Maerdy	Rear of Maerdy Road	Site for small-scale infill development	3.1
	4	Maerdy	Maerdy Road	Site for small-scale infill development	0.33
	5	Maerdy	Rear of Richard Street	To be confirmed	5.88
	6	Maerdy	Ferndale Industrial Estate	To be confirmed	1.1
	7	Maerdy	Ferndale Industrial Estate	To be confirmed	0.53
	8	Maerdy	Ferndale Industrial Estate	To be confirmed	1.71
	9	Maerdy	Highfield Industrial Estate	To be confirmed	1.14
	462	Maerdy	Former Maerdy Colliery Site		69.54
Dare Valley County Park	**104**	Aberdare	Cwm Farm	Residential development	7.69
	159	Aberdare	Rear of Brynhir	Not specified - residential to be confirmed	2.32
	223	Aberdare	Land at Maesffynnon Lane	Residential development	2.81
	226	Aberdare	Llwydcoed Community Centre and adjoining land	Residential development	0.42
	227	Aberdare	Land fronting Cwmdare Road	Residential development	4.25
	249	Aberdare	Land at Aberdare Goods yard	Mixed use development	3.96
	366	Aberdare	Land at Maesyffynnon Lane, rear of Brynffynon Close	Residential development	0.36
Clydach Vale Country Park	**90**	Clydach Vale	Land south of Court Street	Residential development	0.44
	91	Clydach Vale	Land south of Railway Terrace	Residential development	0.82

Major Artificial Water Bodies	Candidate Site Potentially at Risk From Artificial Flooding Sources				
	94	Clydach Vale	Site to south of Cwmclydach Junior School	Residential development	0.7
	99	Clydach Vale	Land at the end of Howard Street	Residential development	4.08
	200	Clydach Vale	Land at Park Street	Residential development	0.41
	Site ID	**Settlement**	**Site Name**	**Proposal**	**Area(Hectares)**
	202	Clydach Vale	Land and allotments, Park Street	Residential development	0.95
	395	Clydach vale	Land Fronting Pleasant Terrace	Residential development	0.73
	396	Clydach Vale	Land fronting Morton Terrace	Residential development	0.73

7 Conclusions

7.1 Strategic Site Analysis

Table 7-1 details the areas of the nine study sites that can be developed and, in line with policy requirements, what type of development can be considered. For reference Table 7-2 provides details the vulnerability of different land uses as described in TAN15.

Table 7-1: Summary of Areas of Potential development using various baseline information.

	Total Site Area (ha)	Proportion of Total Site							
		C2 Classification		Flood Zone 3 Area		Highly Vulnerable Development		Less Vulnerable Development	
		ha	%	ha	%	ha	%	ha	%
Maerdy	68	1.6	2.5	1.6	2.5	66.4	97.6	66.4	97.6
Fernhill	45	4	9	3.7	8.3	41	91	41	91
Phurnacite	60	60	100	20	33	0	0	40	66
Robertstown / Abernant	33.5	15	44	11.5	34.5	18.5	56	22	65
Hirwaun / Penywaun	340	0	0.02	0.1	0	340	99.9	340	99.9
Cwm Colliery	92	11	12	9	9.5	81	88	83	90.5
Llanilid OCCS	400	7.3	1.8	n/a	n/a	394	98.5	392.7	98.2
Talbot Green and Mwyndy	186	22.5	12	9	5	163.5	88	177	95
Treforest Industrial Estate	76	65	80	40	52	11	20	34	48

Table 7-2: The vulnerability of different land uses as detailed in TAN15

Development Category	Types
Highly vulnerable development	All residential premises (including hotels and caravan parks), public buildings (e.g. schools, libraries, leisure centres, especially vulnerable industrial development (e.g. power stations, chemical plants, incinerators), and waste disposal sites.
Less vulnerable development	General industrial, employment, commercial and retail development, transport and utilities infrastructure, car parks, mineral extraction sites and associated processing facilities, excluding waste disposal sites.

The following points provide a summary of the SFCA Report and recommendations:

- Initial assessment of flood sources across the 9 study sites indicates that flooding risk is predominately fluvial.
- Greater than 90% of the strategic development hectare-age evaluated in this report is potentially developable within the guidance of TAN15 (Table 3-3). Flood risks constraints impact significantly on the Phurnacite, Treforest Industrial Estate, Talbot Green and the Robertstown / Abernant sites.
- The flood risks associated with minor watercourses and drainage systems should be explored further and management systems designed accordingly. This should be captured during the surface water management scheme detailed design phase pre-planning.
- Site specific FCAs will be needed to accompany any planning applications for the development sites.
- While the report has uncovered no evidence of groundwater flood risks the complexity of the bedrock geology across the catchment has resulted in a poor understanding of the groundwater conditions. Little data exists to permit site specific analysis of groundwater flood risk.
- Due to the steep sided valleys associated with the sites at the former Maerdy Colliery, the former Fernhill colliery, Hirwaun and Penywaun and the Cwm Colliery the soils are typically shallow with the underlying bedrock near the surface. This typically results in a flashy stream response to rainfall events.
- The current lack of maintenance of surface water management systems at the former colliery and open cast coaling sites has the potential to increase flood risks.
- The Environment Agency have a risk based programme for hazard mapping areas at significant risk. The extent of this programme is subject to annual funding. New information is constantly available and must be considered as and when available. Most notable changes at this time involve new guidance on climate change and development life in addition to changes in flow calculations.

Table 7-4 to Table 7-13 provides a summary guide as to the findings of the report, as well as containing details of the developable area for the different vulnerability land uses. Furthermore, there is further evaluation of the flood risks associated with the flood history, groundwater, overland flow, sewers, and artificial sources. To easily identify the key issues / constraints at each of the sites a traffic light system has been utilised. This is explained in Table 7-3.

Table 7-3: Traffic light system

Traffic Light	Description
	Low flood risks and therefore a minimal constraint
	Medium flood risk and constraints that require further investigation in a site specific FCA
	flood risk that does not comply with current policy requirements and significantly affects the proposed development site

These risks should be explored further, and management systems designed accordingly, where applicable, in a site specific FCA or during the pre-planning surface water management scheme design phase.

7.1.1 Site 1: Former Maerdy Colliery, Rhondda Fach

Table 7-4: Former Maerdy Colliery Constraints Table

Former Maerdy Colliery	Comment	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	97.6% Developable	Highly vulnerable development would have to be excluded from the 1 in 1000 year floodplain.
Potential Lower Vulnerability Development	97.6% Developable	Lower vulnerability development would need to be excluded from the 1 in 100 year floodplain.
Flood History	Low Risk	No recorded issues
Groundwater	Low Risk	No recorded issues
Overland Flow	Medium Risk	Large number of drainage ditches none of which are maintained.
Sewer	Low Risk	No infrastructure believed to be present
Artificial	Low Risk	Castell Nos Reservoir is inspected by DCWW and regulated by the Environment Agency.
Comments	The principal issues would be the management of the existing surface water ditches that traverse the site.	

7.1.2 Site 2: Former Fernhill Colliery, Blaenrhondda

Table 7-5: Former Fernhill Colliery Constraints Table

Former Fernhill Colliery	Comments	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	91% Developable	Highly vulnerable development would have to be excluded from the 1 in 1000 year floodplain.
Potential Lower Vulnerability Development	92.7% Developable	Lower vulnerability Development would need to be excluded from the 1 in 100 year floodplain.
Flood History	Low Risk	No recorded issues
Groundwater	Low Risk	No recorded issues
Overland Flow	Unknown Risk	Would require further analysis in a site specific FCA or surface water management plan.
Sewer	Low Risk	No infrastructure believed to be present
Artificial	Low Risk	No issues
Comments	The flood risk associated with the culvert beneath the site would require further analysis in a site specific FCA.	

7.1.3 Site 3: Former Phurnacite Plant, Abercwmboi, Cynon Valley

Table 7-6: Former Phurnacite Plant Constraints Table

Former Phurnacite Plant	Comment	
Water Compatible Development	100 Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	0% Developable	Current WAG DAMs highlight that no highly vulnerable development should be permitted at the site.
Potential Lower Vulnerability Development	66.6% Developable	Lower vulnerability development would need to be excluded from the 1 in 100 year floodplain.
Flood History	High Risk	The Environment Agency data highlights the site flooded in 1979
Groundwater	Low Risk	No recorded issues
Overland Flow	Low Risk	No recorded issues.
Sewer	Unknown Risk	Would require further analysis in a site specific FCA or surface water management plan.
Artificial	Low	There are lakes on site but their flood risk is believed to be manageable.
Comments	Depth analysis has highlighted anomalies in the flood risk evaluation of the site. This would need to be clarified in a site specific FCA.	

7.1.4 Site 4: Robertstown and Abernant, Aberdare

Table 7-7: Robertstown Constraints Table

Robertstown,	Comment	
Water Compatible Development	100 Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	0% Developable	Current policy would not permit highly vulnerability development at the Robertstown site.
Potential Lower Vulnerability Development	0% Developable	Current policy would not permit lower vulnerability development at the Robertstown site.
Flood History	High Risk	The Environment Agency data highlights the Robertstown site as having flooded in 1979.
Groundwater	Low Risk	No recorded issues
Overland Flow	Medium Risk	The site is lower than the level of the river and as such overland land flows can become trapped.
Sewer	Unknown Risk	Would require further analysis in a site specific FCA or surface water management plan.
Artificial	Low	No recorded issues
Comments	Development at the Robertstown site can only occur if mitigation measures are proposed, agreed and implemented.	

Table 7-8: Abernant Constraints Table.

Abernant	Comment	
Water Compatible Development	100 Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	100% Developable	Highly vulnerable development would have no flood risk constraints at the site.
Potential Lower Vulnerability Development	100% Developable	Lower vulnerability development would have no constraints at the site.
Flood History	Low Risk	No recorded issues
Groundwater	Low Risk	No recorded issues
Overland Flow	Low Risk	No recorded issues
Sewer	Low Risk	No recorded issues
Artificial	Low Risk	No recorded issues
Comments	The Abernant site will need to meet the surface water requirements of TAN15, namely that in areas of undeveloped land will be required to attenuate surface water flows to the required Greenfield rate and utilise SUDS	

7.1.5 Site 5: Land South of Hirwaun and Penywaun, Aberdare

Table 7-9: Land South of Hirwaun / Penywaun Constraints Table

Land South of Hirwaun / Penywaun	Comments	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	99% Developable	Highly vulnerable development would have minimal flood risk constraints.
Potential Lower Vulnerability Development	99% Developable	Lower vulnerability development would have minimal flood risk constraints.
Flood History	Low Risk	No recorded issues at the development site.
Groundwater	Low Risk	No recorded issues
Overland Flow	Medium Risk	These risks should be explored further during a site specific FCA or surface water management design phase pre-planning.
Sewer	Low Risk	No infrastructure believed to be present
Artificial	Low Risk	The existing surface water lagoons pose a flood risk as they are above ground. However it is envisaged that they would be decommissioned thus removing the risk.
Comments	The principal issues would be the management of the ordinary watercourses that traverse the site.	

7.1.6 Site 6: Cwm Colliery and Coking Works, Beddau

Table 7-10: Cwm Colliery and Coking Works Constraints Table

Cwm Colliery and Coking Works	Comments	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	88% Developable	Highly vulnerable development would have to be excluded from the 1 in 1000 year floodplain.
Potential Lower Vulnerability Development	90.5% Developable	Lower vulnerability Development would need to be excluded from the 1 in 100 year floodplain.
Flood History	Low Risk	No recorded issues
Groundwater	Low Risk	No recorded issues
Overland Flow	Low Risk	No recorded issues
Sewer	Low Risk	No infrastructure believed to be present
Artificial	Low Risk	Analysis of the flood risk from the spoil tip lake demonstrates that overtopping should not affect the site.
Comments	The de-culverting of the watercourse will change the current flooding regime. A site specific FCA will therefore be required.	

7.1.7 Site 7: Mwyndy / Talbot Green, Llantrisant

Table 7-11: Mwyndy / Talbot Green Area Constraints Table

Mwyndy / Talbot Green Area	Comments	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	88% Developable	Highly vulnerable development would have to be excluded from the 1 in 1000 year floodplain.
Potential Lower Vulnerability Development	95% Developable	Lower vulnerability development would need to be excluded from the 1 in 100 year floodplain.
Flood History	Low Risk	No recorded issues
Groundwater	Low Risk	No recorded issues
Overland Flow	Low Risk	No recorded issues
Sewer	Unknown Risk	No issues highlighted
Artificial	Unknown Risk	There are a number of lakes to the south of the site that need to be further assessed in a site specific FCA.
Comments		

7.1.8 Site 8: Former OCC Site, Llanilid, Llanharan

Table 7-12: Former OCC Site, Llanilid Constraints Table

Former OCC Site, Llanilid	Comments	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Potential Highly Vulnerable Development	98% Developable	Highly vulnerable development would have to be excluded from the 1 in 1000 year floodplain.
Potential Lower Vulnerability Development	98% Developable	Lower vulnerability development would need to be excluded from the 1 in 100 year floodplain.
Flood History	Low Risk	No recorded issues
Groundwater	Low Risk	No recorded issues
Overland Flow	Low Risk	No issues identified
Sewer	Low Risk	No infrastructure believed to be present
Artificial	Low Risk	No issues
Comments		

7.1.9 Site 9: Treforest Industrial Estate

Table 7-13: Treforest Industrial Estate Constraints Table

Treforest Industrial Estate	Comments	
Water Compatible Development	100% Developable	Water compatible development would have no flood risk constraints.
Development Restrictions	89% of the site	Area highlighted as being within DAM Flood Zone C2.
Development Limited to Existing Developed Footprint	52% on the site	Area highlighted as being within the Environment Agency Flood Zone 3.
Flood History	Low Risk	Minor overtopping of flood defences during the 1979 flood event.
Groundwater	Low Risk	No recorded issues
Overland Flow	Low Risk	No recorded issues
Sewer	Unknown Risk	No details received
Artificial	Low Risk	No artificial sources of flooding identified.
Comments	Current the Environment Agency hydraulic modelling for the area highlights that the flood defences around the industrial estate would be overtopped in the 1 in 100 year return period flood event. Current policy does not permit new development in these areas however existing development footprints can be developed and flood proofed accordingly. An FCA utilising two dimensional flood modelling would be required to accurately assess the movement, velocities and depths of water on the landward side of the defence.	

7.2 Wider Site Analysis

The following points provide a summary of the wider study area analysis that has been undertaken as a part on the SFCA.

7.2.1 Critical Drainage "Hotspots"

- There are approximately 790 culverted watercourses and / or drainage channels within the study area;
- 511 of the culverts have been classified as "Priority Culverts" by Rhondda Cynon Taf CBC;
- 317 of the "priority culverts" have been identified as being privately owned;
- 172 of the "priority culverts" are owned and or maintained by Rhondda Cynon Taf CBC;
- No ownership could be identified for 22 of the "priority culverts";
- 48 communities / towns are potentially at risk of flooding from the critical drainage issues identified. These areas are highlighted on Figure 6-1;

- The towns and communities in the Rhondda Valley are most at risk from this type of flooding;
- Site specific FCAs will be needed to accompany any planning applications for the development sites within these areas.

7.2.2 Artificial Flood Risk

- There are 12 major sources of artificial flood risk in the study area (Table 6-4);
- 39 sites identified for development on the candidate register are potentially at risk of flooding should one of the reservoirs or lakes identified overtop or breach (Table 6-5);
- 10 communities / towns are potentially at risk of flooding should one of the reservoirs or lakes identified overtop or breach (Table 6-5);
- 3 of these communities have no candidate sites allocated to them. (Table 6-5);
- Site specific FCAs will be needed to accompany any planning applications for the development sites within these areas.

8 The Way Forward

8.1 Updating SFCAs

SFCAs should be 'living' documents, updated as new data is available. It is recommended that Rhondda Cynon Taf CBC liaise with the Environment Agency to determine a suitable period for review and update of the SFCA that is acceptable to all parties. This may include consideration of:

- New climate change updates;
- Development of new flood alleviation measures;
- Updated hydraulic modelling data;
- Issue of new guidance documentation (development life);
- Development of all allocations;
- BREEAM Guidelines on the Code for Sustainable Homes;
- Proposed large scale flood alleviation works;
- Modifications or progress of EU Directives such as the Groundwater Daughter

Work on The EU Flooding Directive is progressing steadily and it will create a mandatory statutory framework for flood risk management, requiring Member States to prepare preliminary risk assessments, flood mapping, and the preparation of flood risk management plans. It applies to all types of flooding, although inclusion of sewerage floods will be optional. It is likely that the plans required by the Directive will be developed for the River Basin Districts defined for the Water Framework Directive

Member States will designate competent authorities to implement the Directive; for Wales, this will be the Environment Agency. Whilst the final requirements of the Flooding Directive are still to be finalised, the Environment Agency hope to achieve the requirements of the Directive through the use of existing published information. This may include reference or use of Strategic Flood Consequence Assessments, Catchment Flood Management Plans and/or Strategic Flood Risk mapping projects. In some cases the assessments may require new information to be generated to inform the stages of assessment required by the Directive.

The EU Flooding Directive is not due to be integrated into law until 2009. The preparation or finalisation of Preliminary Risk Assessments, required by the Directive, may form a useful point in time to review the SFCA and assess its contribution to the Flooding Directives requirements or where an update to the SFCA may benefit from new data generated as part of assessments prepared to meet the requirements of the Flooding Directive.

8.2 Mitigation

There is a wide variety of mitigation strategies that can be adopted to protect people and property for the risk of flooding. Some of these strategies provide technical measures in or near the river, others resort in structural measures on buildings and others can work on a planning level such as changes in land use or simply awareness training. Below is a list of potential flood mitigation measures that could be adopted. Any potential mitigation measures would need to be agreed with the Environment Agency and supported by a FCA demonstrating their capability and ensuring that third party flood risk was not adversely affected.

A range of flood mitigation measures that could be utilised to facilitate development across the study area are listed in Appendix C[7]. If flood mitigation measures are being considered it is important to involve the Environment Agency at an early stage to ensure that all potential constraints are flagged at an early stage.

8.3 Detailed FCA

Based on the information presented in this SFCA Rhondda Cynon Taf CBC have sufficient information to inform the preparation of their Deposit Draft Local Development Plan.

Where flood risks have been highlighted it will be necessary, as a part of any planning application, to undertake a site specific FCA. The scope of the FCA should be discussed with the Environment Agency and guidance is laid out in Appendix 1 of TAN15 but, in general terms, it would include more detailed analysis of:

- Flood probability;
- Flood depth;
- Flood velocity;
- Rate of onset of flooding.

Furthermore, the following would need to be considered in relation to the site specific site proposals, to allow informed decisions to be made regarding the safety of the development:

- Access/egress routes;
- Residual risks of flooding
- Effects of climate change on the site;
- Management of surface water through SUDS;
- Incorporation of suitable flood resilient construction techniques.

[7] Provided by the Environment Agency

9 References

Reference 1 – Taff & Ely Catchment Flood Management Plan (November 2007)
Environment Agency Wales

Reference 2 – People Places futures – Wales Spatial Plan (November 2004)
Welsh Assembly Government

Reference 3 – Starting to Live Differently – The Sustainable Development Scheme (2004)
Welsh Assembly Government

Reference 4 – TAN15 Development and Flood Risk (July 2004)
Welsh Assembly Government

Reference 5 – Environment Agency Wales' Assets Systems Management Team.

10 Appendices

10.1 Appendix A: Sustainable Drainage Systems

What are Sustainable Drainage Systems (SUDS)?

The term Sustainable Drainage Systems (SUDS) covers a wide range of drainage techniques that provide an alternative to the traditional piped drainage system for draining impermeable/developed areas. The philosophy behind SUDS is to replicate as closely as possible the natural drainage of a site. By doing so SUDS should: -

- Manage runoff flow rates and reduce the risk of downstream flooding;
- Protect or enhance water quality;
- Be sympathetic to the environment;
- Provide habitats and enhance biodiversity; and,
- Encourage groundwater recharge.

The suitability of a selection of drainage techniques in terms of achieving the SUDS objectives are presented in Table 10-1 with a brief description of each technique.

SUDS Methods

SUDS incorporate a wide variety of drainage techniques. As a result, there is no one correct drainage solution for a site. Components for a suitable drainage scheme should be selected on a site-by-site basis and integrated to deliver the drainage requirements of the area. In seeking to achieve the drainage requirements a developer should employ the 'Management Train' methodology as set out in CIRIA C697. The Management Train has the following components:

a. **Prevention** - good site design and upkeep to prevent runoff and pollution (e.g. limited paved areas, regular pavement sweeping);
b. **Source control -** runoff control at/near to source (e.g. rainwater harvesting, green roofs, pervious pavements);
c. **Site control** - water management from different onsite compartments (e.g. route water from roofs, impermeable paved areas to one infiltration/holding site); and,
d. **Regional control** - integrate runoff manage from a number of sites (e.g. into a detention pond).

Table 10-1: Drainage Techniques

Management Train	Component	Description	Water Quantity	Water Quality	Amenity Biodiversity
Prevention	Green roofs	Layer of vegetation or gravel on roof areas providing absorption and storage.	●	●	●
Prevention	Rainwater harvesting	Capturing and reusing rainwater for domestic or irrigation uses.	●	○	○
Prevention	Permeable pavements	Infiltration through the surface into underlying layer.	●	●	○
Source	Filter drains	Drain filled with permeable material with a perforated pipe along the base.	●	●	×
Source	Infiltration trenches	Similar to filter drains but allows infiltration through sides and base.	●	●	×
Source	Soakaways	Underground structure used for store and infiltration.	●	●	×
Source	Bio-retention areas	Vegetated areas used for treating runoff prior to discharge into receiving water or infiltration	●	●	●
Source	Swales	Grassed depressions, provides temporary storage, conveyance, treatment and possibly infiltration.	●	●	○
Source	Sand filters	Provides treatment by filtering runoff through a filter media consisting of sand.	●	●	×
Site	Basins	Dry depressions outside of storm periods, provides temporary attenuation, treatment and possibly infiltration.	●	●	○
Site	Ponds	Designed to accommodate water at all times, provides attenuation, treatment and enhances site amenity value.	●	●	●
Site	Wetland	Similar to ponds, but are designed to provide continuous flow through vegetation.	●	●	●
Regional					

Key: ● – highly suitable, ○ - suitable depending on design, × - not suitable

Where can SUDS be utilised?

The underlying ground conditions of a development sites capacity to infiltrate surface water, will often determine the type of SUDS approach to be used at development sites. This will need to be determined through ground investigations carried out on-site. However an initial assessment of the sites suitability to the use of SUDS can be obtained from a review of the available soils/geological survey of the area.

Based on a review of the British Geological Survey's maps for the 9 study sites Table 10-2 and Table 10-3 present an indication of the suitability of SUDS techniques, as listed in Table 10-1 which would be compatible with the underlying geology:

In the design of any drainage system and SUDS approach, consideration should be given to site specific characteristics and where possible be based on primary data from site investigations. The information presented in Table 10-2 and Table 10-3 is provided as a guide and should not be used to accept or refuse SUDS techniques.

Table 10-2: Suitable SUDS Techniques Dependent on Geology found within the Study Area.

SUDS Technique	Component Example	Permeability	Geology	Description
Infiltration or Combined Infiltration and Attenuation	Permeable pavements	Moderate	Coal Measures	Carboniferous Sedimentary Rock
	Soakaways	Moderate	Pennant Sandstones	Carboniferous Sedimentary Formation
	Swales	Moderate	Limestone	Carboniferous Sedimentary Formation

Table 10-3: Suitable SUDS Techniques Dependant on Soil Types found within the Study Area

SUDS Technique	Permeability	Soil Association	Drift Geology	Description
Infiltration or Combined Infiltration and Attenuation	Moderate / high	Silty Sandy Loam	Glacial Sand and Gravels	Deep well drained medium / coarse soils.
	Moderate		Alluvium	Well drained medium and fine silty soils on valley bottoms.
	Moderate/Low	Glay Soils	Boulder Clay	Poorly drained soils with higher clay content in addition to coarse materials.

SUDS Constraints

There are constraints that may limit the application of SUDS. These will vary between locations and may include:

- Ground contamination;
- Ground conditions;
- Groundwater use / vulnerability;
- Capacity of the receiving watercourse;
- Site topography;
- Level of service;
- Adoptability/maintenance issues.

Ground Contamination

Ground contamination has the potential to contaminate groundwater and/or surface water resources if incorrectly managed. In some cases the nature of the ground contamination may be such that certain types of SUDS are not appropriate. Ground contamination should be determined by site investigation on a site by site basis.

Ground Conditions

As many of the development sites are old mining collieries the ground is comprised of mining wastes and many of the sites have spoil tips. SUDS techniques that involve the infiltration of waters may not be appropriate as they have the potential to destabilise these spoil tips. A full stability investigation should be undertaken prior to the design of any SUDS systems.

Ground Use / Vulnerability

Groundwater resources can be vulnerable to contamination from both direct sources (e.g. into groundwater) or indirect sources (e.g. infiltration of discharges onto land). Groundwater vulnerability within the study area has been determined by the Environment Agency, based on a review of aquifer characteristics, local geology and the leaching potential of overlying soils. The groundwater vulnerability within the study area is low.

The vulnerability of the groundwater is important when determining the suitability of SUDS. the Environment Agency are the responsible drainage authority for any discharges to groundwater and should be consulted on proposals to discharge to ground.

Site Topography

The topography of a site is a further consideration when implementing SUDS. As some techniques will not operate if velocities are too high then they are not well suited to sloping sites. Due to the lack of available suitable land some sites may benefit from utilising "source control techniques" to manage the surface water.

Planning Considerations for SUDS

The application of SUDS may require space on development sites to be set-aside. Early consideration of SUDS will assist in determining the space required and identify methods to spread the management of storm water throughout a site using the Management Train principle presented in the CIRIA report C697.

The design of SUDS measures should be undertaken as part of a drainage strategy proposed during the master planning of development sites. A ground investigation will be required to access the suitability of using infiltration SUDS, with this information also being used to assess the required volume of on-site storage. Hydrological analysis should be undertaken using industry-approved procedures to ensure a robust design storage volume is obtained. The consideration of utilising SUDS as part of a development will depend on many factors such as:

- The underlying geology and drift layers;
- The depth of the groundwater table;
- Site slopes;
- Runoff quality;
- Site restrictions;
- Maintenance requirements;
- Economical viability; and,
- Groundwater protection and ecological considerations.

The final drainage scheme and SUDS for a site should consider each of these elements in its design.

All relevant organisations should meet at an early stage of the drainage design process to agree on the most appropriate drainage system for the particular development. These organisations may include the Local Authority, the sewerage undertaker, Highway Agency, and the Environment Agency. Liaison with these organisations should focus on establishing a suitable design methodology, any restrictions and provision for the long-term maintenance of the feature.

There are, at present, no legally binding obligations relating to the provision and maintenance of SUDS. However, TAN15 states that:

'SUDS can perform an important role in managing runoff from a site and should be implemented, wherever they will be effective…., irrespective of the zone in which they are located.'

The most convenient vehicle for agreeing long-term management responsibilities is through Section 106 of the Town and Country Planning Act. Under this, agreement for SUDS maintenance can be a requirement of the planning application, forcing the issue to be addressed.

If SUDS can not be utilised at any of the allocation sites, then implications of this will need to be demonstrated to the satisfaction of the LPA and their consultees.

Further Information

The above information is intended to provide an introduction to the use of SUDS. The options available for the provision of SUDS is not limited to those presented here and new techniques are frequently developed.

The following reference documents provide further information on SUDS, their benefits and limitations and how they can be employed:

- BRE. Digest 365 (2003) Soakaway Design. Building Research Establishment;
- British Water (2005) Technical Guidance, Guidance to Proprietary Sustainable Drainage Systems and Components – SUDS. In partnership with the Environment Agency
- BSRIA Ltd. (1997) Water Conservation: Implications of Using Recycled Greywater and Stored Rainwater in the UK. Report 13034/1. Drinking Water Inspectorate, Department of the Environment.
- DEFRA (2004) Preliminary Rainfall Runoff Management for Developments Revision D.
- CIRIA 625 (2003) Model Agreements for Sustainable Water Management Systems – Review of Existing Legislation. RP664.
- CIRIA 626 (2003) Model Agreements for Sustainable Water Management Systems – Model Agreement for Rainwater and Greywater Use Systems. P Shaffer, C Elliott, J Reed, J Holmes and M Ward.
- CIRIA C521 (2000) Sustainable Urban Drainage Systems - Design Manual for Scotland and Northern Ireland. Sustainable Urban Drainage Scottish Working Party.
- CIRIA C522 (2000) Sustainable Urban Drainage Systems - Design Manual for England and Wales. Department of Environment Transport Regions.
- CIRIA C523 (2001) Sustainable Urban Drainage Systems, Best Practice Manual for England, Scotland, Wales and Northern Ireland.
- CIRIA C539 (2001) Rainwater and Greywater Use in Buildings: Best Practice Guidance. D J Leggett, R Brown, D Brewer, G Stanfield and E Holiday. Department of Trade and Industry.
- CIRIA C609 (2004) Sustainable Drainage Systems, Hydraulic, Structural and Water Quality Advice. S Wilson, R Bray and P Cooper. Department of Trade and Industry.

- CIRIA C635 (2006) Designing for exceedance in urban drainage - good practice. C Digman, D Balmforth, R Kellagher, D Butler. Department of Trade and Industry.
- CIRIA C697 (2007) The SUDS Manual. Woods Ballard B; Kellagher R et al.
- Construction Industry Research and Information Association. 1996. Report 156 – Infiltration Drainage – Manual of Good Practice. Roger Bettess. Highways Agency and National Rivers Authority.
- National SUDS Working Group. 2004. Interim Code of Practice for Sustainable Drainage Systems. National SUDS Working Group. ISBN 0-86017-904-4.

10.2 Appendix B: Record of Priory Culvert[8]

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
ABERAMAN	BETWEEN HILLBROOK CL/RHOS DYFED		C	CYNON
ABERAMAN	GWAWRBROOK		C*	CYNON
ABERAMAN	JUNC. CARDIFF RD I GWAWRST		C*	CYNO
ABERAMAN	MAESYFFYNON LANE		P	CYNON
ABERAMAN	OPP.21 CYNON ST	YES	C	CYNON
ABERAMAN	RDV BETWEEN BROOK ST I GREENHILL		C	CYNON
ABERAMAN	REAR LANE DANYDERI	YES	C	CYNON
ABERAMAN	REAR OF FISH SHOP WAYNES COTTAGE		C	CYNON
ABERAMAN	RIVER DARE BETWEEN CULVERT AND BRIDGE		C	CYNON
ABERAMAN	TONLLWYD HOUSES		C	CYNON
10				
ABERCWMBOI	BRONALLT TER		C	CYNON
ABERCWMBOI	MOSTYNST		C	CYNON
ABERCWMBOI	NORTH VIEW TER		C	CYNON
ABERCWMBOI	ON ROAD TO PIT COTTAGE 3 NO.		C	CYNON
ABERCWMBOI	OPP BRONALLY		C	CYNON
ABERCWMBOI	OPP OLD ENT TO PHURNACITE WORKS		C	CYNON
ABERCWMBOI	PAST PIT COTTAGE		C	CYNON
ABERCWMBOI	REAR 85 JENKINS ST		C	CYNON
ABERCWMBOI	REAR BEECH/GRAIG TERR		C	CYNON
ABERCWMBOI	REAR BRITISH LEGION CLUB		C	CYNON
ABERCWMBOI	REAR KWIKSAVE		C	CYNON
ABERCWMBOI	REAR MAPLE TERR		C	CYNON
ABERCWMBOI	SIO GLENBOI COT. ABERDARE RD		C	CYNON
13				
ABERCYNON	ANN ST	*C/PIT*	C*	CYNON
ABERCYNON	BOTTOM OF CARDIFF RD		C	CYNON
ABERCYNON	CEMETARYRD		P	CYNON
ABERCYNON	FARM WOOD	*IDRAI*	C*	CYNON
ABERCYNON	LOCK ST		C	CYNON
ABERCYNON	NANTY FEDW	*C/PIT*	C	CYNON
ABERCYNON	REAR 168 BRYNTIR/ON		C	CYNON
ABERCYNON	REAR OF CAEMAEN ST		C	CYNON
ABERCYNON	REAR OF MARTINS TER	DITCH	C	CYNON
ABERCYNON	SALISBURY RD		P	CYNON
ABERCYNON	TOP OF SELINA RD		C*	CYNON
11				
ABERDARE	BOTT. CWMDARE HILL HIRWAUN RD		C*	CYNON
ABERDARE	GADLYS DEPOT REAR HALL ST		C	CYNON
ABERDARE	NEAR 1 CHURCH ROW TRECYNON		C	CYNON
ABERDARE	NEAR 7 THE GROVE		C*	CYNON
4				
B.LLECHAU	100M FROM 44 BLAENLLECHAU RD	YES	C*	RHONDDA
B.LLECHAU	LLANWONNO RD 100M FROM BRIDGE	YES	P*	RHONDDA
B.LLECHAU	LLANWONNO RD AT START OF BEND	ONLY	P*	RHONDDA
B.LLECHAU	LLANWONNON RS BETWEEN BRIDGE AND BEND	YES	P*	RHONDDA
B.LLECHAU	OPP. 39 COMMERCIAL ST	YES	P*	RHONDDA
B.LLECHAU	PARKING LLANWONNO RD (50M FROM BRIDGE	YES	P*	RHONDDA
B.LLECHAU	R/O BLAENLLECHAU RD	YES	P*	RHONDDA
B.LLECHAU	SIO 1 GEORGE ST	NO	C*	RHONDDA
B.LLECHAU	SIO 16 ABERDARE RD	YES	C*	RHONDDA
B.LLECHAU	SIO 17 ABERDARE RD	YES	P*	RHONDDA
B.LLECHAU	SIO 18 GEORGE ST	YES	C*	RHONDDA
B.LLECHAU	SIO 18GEORGE ST	YES	C*	RHONDDA
B.LLECHAU	SIO PARK BAPTIST ROW	YES	C*	RHONDDA
B.LLECHAU	UNDER BRIDGE BAPTIST SQ.	NO	C*	RHONDDA
14				
BEDDAU	CASTELLAU RD OPP LAMB & FLAG	NO	C	TAFF
BEDDAU	CASTELLAU RD (SPRINGFIELD BUNG)	YES	C	TAFF
2				
BLAENCWM	BUS TERMINUS	NO	*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	NO	C*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	YES	C*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	YES	P*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	NO	P*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	YES	P*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	NO	P*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	NO	P*	RHONDDA
BLAENCWM	OLD FERNHILL HOUSES	YES	C*	RHONDDA
BLAENCWM	R/O CASTLETON AVE	YES	C*	RHONDDA
BLAENCWM	R/O DAY CENTRE	YES	P*	RHONDDA
BLAENCWM	R/O URINAL HENDREWEN RD		P*	RHONDDA
BLAENCWM	TREM-Y-GLYN HOUSE		C*	RHONDDA
11				
BLAENRHONDDA	BUS SHELTER	BARS?	P*	RHONDDA
BLAENRHONDDA	CROSS STREET	YES	P*	RHONDDA
BLAENRHONDDA	CROSS STREET	YES	P*	RHONDDA
BLAENRHONDDA	R/O BROOKST	YES	P*	RHONDDA
BLAENRHONDDA	R/O BROOKST	YES	C*	RHONDDA
BLAENRHONDDA	R/O BROOKST	YES	C*	RHONDDA
BLAENRHONDDA	R/O BROOK ST	YES	P*	RHONDDA
BLAENRHONDDA	R/O BROOK ST OUTFALL	YES	C*	RHONDDA
8				
BRYNNA	GELLIFEDI RD		C*	TAFF
1				
BRYNTEG	BRYNTEG HILL	NO	C	TAFF
BRYNTEG	MILL LANE JUNCTION	NO	C	TAFF
BRYNTEG	OLD RD NR. KISMET BUNG.	YES	C	TAFF
BRYNTEG	OLD RD SIO BRYNTEG HSE	NO	C	TAFF
4				
CILFYNYDD	1 HEOL Y MYNYDD		H	TAFF
CILFYNYDD	1 HEaL NANT		H	TAFF
CILFYNYDD	1 OAKLANDS TER 2No	YES	H	TAFF

[8] Shaded reflects highlighted concerns by RCT Drainage Engineer

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
CILFYNYDD	12 HEaL NANT MANHOLE	YES	H	TAFF
CILFYNYDD	13 HEaL MYNYDD MANHOLE	YES	H	TAFF
CILFYNYDD	16 OAKLANDS TER	NO	H	TAFF
CILFYNYDD	23 HEOL GRONFA		H	TAFF
CILFYNYDD	23 HEOI GRONFA MANHOLE	NO	H	TAFF
CILFYNYDD	32 HEOL NANT MANHOLE	YES	H	TAFF
CILFYNYDD	33 HEaL MYNYDD/HEOL NANT MAN/H	YES	H	TAFF
CILFYNYDD	4 HEaL GRONFA MANHOLE	YES	H	TAFF
CILFYNYDD	47 OAKLANDS TER		H	TAFF
CILFYNYDD	5 HEOL GRONFA MANHOLE	YES	H	TAFF
CILFYNYDD	52 HOWELL ST	M/H	C	TAFF
CILFYNYDD	ALBION STEPS MANHOLE		C	TAFF
CILFYNYDD	BODWENARTH RD,END	M/H	C	TAFF
CILFYNYDD	BRYNDERWYN ST		C	TAFF
CILFYNYDD	ELY BROOK (OPPROYAL OAK)	YES	C	TAFF
CILFYNYDD	HEOL GRONFA (INFIELD)	YES	C	TAFF
CILFYNYDD	MARY ST REAR	NO	C	TAFF
CILFYNYDD	OPP OAKLANDS STORE	YES	H	TAFF
CILFYNYDD	REAR HEOI MYNYDD		H	TAFF
CILFYNYDD	SIO WAR MEMORIAL	NO	C	TAFF
CILFYNYDD	SILVERHILL CLS	YES	C	TAFF
24				
CLYDACH	CLYDACH	YES	C*	RHONDDA
CLYDACH	HACKMANS PRINTERS -IND EST		*	RHONDDA
CLYDACH	HACKMANS PRINTERS -IND EST	YES	C*	RHONDDA
CLYDACH	IN KING GEORGE FIELD	YES	P*	RHONDDA
CLYDACH	NEW FOOTBALL FIELD (TOP FIELD)		P*	RHONDDA
CLYDACH	O/FLOW S/O 36A CLYDACH RD	YES	P*	RHONDDA
CLYDACH	OPP 1 MORTON TER	YES	P*	RHONDDA
CLYDACH	OPP 32 OAK ST	YES	P*	RHONDDA
CLYDACH	OPP 43 MORTON TER	YES	P*	RHONDDA
CLYDACH	OPP 45 MORTON TER	YES	P*	RHONDDA
CLYDACH	OPP 62 MORTON TER	NO	P*	RHONDDA
CLYDACH	OPP LAKESIDE?	NO	C*	RHONDDA
CLYDACH	OUTLET S/O LAKE	YES	C*	RHONDDA
CLYDACH	ROAD AND CAMBRIAN PARK	YES	P*	RHONDDA
CLYDACH	ROAD TO TOP LAKE 100M	YES	*	RHONDDA
CLYDACH	ROAD TO TOP LAKE IN FIELD 250M	YES	P*	RHONDDA
CLYDACH	S/O 36A CLYDACH RD	YES	C*	RHONDDA
CLYDACH	S/O 52 JONES ST	NO	C*	RHONDDA
CLYDACH	S/O 52A MAR/ON ST	YES	P*	RHONDDA
CLYDACH	S/O TOP FIELD	YES	P*	RHONDDA
CLYDACH	S/O TOP FIELD	YES	P*	RHONDDA
CLYDACH	TONYPANDY BYPASS BY KING GEORGE FIELD		P*	RHONDDA
CLYDACH	TOP LAKE 50M TO TURNING AREA	YES	P*	RHONDDA
23				
CNiLLAGE	A473 MAIN RD (SIDE OF HOSPITAL)	NO	C	TAFF
CNiLLAGE	BROOKDALE CRT	YES	C*	TAFF

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
CNiLLAGE	MAIN RD (REAR OF ROAD RUNNER)	YES	C*	TAFF
CNiLLAGE	MAINDYRD	NO	C	TAFF
CNiLLAGE	SI ILLTYDS RD (BACK ENT TO HOSPITAL)	YES	C	TAFF
CNiLLAGE	SI ILLTYDS RD/BLACK RD JUNC THRO.GATE	YES	C*	TAFF
6				
COEDELY	NANTMELYN TER	YES	C	TAFF
COEDELY	TYNYWERNITYLCHAFACH		C*	TAFF
2				
CROSSINN	A473 BY-PASS (TOP END)	YES	C	TAFF
CROSSINN	OLDA473	NO	C	TAFF
2				
CWMAMAN	BEDLWYNTIP		C	CYNON
CWMAMAN	FFORCHAMAN/FFORCHNEOL		C*	CYNON
CWMAMAN	PWLLFA PL		C	CYNON
CWMAMAN	REAR 33 KINGSBURY PL		C	CYNON
CWMAMAN	WORDSWORTH ST		C*	CYNON
5				
CWMBACH	49/50 CENARTH DR		C	CYNON
CWMBACH	BLAENANTYGROES RD		C	CYNON
CWMBACH	BRYNHIR		C	CYNON
CWMBACH	CEFNPENNAR RD		C	CYNON
CWMBACH	GREENFIELD REAR MAESHYFRYD SCHOOL		C	CYNON
CWMBACH	GULF GARAGE CANAL RD		C	CYNON
CWMBACH	JUNC TY DRAW RD/CWMBACH RD		C	CYNON
CWMBACH	LLETYSHENKIN FARM OFF BRYNGOLWG		C	CYNON
CWMBACH	NR ENT. PLASDRAW CWMBACH RD		C	CYNON
CWMBACH	OLD INCLINE REAR FAIRFIELD		C	CYNON
CWMBACH	REAR 25 PANTYCERDIN		C	CYNON
CWMBACH	REAR EBENEZER CH TIRFOUNDER RD		C	CYNON
CWMBACH	ROSE ROW END TIRFOUNDER		C	CYNON
CWMBACH	ROSERIES BEND		C	CYNON
CWMBACH	ROSERIES BENDS RIGHT OF WAY		C	CYNON
CWMBACH	S/O CROWN INN CROWN ROW	YES	C*	CYNON
CWMBACH	TY DRAW RD PLASDRAW		C	CYNON
CWMBACH	WELL PLACE REARGLYN OWENS		C*	CYNON
CWMBACH	WERFA		C	CYNON
19				
CWMPARC	BWLCH CLAWDD ROAD 8	NO	P*	RHONDDA
CWMPARC	BOTTOM OF BWLCH-Y-CLAWDD RD		C*	RHONDDA
CWMPARC	BOTTOM OF BWLCH-Y-CLAWDD RD	YES	P*	RHONDDA
CWMPARC	BOTTOM OF BWLCH-Y-CLAWDD RD	YES	C*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 19	NO	P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 3		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 4		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 5		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 6		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 10	NO	P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 11	NO	P*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
CWMPARC	BWLCH Y CLAWDD ROAD 12		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 13		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 14		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 15		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 16		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 17		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 18		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 7		P*	RHONDDA
CWMPARC	BWLCH Y CLAWDD ROAD 9		P*	RHONDDA
CWMPARC	OFF PARK FARM RAILWAY TER		C*	RHONDDA
CWMPARC	ON BWLCH RD (OUTFALL BY TREES)		P*	RHONDDA
CWMPARC	ON MT.ACCESS FROM PARC ROAD		P*	RHONDDA
CWMPARC	OPP R/O BUNGALOW		P*	RHONDDA
CWMPARC	OPP R/O GARAGE		P*	RHONDDA
CWMPARC	OPP TOP END LOWER TER		P*	RHONDDA
CWMPARC	OPP. CLAIRE RD		P*	RHONDDA
CWMPARC	R/O 106 TALLIS ST		P*	RHONDDA
CWMPARC	R/O 116TALLISST	YES	P*	RHONDDA
CWMPARC	R/O 13 CASTLE ST	YES	P*	RHONDDA
CWMPARC	R/O 13 TALLIS ST		P*	RHONDDA
CWMPARC	R/O 17 TREHARN E ST		C*	RHONDDA
CWMPARC	R/O 18 TALLIS ST		P*	RHONDDA
CWMPARC	R/O 19 TREHARNE ST		P*	RHONDDA
CWMPARC	R/O 3 TALLIS ST		P*	RHONDDA
CWMPARC	R/O 19 TREHARNE ST		P*	RHONDDA
CWMPARC	R/O 3 TALLIS ST		P*	RHONDDA
CWMPARC	R/O 32 TREHARNE ST		P*	RHONDDA
CWMPARC	R/O 32 TREHARNE ST	YES	P*	RHONDDA
CWMPARC	R/O 35 VICERAGE ROAD	YES	P*	RHONDDA
CWMPARC	R/O 8 SUNNYBANK ROAD		P*	RHONDDA
CWMPARC	R/O TREORCHY COMP SCHOOL	YES	P*	RHONDDA
CWMPARC	R/O TYLACOCH COTTAGE		P*	RHONDDA
CWMPARC	R/O TYLACOCH COTTAGE	YES	P*	RHONDDA
CWMPARC	R/O VICERAGE VICERAGE RD	YES	P*	RHONDDA
CWMPARC	S/O 1 TREHARNE ST		C*	RHONDDA
CWMPARC	S/O PENYLAN HOUSE	YES	C*	RHONDDA
CWMPARC	S/O PENYLAN HOUSE		C*	RHONDDA
CWMPARC	START OF BWLCH RD		P*	RHONDDA
47				
CYMMER	FRONT 1 TYN Y HENLLAN		P*	RHONDDA
CYMMER	R/O 14 LINCOLN ST		P*	RHONDDA
CYMMER	R/O FLATS GWAUN BEDW		P*	RHONDDA
3				
DINAS	ABOVE PLAYGROUND GRAIG DDU		C*	RHONDDA
DINAS	ENT TO GRAIG DDU		*	RHONDDA
DINAS	OPP OLD UNIGATE FACTORY DINAS RD		*	RHONDDA
DINAS	S/O DINAS RD		P*	RHONDDA
DINAS	S/O DINAS RD		P*	RHONDDA
DINAS	DINAS RD BY NEW BYPASS		*	RHONDDA
6				

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
EFAILISAF	HEOL CREIGIAU S/O HOUSE NR. BROOK		C	TAFF
1				
FERNDALE	BY CHANGING ROOMS GREENFIELD		P*	RHONDDA
FERNDALE	BY PLAYGROUND B ALBANY ST		C*	RHONDDA
FERNDALE	BY RUGBY PITCH GREENFIELD		P*	RHONDDA
FERNDALE	CAR PARK PARK ROAD		P*	RHONDDA
FERNDALE	IN LAKE DARRAN PARK		P*	RHONDDA
FERNDALE	ON ALBANY IND EST(BY PGROUNDI		P*	RHONDDA
FERNDALE	ON GREENFIELD PLAYING FIELD		P*	RHONDDA
FERNDALE	ON MOUNTAINSIDE OFF PARK ROAD		C*	RHONDDA
FERNDALE	PARK ROAD ENT. HELDREFADOG SCHOOL		P*	RHONDDA
FERNDALE	R/O 1 THE PARADE		P*	RHONDDA
FERNDALE	R/O 19 FFALDAU TER		P*	RHONDDA
FERNDALE	R/O 27 TAFF ST		P*	RHONDDA
FERNDALE	R/O 28 BRYNGOLAU		P*	RHONDDA
FERNDALE	R/O 28 THE PARADE (GAP)	YES	P*	RHONDDA
FERNDALE	R/O 3 GRAIG TER R		C*	RHONDDA
FERNDALE	IO 33 TAFF ST		P*	RHONDDA
FERNDALE	R/O 35 FFALDAU TER	YES	P*	RHONDDA
FERNDALE	R/O 41 BRYNGOLAU		P*	RHONDDA
FERNDALE	R/O DARRAN TERRACE		*	RHONDDA
FERNDALE	R/O LLYN CRESCENT		C*	RHONDDA
FERNDALE	S/O 1 BRYNGOLAU	YES	P*	RHONDDA
FERNDALE	S/O 47 BRYNGOLAU		C*	RHONDDA
FERNDALE	UNDER BRIDGE TAFF ST		C*	RHONDDA
23				
GADLYS	R/O 45 GLAN ROAD		P*	CYNON
1				
GELLI	ABOVE C.A. SITE NANTGWYDDON RD	YES	*	RHONDDA
GELLI	AS ABOVE MID. STREAM		P*	RHONDDA
GELLI	AS ABOVE S/O KING ST	UTFA	P*	RHONDDA
GELLI	BRIDGE OVER WCOURSE NR MAGISTRATE CO		P*	RHONDDA
GELLI	BWLLFA FARM 1 B		P*	RHONDDA
GELLI	WLFFA FARM 2 Idia is at narrowest)		P*	RHONDDA
GELLI	BWLLFA FARM 3		P*	RHONDDA
GELLI	BWLLFA FARM 4		P*	RHONDDA
GELLI	BWLLFA FARM 5		P*	RHONDDA
GELLI	BWLLFA FARM 6		P*	RHONDDA
GELLI	BWLLFA FARM ROAD		P*	RHONDDA
GELLI	BWLLFA FARM ROAD IN ALLOTMENT·		P*	RHONDDA
GELLI	GLYNCORNEL BY HOUSE END		P*	RHONDDA
GELLI	GLYNCORNELPOND		P*	RHONDDA
GELLI	GLYNCORNEL POND BY BRIDGE		P*	RHONDDA
GELLI	GLYNCORNEL POND O/FLOW		P*	RHONDDA
GELLI	GLYNCORNELSTREAM L.H.S.		P*	RHONDDA
GELLI	PICNIC AREA NANTYGWYDDON RD 1		P*	RHONDDA
GELLI	NANTYGWYDDON RD 4		P*	RHONDDA
GELLI	NANTYGWYDDON RD 5		P*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
GELLI	NANTYGWYDDON RD 6 OPP FBRIDG8		P*	RHONDDA
GELLI	NANTYGWYDDON RD 7		P*	RHONDDA
GELLI	NANTYGWYDDON RD 8		P*	RHONDDA
GELLI	NANTYGWYDDON RD ON ROAD O/FLOW TO G		P*	RHONDDA
GELLI	NANTYGWYDDON ROAD 2		P*	RHONDDA
GELLI	NANTYGWYDDON ROAD 3		P*	RHONDDA
GELLI	ON GLLYNCORNEL ROAD NR. JUNCTION		P*	RHONDDA
GELLI	OPP 15 BWLLFA COTTAGES GELLI		C*	RHONDDA
GELLI	OPP CA SITE NANTYGWYDDON RD	UTFA	P*	RHONDDA
GELLI	OPP CA SITE NANTYGWYDDON RD		P*	RHONDDA
GELLI	OUTFALL OPP PICNIC AREA		P*	RHONDDA
GELLI	R/O WEAVERS GARAGE		P*	RHONDDA
GELLI	R/O CA SITE+B261		C*	RHONDDA
GELLI	R/O TUDOR HOUSE TUDOR ROAD GELLI		C*	RHONDDA
GELLI	R/O WEAVERS GARAGE GELLI		P*	RHONDDA
GELLI	TO MIDDLE BRIDGE GLYNCORNEL POND		P*	RHONDDA
36				
GILFACHGOCH	BOOT HILL OLD RDI		C	TAFF
GILFACHGOCH	BOOT HILL		C	TAFF
GILFACHGOCH	BOOT HILL		C	TAFF
GILFACHGOCH	CAMBRIAN AVE		C*	TAFF
GILFACHGOCH	ROSE COTTAGE EVANSTOWN		C	TAFF
5				
GLYNTAFF	19 BRYN ILAN		P*	TAFF
GLYNTAFF	27 CARDIFF RD	3 M/H	C	TAFF
GLYNTAFF	BRYN ILAN BRYNTYLE FARM		C	TAFF
GLYNTAFF			C	TAFF
GLYNTAFF	CEMETARY ROAD		C	TAFF
GLYNTAFF	CEMETARY ROAD		C	TAFF
GLYNTAFF	CEMETARY ROAD REAR		H	TAFF
GLYNTAFF	GLYNTAF CREM. (VAR/OUS CULVERTS)		C	TAFF
8				
GRAIG	HURFORD ST REAR		C	TAFF
GRAIG	UNION ST		C	TAFF
GRAIG	UNION ST MAG. COURT		C	TAFF
3				
HAWTHORN	GELLIHIR/ON IND EST IGREENHAMS YD)		P	TAFF
1				
HIRWAUN	A4059 PENYWAUN RIABOUT		C	CYNON
HIRWAUN	BOTTOM BWLLFA RD CWMDARE		C	CYNON
HIRWAUN	CHERRY DR CWMDARE		C	CYNON
HIRWAUN	ENT GREENWOOD DR SWANSEA RD		C	CYNON
HIRWAUN	ENT TO COAL YARD RHIGOS RD		C	CYNON
HIRWAUN	HALF WAY DOWN GLYNNEATH BANK		C	CYNON
HIRWAUN	NEAR 14 JOHNS LANE		C	CYNON
HIRWAUN	NEAR CAPEL CANA PENYWAUN		C	CYNON
HIRWAUN	PAST CATTLE GRID RHIGOS RD		C	CYNON
HIRWAUN	REAR 51 GLAN RD GAOLYS		C	CYNON

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
HIRWAUN	REAR L1MESLADE CL		C	CYNON
HIRWAUN	RHIGOS RD NR ENT TO IND EST		C	CYNON
HIRWAUN	SIO 31 SWANSEA RD		C	CYNON
HIRWAUN	SIO 75 GLAN RD GAOLYS		C	CYNON
HIRWAUN	SWANSEARD		C	CYNON
HIRWAUN	TOP BWLFFA RD CWMDARE		C	CYNON
HIRWAUN	TOP OLD GLYNNEATH BANK RHIGOS RD		C	CYNON
17				
HOPKINSTOWN	DAN YRALLT TO GROESWEN OLD RIWAY		C	TAFF
HOPKINSTOWN	HAFOD LANE		C	TAFF
HOPKINSTOWN	OLD BARRY LINE WESTERN FIELD		C	TAFF
HOPKINSTOWN	OLD DRAM RD		C	TAFF
HOPKINSTOWN	TYMAWRRD		C	TAFF
5				
LLANHARAN	CHAPEL RD	YES	C*	TAFF
LLANHARAN	CHAPEL RD (S/O CHIP SHOP)		C*	
LLANHARAN	DANYGRAIG RD	NO	C	TAFF
LLANHARAN	HIGH CORNER SIO		C	TAFF
LLANHARAN	LLANHARRY FARM ENT	NO	C*	TAFF
LLANHARAN	LLANHARRY RD (CONCRETE WORKS)	NO	C*	TAFF
LLANHARAN	SEYMOUR RD		C	TAFF
LLANHARAN	TRECASTLE RD		C	TAFF
8				
LLANILID	LLANILID IANE		C	TAFF
LLANILID	RESERVOIR IANE		C	TAFF
2				
LLANTRISANT	LLANTRISANT COMMON 3 No	NO	C	TAFF
1				
LLANTWITFADR	A473 WASHES CORNER	NO	C	TAFF
LLANTWITFADR	LANCASTER DR S/O No 1	YES	C*	TAFF
LLANTWITFADR	MAIN RD S/O TRINITY CHAPEL	NO	C*	TAFF
3				
LLWYDCOED	CREMATORIUM ROAD		C	CYNON
LLWYDCOED	KINGSBURY PI	YES	C	CYNON
LLWYDCOED	NEAR ENT TO GELLI TARW FARM		C	CYNON
LLWYDCOED	R/O No 7 HAFANDEG	YES	C*	CYNON
LLWYDCOED	REAR 66 TRE IFOR		P	CYNON
LLWYDCOED	REAR MAES YR HAF	YES	C	CYNON
6				
LLWYNYPIA	19 CAMBRIAN TER	YES	P*	RHONDDA
LLWYNYPIA	R/O PARTRIDGE RD LLWYNYPIA		P*	RHONDDA
LLWYNYPIA	S/O 1 HOLLYROOD TER	YES	C*	RHONDDA
LLWYNYPIA	S/O 1 HOLLYROOD TER	YES	P*	RHONDDA
LLWYNYPIA	S/O 1 ROSEDALE TCE	YES	P*	RHONDDA
5				
MAERDY	ENT. MAERDY JUNIOR SCHOOL	YES	*	RHONDDA
MAERDY	R/O 1 TAN YBRYN	YES	C*	RHONDDA
MAERDY	R/O 21 MAERDY ROAD	NO	C*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
MAERDY	R/O 27 BROHEDYDD	NO	C*	RHONDDA
MAERDY	R/O 38 TAN Y BRYN	ONLY	P*	RHONDDA
MAERDY	R/O 50RICHARD ST	YES	*	RHONDDA
MAERDY	R/O 50RICHARD ST	YES	C*	RHONDDA
MAERDY	R/O BROOK FIELD ROAD	YES	P*	RHONDDA
MAERDY	R/O CAIRN COURT MAERDY RD	YES	*	RHONDDA
MAERDY	R/O PLAY GROUND HIGHFIELD	YES	P*	RHONDDA
MAERDY	R/O ROBERTS COACHES?		P*	RHONDDA
MAERDY	R/O WILSON PLACE (BY GARAGES)	YES	*	RHONDDA
MAERDY	S/O 12 BROHEDYDD	NO	C*	RHONDDA
MAERDY	S/O 31 BROHEDYDD	NO	C*	RHONDDA
MAERDY	S/O 31 BROHEDYDD	NO	C*	RHONDDA
MAERDY	S/O ESTATE SHOP R/O 44 GLANVILLE TCE	YES	C*	RHONDDA
MAERDY	TOP OF CHURCH ST ABOVE EDWARD ST		P*	RHONDDA
17				
MOUTAINASH	REAR LYNDHURST ST		C	CYNON
MOUTAINASH	TOP LANE REAR WOODLANDS	YES	C	CYNON
MOUTAINASH	VICTORIA PARK		C	CYNON
MOUTAINASH	ALLAN ST / FFRWDD ST		C*	CYNON
MOUTAINASH	A4059 MOUNTAIN ASH TO ABERCYNON		C*	CYNON
MOUTAINASH	ACCESS A.B. ELECTRONICS A4059		C	CYNON
MOUTAINASH	ALIENS BUILDERS YARD		P*	CYNON
MOUTAINASH	CAMBELL TER		C	CYNON
MOUTAINASH	COPPIESTONE/GORSEDD ST		C	CYNON
MOUTAINASH	DUFFRYN WOODS		C*	CYNON
MOUTAINASH	ENT TO MOUNTAIN ASH HOSPITAL		C	CYNON
MOUTAINASH	FERNHILL		C	CYNON
MOUTAINASH	FFOREST RD		C	CYNON
MOUTAINASH	GOLF CLUB GROUNDS		C	CYNON
MOUTAINASH	GRANVILLE TER / FFRWDD BROOK		C*	CYNON
MOUTAINASH	GWERNIFOR 100m south No. 35		C	CYNON
MOUTAINASH	NEWTOWN SURFACE WATER SYSTEM		C	CYNON
MOUTAINASH	NR MOUNTAIN ASH COMPREHENSIVE		C	CYNON
MOUTAINASH	RD BLACKBERRY TERRIC/HOUSE CEFNP		C	CYNON
MOUTAINASH	REAR 12 THOMAS ST		C	CYNON
MOUTAINASH	REAR 4 EVAST		C	CYNON
MOUTAINASH	REAR 75 BRYNIFOR		P	CYNON
MOUTAINASH	REAR 89 BRYNIFOR R		C*	CYNON
MOUTAINASH	REAR CADWAIADR		C	
24				
NANTGARW	CARDIFF RD (NR CROSS KEYS)	NO	C	TAFF
NANTGARW	HEOL Y BWNSI (NR SUB STN)	NO	C	TAFF
NANTGARW	NANTGARW HILL (NR 40MPH SIGN)	NO	C	TAFF
NANTGARW	NANTGARW POTTERY	NO	C	TAFF
NANTGARW	NANTGARW RD	NO	C	TAFF
NANTGARW	NANTGARW RD (BEFORE HOUSING ESTATE)	NO	C	TAFF
NANTGARW	OLD NANTGARW RD (PARC Y NANT O/FALL)	NO	C	TAFF
7				

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
PENRHIWCEIBER	GLAMORGAN ST		C	CYNON
PENRHIWCEIBER	HARRISST		P	CYNON
PENRHIWCEIBER	JUNC.ABERCYNON RD/GLAMORGAN ST		C	CYNON
PENRHIWCEIBER	OSBOURNE TER		C	CYNON
PENRHIWCEIBER	PENBRYN COTTAGES	C/PIT	C	CYNON
PENRHIWCEIBER	REARMONMOUTH ST		C	CYNON
PENRHIWCEIBER	VAUGHANTER		C	CYNON
PENRHIWCEIBER	WOODFIELD REAR 90/94 P/CEIBER RD		C	CYNON
8				
PENRHIWFER	R/O 13 CAE GLAS		P*	TAFF
PENRHIWFER	R/O 13 CAE GLAS		P*	TAFF
PENRHIWFER	R/O 17 CAE GLAS		P*	TAFF
PENRHIWFER	ROSE COTTAGE SIO	YES	C*	TAFF
4				
PENTRE	BELOW PENTRE PARK BY RAILWAY LINE	NO	P*	RHONDDA
PENTRE	BY GARAGE YSTRAD ROAD E	YES	P*	RHONDDA
PENTRE	END OF ELIZABETH CLOSE	NO	P*	RHONDDA
PENTRE	FRONT ALLOT R/O ST STEPHENS AVE	NO	P*	RHONDDA
PENTRE	OFF CAR PARK LLEWELLYN ST	ONLY	C*	RHONDDA
PENTRE	ON MOUNTAIN IN LAND REC. SCHEME	YES	C*	RHONDDA
PENTRE	ON MOUNTAIN SIO OLD SCHOOL	YES	P*	RHONDDA
PENTRE	ON YTRAD ROAD (NEW HOUSE BEING BUILT)	ONLY	P*	RHONDDA
PENTRE	OPP 1 ARGYLE ST	NO	P*	RHONDDA
PENTRE	PRIMROSE HILL (ON LEFT UP HILL) stone arch	YES	P*	RHONDDA
PENTRE	R/O 101 YSTRAD ROAD	YES	P*	RHONDDA
PENTRE	R/O 69 YSTRAD ROAD	YES	P*	RHONDDA
PENTRE	R/O 89 YSTRAD ROAD	YES	P*	RHONDDA
PENTRE	R/O 9 FIRGROVE	NO	P*	RHONDDA
PENTRE	R/O GARAGE 1 HILLSIDE ST	NO	P*	RHONDDA
PENTRE	R/O LLEWELLYN STREET	YES	C*	RHONDDA
PENTRE	R/O LLEWELLYN STREET	ONLY	C*	RHONDDA
PENTRE	R/O ST PETERS CHURCH (brick arch)	NO	P*	RHONDDA
PENTRE	R/O ST STEPHENS AVE -SIO NO. 19	NO	P*	RHONDDA
PENTRE	SIO 1 PLEASANT VIEW	YES	C*	RHONDDA
PENTRE	SIO ALLOT R/O 11 ST STEPHENS AVE	NO	P*	RHONDDA
PENTRE	SIO CHURCHFIELD ROW	ONLY	C*	RHONDDA
PENTRE	SIO LOWER ALMA	ONLY	C*	RHONDDA
23				
PENYGRAIG	FRONT 32 BROOK ST		P*	RHONDDA
PENYGRAIG	GARDEN 3 BROOK ST	.	P*	RHONDDA
PENYGRAIG	GARDEN BROOK ST		P*	RHONDDA
PENYGRAIG	IN ROAD SIO 38 THOMAS ST	YES	P*	RHONDDA
PENYGRAIG	NOTHING ON THIS ONE??	YES	P*	RHONDDA
PENYGRAIG	OLS Y HEN LLAWNT KERSLAKE TER	YES	P*	RHONDDA
PENYGRAIG	ON TONYPANDY BYPASS BY BRIDGE TO GILFA	YES	P*	RHONDDA
PENYGRAIG	ON TONYPANDY BYPASS BY WYNDHAM ST	YES	P*	RHONDDA
PENYGRAIG	OPP. OLD CLUB VICERAGE RD	YES	C*	RHONDDA
PENYGRAIG	OPP. PEN PISGAH RD		P*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
PENYGRAIG	R/O 21 THOMAS ST	YES	P*	RHONDDA
PENYGRAIG	R/O BROOKST	YES	C*	RHONDDA
PENYGRAIG	R/O WYNDHAM ST	NO	P*	RHONDDA
PENYGRAIG	S/O 9 OLD HENDREGWILYM	YES	P*	RHONDDA
PENYGRAIG	S/O PENYGRAIG LABOUR CLUB	YES	P*	RHONDDA
PENYGRAIG	S/O TONYPANDY COMP SCHOOL	NO	P*	RHONDDA
PENYGRAIG	S/O TONYPANDY COMP SCHOOL	NO	P*	RHONDDA
PENYGRAIG	S/O Y HEN LLAWNT	YES	P*	RHONDDA
18				
PONTSIONNOR	T PONTSIONNORTON RD NR ROYAL OAK	YES	C	RHONDDA
1				
PONTYGWAITH	AT ENT TO WATTSTOWN PARK	YES	P*	RHONDDA
PONTYGWAITH	IN WATTSTOWN PARK	YES	P*	RHONDDA
PONTYGWAITH	IN WATTSTOWN PARK	NO	P*	RHONDDA
PONTYGWAITH	IN WATTSTOWN PARK	NO	P*	RHONDDA
PONTYGWAITH	IN WATTSTOWN PARK	NO	P*	RHONDDA
PONTYGWAITH	R/O 4 TAN Y BRYN		P*	RHONDDA
PONTYGWAITH	R/O 40 FENWICK ST	NO	P*	RHONDDA
PONTYGWAITH	R/O 47 BREWERY ST	YES	P*	RHONDDA
PONTYGWAITH	R/O 74 MADELINE ST	YES	P*	RHONDDA
PONTYGWAITH	R/O WATTSTOWN PARK	YES	P*	RHONDDA
PONTYGWAITH	R/O WATTSTOWN PARK	YES	P*	RHONDDA
PONTYGWAITH	R/O WATTSTOWN PARK	NO	P*	RHONDDA
PONTYGWAITH	R/O WATTSTOWN PARK	NO	P*	RHONDDA
PONTYGWAITH	R/O WATTSTOWN PARK	NO	P*	RHONDDA
PONTYGWAITH	R/O WATTSTOWN PARK OVER FENCE	YES	P*	RHONDDA
PONTYGWAITH	REAR ENT. WATTSTOWN PARK	YES	P*	RHONDDA
PONTYGWAITH	ROAD R/O 44 BREWERY ST	NO	P*	RHONDDA
PONTYGWAITH	S/O 22 TANYBRYN + F353	NO	P*	RHONDDA
PONTYGWAITH	S/O 23 FENWICK ST		P*	RHONDDA
PONTYGWAITH	S/O 65 MADELINE ST	NO	P*	RHONDDA
19				
PONTYPRIDD	1 SCARBOROUGH RD		C	TAFF
PONTYPRIDD	16 HOSPITAL RD	NO	C	TAFF
PONTYPRIDD	23 DANYLAN RD REAR		C	TAFF
PONTYPRIDD	39 DANYLAN RD		C	TAFF
PONTYPRIDD	43 BERW RD REAR	M/H	C	TAFF
PONTYPRIDD	5 PANTYGRAIGWEN RD	2 M/H	C	TAFF
PONTYPRIDD	81 PANTYGRAIGWEN RD REAR	M/H	C	TAFF
PONTYPRIDD	AEL YBRYN	YES	C	TAFF
PONTYPRIDD	BARRYRD END	M/H	C	TAFF
PONTYPRIDD	COED ILAN REAR		C	TAFF
PONTYPRIDD	COED Y LAN SCHOOL REAR	9 M/H	C	TAFF
PONTYPRIDD	DANYLAN PLAYING FIELDS		C	TAFF
PONTYPRIDD	DANYLAN TIP	M/H	C	TAFF
PONTYPRIDD	DARREN PARKIGRAIG YR HESG	NO	C	TAFF
PONTYPRIDD	EGLWYSILIAN MOUTAIN IBELOW PUB)	YES	C	TAFF
PONTYPRIDD	EGLWYSILIAN MOUTAINIFORK IN ROAD)	YES	C	TAFF
PONTYPRIDD	EGLWYSILIAN MOUTAIN IW/ROCK SIDE)	YES	C	TAFF

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
PONTYPRIDD	EGLWYSILIAN MOUTAIN NEAR CATTLE GRID	NO	C	TAFF
PONTYPRIDD	EGLWYSILIAN MOUTAIN PEN RHOS Fm	YES	C	TAFF
PONTYPRIDD	GRAIG YR HELFAI1/2 WAY DOWN HILL)	YES	C	TAFF
PONTYPRIDD	GROVER HILL	NO	C	TAFF
PONTYPRIDD	HILLTOP CRES	3 M/H	C	TAFF
PONTYPRIDD	LANPARK RD REAR	NO	C	TAFF
PONTYPRIDD	LEWISTER	MIH	C	TAFF
PONTYPRIDD	LLANOVER RD	YES	C	TAFF
PONTYPRIDD	MERTHYR RD REAR 2No	MIH	C	TAFF
PONTYPRIDD	NANT Y CWCW ROCKINGSTONE TER	NO	C*	TAFF
PONTYPRIDD	QUARRY RD TOP	YES	C	TAFF
PONTYPRIDD	RUPPERRA CRT	2	C	TAFF
PONTYPRIDD	SARDIS RD CAR PARK	YES	C	TAFF
PONTYPRIDD	THE COMMON	NO	C	TAFF
PONTYPRIDD	TY GWYN RD END		C	TAFF
PONTYPRIDD	TY GWYN RD TOP END	IWA	C	TAFF
PONTYPRIDD	EGLWYSILIAN MOUTAIN (ELEC PYLON)	YES	C	TAFF
34				
PORTH	100 M FROM SIDE ENT PARK	YES	P*	RHONDDA
PORTH	250m FROM NYTHBRAN TER LLWYNCELYN	YES	C*	RHONDDA
PORTH	30M FROM SIDE ENT BRONWYDD PARK	YES	P*	RHONDDA
PORTH	BRONWYDD PARK NR BAND STAND		C*	RHONDDA
PORTH	BURMA RD 250m FROM NYTHBRAN TER	YES	C*	RHONDDA
PORTH	BURMA RD 400 M FROM NYTHBRAN TER	YES	C*	RHONDDA
PORTH	BURMA RD 700m FROM NYTHBRAN TER	NO	C*	RHONDDA
PORTH	ENT. TO KENSINGTON DRIVE	NO	P*	RHONDDA
PORTH	FARMER FIELD R/O 1 ISLWYN TER	YES	P*	RHONDDA
PORTH	IN BRONWYDD PARK NR PADDLING POOL	NO	P*	RHONDDA
PORTH	IN LLWYNCELYN IND EST 50M PAST JUNCT.	YES	C*	RHONDDA
PORTH	IN RD R/O 12 MORGAN ST	YES	P*	RHONDDA
PORTH	OPP. 'LODGE' PUB EIRW RD	NO	C*	RHONDDA
PORTH	OPP. ST LUKES CHURCH LLWYNCEL YN	YES	P*	RHONDDA
PORTH	R/O 1 HILLCREST DRIVE	NO	C*	RHONDDA
PORTH	R/O 10 MAES BEDW	YES	C*	RHONDDA
PORTH	R/O 17 RHEOLA TER TREHAFOD	YES	C*	RHONDDA
PORTH	R/O 18PJ9 BIRCHGROVE RD	YES	P*	RHONDDA
PORTH	R/O 20 ALDERGROVE	NO	C*	RHONDDA
PORTH	R/O 20 CORONATION TER	YES	P*	RHONDDA
PORTH	R/O 30 LEWIS TER	YES	P*	RHONDDA
PORTH	R/O 38 CHARLES ST	YES	C*	RHONDDA
PORTH	R/O 42 HILLCREST DRIVE	NO	P*	RHONDDA
PORTH	R/O EIRW RD BY GAS TANKS	YES	C*	RHONDDA
PORTH	S/O 1 BRYNHEULOG TER	YES	P*	RHONDDA
PORTH	S/O 24 PENMAIN ST	YES	P*	RHONDDA
PORTH	S/O 26 AUBREY RD	YES	P*	RHONDDA
PORTH	S/O 64 NORTH ROAD	YES	P*	RHONDDA
PORTH	S/O 7 RAILWAY SIDE	NO	*	RHONDDA
PORTH	S/O 70 CEMETARY RD	NO	*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
PORTH	S/O 81 GETHIN TER LLWYNCELYN	YES	C*	RHONDDA
PORTH	S/O AVONDALE COURT	YES	P*	RHONDDA
PORTH	S/O FACTORY LLWYNCEL YN IND EST	NO	C*	RHONDDA
PORTH	S/O PORTH COUNTY GRAMMAR SCHOOL	YES	P*	RHONDDA
PORTH	S/O TURBERVILLE RD		C*	RHONDDA
PORTH	TOP OF PENRHIWGWYNT RD	NO	C	RHONDDA
36				
RHIGOS	M061 RHIGOS -TREHERBERT 20 No		C	CYNON
1				
RHIWSAESON	RHIWSAESON LANE (BRIDGE)	NO	C	TAFF
RHIWSAESON	RHIWSAESON LANE <DISUSED LANDFILL)	NO	C	TAFF
RHIWSAESON	RHIWSAESON LANE IBROFISCIN FACH FM)	NO	C	TAFF
RHIWSAESON	RHIWSAESON WATER TREATMENT	NO	C	TAFF
4				
RHYDYFELIN	POLARRD END	NO	C	TAFF
RHYDYFELIN	1 LABURNHAM TER		C	TAFF
RHYDYFELIN	14 LABURNUM TER		C	TAFF
RHYDYFELIN	BEECHWOOD REAR	NO	H	TAFF
RHYDYFELIN	BROOKST2No		C	TAFF
RHYDYFELIN	BRYN FAB	NO	C	TAFF
RHYDYFELIN	BRYNTYLL FARM	NO	C	TAFF
RHYDYFELIN	CAENANT FLATS S/O	NO	C	TAFF
RHYDYFELIN	CEDARRD	NO	C	TAFF
RHYDYFELIN	CEDER LANE SIO SPAR SHOP	YES	C*	TAFF
RHYDYFELIN	CHAILiNERS	3 *M/H*	C	TAFF
RHYDYFELIN	DAN YRAILT	NO	C	TAFF
RHYDYFELIN	DYNEA CL	NO	C	TAFF
RHYDYFELIN	DYNEA CL (END HOUSE)	NO	C*	TAFF
RHYDYFELIN	DYNEA LANE	YES	C*	TAFF
RHYDYFELIN	DYNEA LANE FARM	NO	C*	TAFF
RHYDYFELIN	ELM ST	NO	C*	TAFF
RHYDYFELIN	HOIIY ST (S/O TREHARNE FLATS	NO	C	TAFF
RHYDYFELIN	MAESFIEL WAY 2 No	YES	C	TAFF
RHYDYFELIN	OAKST	NO	C	TAFF
RHYDYFELIN	OAKST REAR	*M/H*	H	TAFF
RHYDYFELIN	PARK ST OTLEY ARMS	*M/H*	C	TAFF
RHYDYFELIN	POETS CLS	YES	C	TAFF
RHYDYFELIN	SIO CAENANT FLATS	*4 M/H*	H	TAFF
RHYDYFELIN	SYCAMORE STREET	NO	H	TAFF
RHYDYFELIN	THE PADDOCK	YES	C	TAFF
RHYDYFELIN	WINDSOR COTTAGE	NO	C	TAFF
27				
STANLEYTOWN	R/O 1 WITHERDENE RD	NO	P*	RHONDDA
STANLEYTOWN	SIO 1 UPPER TER	YES	P*	RHONDDA
STANLEYTOWN	SIO 1 WITHERDENE RD	YES	P*	RHONDDA
3				
TAFFS WELL	GARTH VIEW GIAN Y IIYN	YES	C	TAFF
TAFFS WELL	TYRHIW RD	*M/H*	C*	TAFF

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
2				
TALBOT GREEN	A473 BY PASS BELOW RETAIL PARK 2No	YES	C	TAFF
TALBOT GREEN	A473 FARM ENT NR L'OREAL		C	TAFF
TALBOT GREEN	CHARTIST RD	NO	C	TAFF
3				
THOMASTOWN	AS ABOVE OPP HOUSE	YES	C	TAFF
THOMASTOWN	GILFACH GOCH I TONYREFAIL NEW RD	NO	C	TAFF
THOMASTOWN	TYNYBRYN BY PASS	NO	C	TAFF
3				
TONPENTRE	ENT. PENTWYN PARK	ONLY	C*	RHONDDA
TONPENTRE	IN PENTWYN PARK	YES	C*	RHONDDA
TONPENTRE	R/O 1 KENNARD ST	YES	P*	RHONDDA
TONPENTRE	R/O 1 KENNARD ST	YES	P*	RHONDDA
TONPENTRE	R/O 15 WYNDHAM ST	YES	P*	RHONDDA
TONPENTRE	SIO 15 WYNDHAM ST SIO ALLOTMENT	YES	P*	RHONDDA
6				
TONTEG	TONTEG CLOSE	NO	C*	TAFF
1				
TONYPANDY	BY PUGH'S FARM	YES	P*	RHONDDA
TONYPANDY	ON TONYPANDY BY PASS	YES	*	RHONDDA
TONYPANDY	SIO 1 DANYGRAIG TER	NO	P*	RHONDDA
3				
TONYREFAIL	'OAKLANDS' PANY Y BRAD	NO	C	TAFF
TONYREFAIL	ALTON VILLAS (REAR OF) M/H	YES	C	TAFF
TONYREFAIL	CEIYN ISAF I TY DDU LANE		C	TAFF
TONYREFAIL	Mill ST (ENT TO NON POLL	NO	C	TAFF
TONYREFAIL	Mill ST (OPP POLICESTN)	NO	C*	TAFF
TONYREFAIL	PENYCOEDCAE COMMON 2 No	NO	C*	TAFF
TONYREFAIL	STATION RD	YES	C*	TAFF
TONYREFAIL	TONYREFAIL BY-PASS	NO	C*	TAFF
TONYREFAIL	TONYREFAIL BY-PASS COEDEIY	YES	C	TAFF
TONYREFAIL	TONYREFAIL BY-PASS R/ABOUT 2No	NO	C	TAFF
TONYREFAIL	WAUNRHYDD RD	YES	C*	TAFF
11				
TREALAW	IN GARTH PARK	YES	P*	RHONDDA
TREALAW	IN GARTH PARK	NO	C*	RHONDDA
TREALAW	IN GARTH PARK	YES	P*	RHONDDA
TREALAW	IN GARTH PARK BY FOOTBALL FIELD	YES	P*	RHONDDA
TREALAW	LAND R/O 144 -45 YNYSCYNON RD	NO	C*	RHONDDA
TREALAW	R/O 1 MOUNTAIN VIEW	YES	P*	RHONDDA
TREALAW	R/O 10 HARCOME RD	YES	P*	RHONDDA
TREALAW	R/O 10 MOUNTAIN VIEW	YES	P*	RHONDDA
TREALAW	R/O 115 HAARCOMBE RD	YES	P*	RHONDDA
TREALAW	R/O 124 YNYSCYNON RD	YES	C*	RHONDDA
TREALAW	R/O 144-45 YNYSCYNON RD	YES	C*	RHONDDA
TREALAW	R/O 22 HARCOMBE RD	YES	P*	RHONDDA
TREALAW	R/O 7 BUCKLEY RD	NO	P*	RHONDDA
TREALAW	R/O BUCKLEY RD 6	YES	C*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
TREALAW	R/O BUCKLEY RD 7	YES	C*	RHONDDA
TREALAW	R/O BUCKLEY RD 1	YES	P*	RHONDDA
TREALAW	R/O BUCKLEY RD 2	NO	P*	RHONDDA
TREALAW	R/O BUCKLEY RD 3	YES	P*	RHONDDA
TREALAW	R/O BUCKLEY RD 4	YES	P*	RHONDDA
TREALAW	R/O BUCKLEY RD 5	YES	C*	RHONDDA
TREALAW	S/O 23 HARCOMBE RD	YES	P*	RHONDDA
TREALAW	S/O BUCKLEY CLOSE		C*	RHONDDA
TREALAW	S/O GARTH PARK	YES	P*	RHONDDA
TREALAW	SO BUCKLEU CLOSE	YES	C*	RHONDDA
24				
TREBANOG	R/O 1 CRAIG CRESCENT		P*	RHONDDA
TREBANOG	R/O 10 TREBANOG RD	YES	C*	RHONDDA
TREBANOG	R/O 129 HIGH ST	YES	P*	RHONDDA
TREBANOG	R/O 21 TREBANOG RD	YES	C*	RHONDDA
TREBANOG	R/O 298 TREBANOG RD	NO	P*	RHONDDA
TREBANOG	S/O 15 TON HYWEL		P*	RHONDDA
TREBANOG	S/O 9 GRAIG CRES		P*	RHONDDA
7				
TREF.IND.EST.	WILLOWFORD RD		C	TAFF
TREF.IND.EST.	WILLOWFORD RD 2No		C	TAFF
TREF.IND.EST.	WILLOWFORD RD SIDE OF HOUSE		C	TAFF
3				
TREFOREST	LLANTWIT RD UNI.OF WALES		C	TAFF
TREFOREST	OXFORD ST (REAR)		C	TAFF
2				
TREHAFOD	BY RHONDDA HERITAGE PARK HOTEL		P*	RHONDDA
TREHAFOD	COED CAE LANE		C	RHONDDA
TREHAFOD	IN 6 MOUNT PLEASANT GARDEN		C*	RHONDDA
TREHAFOD	ON ROAD ENT TO CLIFTON ROW		P*	RHONDDA
TREHAFOD	OPP 10 COEDCAE RD		C*	RHONDDA
TREHAFOD	OPP ENT RHONDDA HERITAGEPARK HOTEL		C*	RHONDDA
TREHAFOD	R/O 5 RHEOLAU TER		C*	RHONDDA
TREHAFOD	S/O 1 MOUNT PLEASANT		C*	RHONDDA
TREHAFOD	S/O 40 BRYN EIRW ST		C*	RHONDDA
9				
TREHERBERT	CORBETT ST		P*	RHONDDA
TREHERBERT	DUMFRIES ST		P*	RHONDDA
TREHERBERT	R/O CORBETT ST.		P*	RHONDDA
TREHERBERT	R/O SIDINGS/GWENDOLINE ST		P*	RHONDDA
TREHERBERT	RAILWAY SIDINGS R/O FACTORIES		P*	RHONDDA
TREHERBERT	RHIGOS ROAD 1		P*	RHONDDA
TREHERBERT	RHIGOS ROAD 11		P*	RHONDDA
TREHERBERT	RHIGOS ROAD 12		P*	RHONDDA
TREHERBERT	RHIGOS ROAD 13 300M UP FROM BEND	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 14 (CONCRETE	ONLY	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 15	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 16	NO	P*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
TREHERBERT	RHIGOS ROAD 17 (TRIANGULAR BRICK)	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 18	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 19	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 2	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 20		P*	RHONDDA
TREHERBERT	RHIGOS ROAD 21	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 22	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 23	NO	P*	RHONDDA
TREHERBERT	RHIGOS ROAD 3	NO	*	RHONDDA
TREHERBERT	RHIGOS ROAD 5 BEFORE GRID	NO	*	RHONDDA
TREHERBERT	RHIGOS ROAD 6 OPP CAR PARK	NO	*	RHONDDA
TREHERBERT	RHIGOS ROAD 7 L.H.S. FORESTRY ENT	NO	*	RHONDDA
TREHERBERT	RHIGOS ROAD 8 R.H.S. FORESTRY ENT OUTFAL	NO	*	RHONDDA
TREHERBERT	RHIGOS ROAD 9 RHS OF ABOVE	YES	P*	RHONDDA
TREHERBERT	S/O HOSPITAL	YES	C*	RHONDDA
TREHERBERT	S/O HOSPITAL	NO	P*	RHONDDA
TREHERBERT	S/O HOSPITAL	YES	P*	RHONDDA
TREHERBERT	S/O RUGBY FIELD RHIGOS ROAD	NO	P*	RHONDDA
TREHERBERT	S/O TYNYCOEDCAE	YES	P*	RHONDDA
TREHERBERT	STUART ST	YES	C*	RHONDDA
TREHERBERT	TOP NINIAN ST	EON	P*	RHONDDA
33				
TREORCHY	20 KENNARD ST TO COUNCIL OFFICES	YES	P*	RHONDDA
TREORCHY	BY ENTRANCE TO IND. ESTATE	YES	C*	RHONDDA
TREORCHY	COLUMN ST	YES	C*	RHONDDA
TREORCHY	FAR END TROED-Y-RHIW TCE	YES	C*	RHONDDA
TREORCHY	FERNBANK HOUSE	NO	P*	RHONDDA
TREORCHY	FFORCH FARM 200 YDS CA. SITE OUTFALL	YES	P*	RHONDDA
TREORCHY	IN GARDEN HOUSE BEING BUILT DINAM PARK	YES	P*	RHONDDA
TREORCHY	IN ROAD O/S TRELAWEN HOUSE	NO	C*	RHONDDA
TREORCHY	O/S 1 CEMETARY ROAD	YES	P*	RHONDDA
TREORCHY	O/S COLUMN ST	YES	C*	RHONDDA
TREORCHY	O/S GLYNCOLI FARM	YES	C*	RHONDDA
TREORCHY	O/S TRELAWEN HOUSE	NO	C*	RHONDDA
TREORCHY	O/S TREORCHY C.A. SITE	/HD	P*	RHONDDA
TREORCHY	O/S TREORCHY CA SITE	YES	P*	RHONDDA
TREORCHY	O/S TREORCHY RUGBY CLUB	YES	C*	RHONDDA
TREORCHY	ON ROAD TO FFORCH FARM	YES	P*	RHONDDA
TREORCHY	ON ROAD TO FFORCH FARM	NO	C*	RHONDDA
TREORCHY	OPP.DRUIDS CLOSE PENTWYN ROAD	YES	C*	RHONDDA
TREORCHY	PENTWYN PARK (BY TENNIS COURT)	ONLY	C*	RHONDDA
TREORCHY	PENTWYN PARK (CORNER OF GARDEN)	YES	C*	RHONDDA
TREORCHY	R/O 3 PROSPECT PLACE TREORCHY IN RD	YES	C*	RHONDDA
TREORCHY	R/O DINAM PARK S/O No35	ONLY	C*	RHONDDA
TREORCHY	R/O DINAM PARK TON PENTRE	YES	C*	RHONDDA
TREORCHY	R/O GREENACRE REST HOME (ARDWYN)	YES	P*	RHONDDA
TREORCHY	R/O NICHOLAS CLOSE DINAM PARK	YES	P*	RHONDDA
TREORCHY	RIGTON & GELLI BOYS CLUB S/O KENNARD ST	YES	P*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
TREORCHY	S/O 1 PROSPECT PLACE (R/O SCHOOL)	YES	C*	RHONDDA
TREORCHY	S/O 14 BRYN RHODFA	ONLY	P*	RHONDDA
TREORCHY	S/O 29 TYN Y BEDW TER	YES	C*	RHONDDA
TREORCHY	S/O 34 TROED-Y-RHIW MYRTLE HL	YES	C*	RHONDDA
TREORCHY	S/O TYNYBEDW CLOSE		C*	RHONDDA
31				
TYIORSTOWN	GATES ENT PLAYING FIELD B431		C*	RHONDDA
TYIORSTOWN	IN PLAYING FIELD		C*	RHONDDA
TYIORSTOWN	IN PLAYING FIELD		C*	RHONDDA
TYIORSTOWN	JUNCT BRYNBEDW & CHARLES ST TYIORS		P*	RHONDDA
TYIORSTOWN	OPP 64 VIVIAN ST	YES	P*	RHONDDA
TYIORSTOWN	R/O 13 EAST RD		C*	RHONDDA
TYIORSTOWN	R/O 21 BRYNBEDW TO CHARLES ST		P*	RHONDDA
TYLORSTOWN	S/O 35 WOODLAND RD		C*	RHONDDA
TYIORSTOWN	S/O 9 PARFITIS CLOSE	YES	P*	RHONDDA
TYIORSTOWN	S/O PAVILION & PLAYING AREA		P*	RHONDDA
TYIORSTOWN	S/O PAVILION NR RIVER		P*	RHONDDA
TYIORSTOWN	TOP UPPER TERRACE		P*	RHONDDA
12				
TYNEWYDD	AS ABOVE OPP. SIDE OF TRACK	YES	P*	RHONDDA
TYNEWYDD	MOUNTAIN VW BUilDERS YARD	NO	P*	RHONDDA
TYNEWYDD	R/O EilEEN PLACE		*	RHONDDA
TYNEWYDD	R/O STAND TYNEWYDD RUGBY FIELD	IYCO	P*	RHONDDA
TYNEWYDD	R/O STAND TYNEWYDD RUGBY FIELD	ONLY	P*	RHONDDA
5				
TYNYNANT	PARISH RD (WHITE BRIDGE)	NO	C	TAFF
1				
UPPERBOAT	FARM RD TO SKIPER WEN RD	NO	C	TAFF
UPPERBOAT	HEOL TYMAEN	YES	C	TAFF
UPPERBOAT	HEOL YBWNSI	NO	C	TAFF
UPPERBOAT	OLD BARRY RD GROES WEN HALT	YES	C	TAFF
UPPERBOAT	VOLVO LANE BETWEEN GROESWEN & HALT	NO	C	TAFF
UPPERBOAT	VOLVO LANE NR THE FERNS	NO	C	TAFF
6				
WATTSTOWN	OPP LEWIS TER		C*	RHONDDA
WATTSTOWN	R/O 16 HEOL Y TWYN		P*	RHONDDA
WATTSTOWN	R/O 40 GRAIG ROAD		*	RHONDDA
WATTSTOWN	R/O 5 HEOL Y TWYN		P*	RHONDDA
WATTSTOWN	R/O PLAYGROUND HEOL Y TWYN		P*	RHONDDA
WATTSTOWN	YNYSHIR ROAD JUST AFTER BRIDGE		P*	RHONDDA
6				
YNYSHIR	BETWEEN UPPER GYNOR PLACE & CAE SIR/OI	YES	C*	RHONDDA
YNYSHIR	IN LANE R/O 27 UPPER GYNOR PLACE	YES	P*	RHONDDA
YNYSHIR	LANE R/O 39 GYNOR PLACE	YES	P*	RHONDDA
YNYSHIR	OPP R/O 13 UPPER GYNOR PLACE	YES	C*	RHONDDA
YNYSHIR	R/O 12 UPPER GYNOR		P*	RHONDDA
YNYSHIR	R/O 12 UPPER GYNOR		P*	RHONDDA
YNYSHIR	R/O 2 GRAIG RD	YES	C*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
YNYSHIR	R/O 28 UPPER GYNOR PLACE	YES	P*	RHONDDA
YNYSHIR	R/O 28 UPPER GYNOR PLACE	YES	P*	RHONDDA
YNYSHIR	R/O 90 HEATH TER	YES	P*	RHONDDA
YNYSHIR	R/O YNYSHIR PARK PLAY FIELD	YES	C*	RHONDDA
YNYSHIR	S/O 1 GYNOR PLACE	ONLY	P*	RHONDDA
YNYSHIR	S/O 31 LLANWONNO RD {100M FROM No 13	YES	P*	RHONDDA
YNYSHIR	S/O 31 LLANWONNO RDI100M FROM No 14	YES	C*	RHONDDA
YNYSHIR	S/O 40 UPPER GYNOR PLACE	YES	P*	RHONDDA
YNYSHIR	S/O 42 LLANWONNO RD	YES	P*	RHONDDA
YNYSHIR	S/O 55 HEEATH TER	YES	P*	RHONDDA
YNYSHIR	S/O HEATH TER		P*	RHONDDA
18				
YNYSMAERDY	A4119 STINK POT Hill	G/CV	C	TAFF
YNYSMAERDY	FORESTRYRD	NO	C	TAFF
2				
YNYSWEN	MACE LANE	NO	C*	RHONDDA
YNYSWEN	MACE LANE	YES	P*	RHONDDA
YNYSWEN	R/O TREORCHY W.M. SOCIAL CLUB	NO	C*	RHONDDA
YNYSWEN	S/OYNYSWEN	YES	P*	RHONDDA
YNYSWEN	TOP DUNRAVEN TCE	YES	C*	RHONDDA
YNYSWEN	YNYSWENTIP	YES	P*	RHONDDA
YNYSWEN	YNYSWEN TIP ALLOTMENT	YES	C*	RHONDDA
YNYSWEN	YNYSWEN TIP ALLOTMENT	EON	C*	RHONDDA
YNYSWEN	YNYSWEN TIP CHANNELS ONLY	NO	P*	RHONDDA
9				
YNYSYBWL	ADJACENT TO 102 DAN Y CRIBYN		C	CYNON
YNYSYBWL	ADJACENT TO GOWER DAVIES CRT		C	CYNON
YNYSYBWL	BELLAVISTA BUNG MOUNTAIN RD		C	CYNON
YNYSYBWL	DARRAN DDU LANE	NO	H	TAFF
YNYSYBWL	JUNC.HEOL Y MYNACH/CYNCOED		C	CYNON
YNYSYBWL	LLANWONNO JUNC WITH M/ASH RD		C	CYNON
YNYSYBWL	OPP No. 52 DAN Y CRIBYN (6 N)	*C/PIT*	C	CYNON
YNYSYBWL	OPP. 105/106 DAN Y CRIBYN		C	CYNON
YNYSYBWL	OPP. 108 DAN Y CRIBYN		C	CYNON
YNYSYBWL	PLAY AREA TOP OF HIGH ST		C	CYNON
YNYSYBWL	REAR OF 174 ROBERT ST (CATCHPIT)	NO	C	CYNON
YNYSYBWL	REAR OF SPAR GROCERS	YES	C*	CYNON
YNYSYBWL	SIO 116 DAN Y CRIBYN		C	CYNON
YNYSYBWL	TIRCOED BUNG. MOUNTAIN ASH RD		C	CYNON
YNYSYBWL	YNYSYBWL RD	NO	C	TAFF
15				
YSTRAD	BUNGALOW 'ST JUDE' TYNTYLA AVE	YES	P*	RHONDDA
YSTRAD	END TYNTYLA PARK?	NO	P*	RHONDDA
YSTRAD	END TYNTYLA PARK?	YES	P*	RHONDDA
YSTRAD	PAST RAILWAY FBRIDGE R/O R.SPORTS C.	NO	P*	RHONDDA
YSTRAD	R/O 10 PENRHYS ROAD R/O VIC.CLOSE	YES	P*	RHONDDA
YSTRAD	R/O 14 EISTEDDFA ROAD	NO	P*	RHONDDA
YSTRAD	R/O 5 BODRINGALLT TER	NO	P*	RHONDDA

TOWN/VILLAGE	LOCATION	GRID	OWNER	DISTRICT
YSTRAD	R/O 6 EISTEDDFA ROAD	YES	P*	RHONDDA
8				

10.3 Appendix C: Potential Flood Mitigation Methods

Mitigation Type	Description	Impacts/Opportunities/Constraints
Flood warning and awareness –	Flood warning can be provided where good forecasting data is available and there is sufficient time lag between the storm and the onset of flooding. The issue of warnings allows the Environment Agency, its Professional Partners, such as the emergency services and local authorities, and the public to prepare for a flood event and work to mitigate its impact as far as possible. Improved flood awareness works together with flood warning to ensure that people are more ready to respond when there is a risk of flooding. This could involve advertising locations and levels of protection and the measures that could be taken to minimise risks.	**Impacts:** • Flood impacts (environmental and economic), if reduced, would still remain. **Constraints:** • Reliable and accurate forecasting and dissemination of warnings is necessary. • Residents may not be at home to receive and respond to warnings and the effectiveness relies on individuals being able to respond.
Construction of Flood Defences.	Traditionally, providing new defences or raising existing ones, has been the most common way to meet indicative standards of protection. New defences could include permanent structures, such as walls or earth embankments, or demountable barriers that are assembled when flood warnings are issued. The choice between new and raised defences depends on engineering and environmental factors.	**Impacts** • There could be adverse visual, aesthetic, recreational or ecological impacts. • The consequences of a breach or overtopping could be catastrophic. • Defences can impose physical barriers within communities or can sever agricultural land **Opportunities:** • Defences can assist in urban regeneration. • Where viable, demountable defences may be appropriate in sensitive settings **Constraints:** • Provision of flood storage as mitigation for the loss of floodplain may be required. • Appropriate flood warning would be needed for demountable defences. • Public expectation of standards of protection.
Flood plain mitigation (Level for level compensation)	Flood plain compensatory storage is a form of risk substitution. It involves making land liable to flood more frequently in return for decreasing the flooding frequency at a neighbouring site.	**Impacts** • Very significant areas of land may be required • Change in landscape character and views along the river, in particular for on-line storage. • Potential changes to the geomorphology of the watercourse with knock on biodiversity and habitat issues. **Opportunities** • Defences can assist in urban regeneration. **Constraints** • Full FCA and hydraulic modeling would be required to support of the applications for planning permission and the consent of the Environment Agency. • Schemes are likely to be costly
STORAGE Methods by which storing floodwaters can assist in managing flood risk include off- and on-line storage, altering existing storage & use of reservoirs		
Off-line storage:	Off-line storage generally involves purpose-built embanked areas, which are designed to overtop at a certain level. The timing of filling is critical for their successful operation; if they fill too early, there is no capacity available at the peak of an event. It is also important to drain these areas as soon as possible in order that storage is available for subsequent events.	**Impacts:** • Very significant areas of land may be required. • There would be environmental impacts from permanent or temporary inundation, including impacts on ecology, agriculture and heritage. • Impacts on recreational and navigational uses of the river. • Change in landscape character and views along the river, in particular for on-line storage. **Opportunities:** • Significant biodiversity benefits could be gained by extending off-line storage to the natural floodplain. • Possible use for irrigation. • Possible use of future mineral extraction sites for on-line storage, although opportunities may be limited. • Habitat creation, especially off-line. • Fisheries creation. **Constraints:** • Economic implications e.g. compensation to landowners. • Safety and cost implications to comply with the Reservoirs Act, if more than 25,000m3 of water is to be stored. • Difficult to predict and manage timing of filling. • Need for appropriate locations. • Likely to be problems for fish movement associated with on-line storage and there may be significant habitat changes, mainly upstream.
On-line storage:	On-line storage involves the containment of floodwaters within the floodplain. The pass forward flow would be limited through provision of a sluice and water stored upstream. Informal on-line storage can also occur as a result of water building up behind existing structures, such as bridges. There are likely to be problems for fish movement associated with on-line storage and there may be significant habitat changes, mainly upstream.	
Existing reservoirs	Use of existing reservoirs in the upstream catchment to store water during periods of heavy rainfall could reduce flood risk. However, it needs to be noted that existing reservoirs were constructed for water supply purposes and may already be full during a storm. This option would, therefore, only be viable if reservoir levels were drawn down in advance of a storm. This could pose difficulties for water supply, particularly if the forecast rainfall did not materialise.	**Impacts:** • Potential impacts on water supply • Impact on ecology of reservoir. • Wider environmental impacts on, for example, recreational users **Opportunities:** • Hydroelectric power generation from water that would otherwise spill over the dam **Constraints:** • Local flood improvements • Size of storage available. • Good weather forecasting essential • Agreement and management between Water Company and the Environment Agency
INCREASING CHANNEL CAPACITY (IMPROVED CONVEYANCE) Options by which channel capacity may be increased include modifying existing weirs, modifying bridges, dredging and channel widening		
Modification of weirs	Historically, weirs were generally constructed to control water levels, for example, at mills or to aid navigation. They can also be used to reduce the velocity of flow in a river. Adjustable weirs provide a flexible way of managing water levels.	**Impacts:** • Landscape and recreational impacts e.g. angling, water sports, navigability. • Changing velocity and bed levels by removing/adding weirs can significantly affect the ecology of the river and the integrity of riverside structures. **Opportunities:** • Removal of barriers to migratory fish could improve fish stocks.

Mitigation Type	Description	Impacts/Opportunities/Constraints
		Constraints: • Existing weirs may be of historic significance.
Modification of existing bridges:	Bridges can pose significant constrictions to flow during floods, particularly where piers are located in the channel. Blockage of the channel can occur at bridges when debris carried in the floodwaters becomes trapped. There are significant impacts in undertaking modifications to bridges, including disruption to traffic, and environmental and heritage issues associated with historic bridge structures. Where new bridges are constructed the impact of the bridge on the river should be carefully assessed to ensure that it does not increase flood risk, either through reduction of the floodplain or constriction of flows.	**Impacts:** • Disruption to road and traffic users during construction. • Impacts on habitats and ecology. • Loss of heritage. **Opportunities:** • Increased recreational use in the vicinity of the bridge. • Habitat enhancement. • Creation of 'landmark' structures. **Constraints:** • Cost. • Current condition/stability of existing bridge (if modifying). • Type of bridge. • Heritage value of bridge. • Existing transport infrastructure.
Dredging	Dredging of rivers has historically been undertaken to improve flow capacity and aid navigation. The river channels could be dredged along its length to increase capacity. This would, however, be costly both in terms of initial outlay and ongoing maintenance, which would be essential to maintain the benefits of this option.	**Impacts:** • Destruction of river channel and bank habitats. • Biodiversity impacts. • Water quality problems during dredging. • Potential impact on bridges, weirs and other structures adjacent to river. • Disposal of dredged material and release of contaminants. • Crest of existing weirs may need to be lowered. • Loss of visual and recreational amenity (loss of channel vegetation and water level falling significantly below bank level during normal flows). • May increase erosion of adjacent riverbanks. • Impacts on archaeology **Opportunities:** • Could improve navigation. **Constraints:** • Whilst this option is likely to have some benefits, the river is normally only a small proportion of the floodplain cross section. • Unsustainable and unlikely to be cost effective. • Long-term financial maintenance commitment required. • Crest levels of existing weirs and stability of existing riverside structures. • Further investigation on the degree and impact of siltation downstream would be required
Channel widening	Widening of the river channel could potentially improve conveyance.	**Impacts:** • Destruction of river channel and bank habitats. • Impacts on biodiversity • Water quality problems during works. • Potential impact on bridges, weirs and other structures adjacent to the river. • Disposal of excavated material and potential release of contaminants. • Impact on weirs and other in-channel and riverside structures. • Loss of visual and recreational amenity (loss of channel vegetation and water level falling significantly below bank level during normal flows). **Opportunities:** • Potential for recreational improvement. **Constraints:** • Unlikely to have a significant effect, the river is normally only a small proportion of the floodplain cross-section. • Existing riverside and in-channel structures. • Potential to create an unstable channel/geomorphology impacts
CATCHMENT MANAGEMENT Includes changes in land management, afforestation.		
Changes in land management	It is possible that changing the ways in which land is managed, for example, by reducing the intensity of agricultural practices, could reduce surface water run-off. Changes in the mechanisms by which farming subsidies are made are seen as being influential in this. Other measures include grip blocking or reversing existing drainage improvements. 'Best Farming Practices' is synonymous with good environmental care of air, soil and water. Good soil husbandry, cropping practices and general management will reduce the risk of soil damage and can result in reduced run-off.	**Impacts:** • May result in changes to existing landscape character. • Drains may be of historical interest. • Positive impacts on water quality • Unlikely to be significant adverse effects on agriculture from these potential solutions as most are already well accepted as 'best practice' **Opportunities:** • May have indirect recreational benefits. • Potential positive impacts for conservation and biodiversity. • Opportunity to full fill new farming policy of reducing production and increasing sensitive environmental practice (e.g. reducing overgrazing to allow reversion of marginal land) **Constraints:** • Changing land use is likely to be a lengthy process. Opportunities may have to be utilised as they arise. • Research needed to quantify what effect the changes might have on surface water run-off and flooding. • Achievability/take up may be difficult to determine. Will need political will and support from the farming community and associated government departments.

Mitigation Type	Description	Impacts/Opportunities/Constraints
		• Support of the expansion of existing agri-environmental grant schemes to be provided by the Environment Agency and other organisations. • Reduction in flood flows is not likely to be significant.
Afforestation	It is generally considered that forests in upper catchments can physically reduce runoff. In most situations, trees are known to increase interception losses & hence reduce net rainfall & soil water content. They increase filtration rates at the surface & affect snowmelt. There is evidence to suggest that the restoration of floodplain woodlands could have a net positive effect on flooding. Expert Workshop held at the National Assembly For Wales on 5th July 2001 - 'Woodland, Water & Flooding'- found that potential impacts of woodland on flooding were both positive (modulates flow regimes, stabilises banks) & negative (impedes flood flow, introduces debris into channel, impedes access for maintenance). In recognition of the beneficial effects of floodplain woodland, the Agency encourages the establishment of appropriate tree cover and associated buffer strips, & its further encouragement through agri-environmental measures.	**Impacts:** •Woodlands would catch debris being washed downstream but would create additional debris (leaf fall, branches etc.) • Impacts of extensive afforestation on landscape, archaeology, historic sites • Impacts on water quality • May adversely affect water resource e.g. in the time of summer low flows **Opportunities:** • Likely to benefit BAP targets **Constraints:** • Subsidies/compensation for the planting of woodland on agricultural land or other land use • Likely that large areas of afforestation would be required • Possible conflicts with other conservation objectives e.g. wash lands • Would need to be sited carefully as increased attenuation may exacerbate flooding
Flood proofing of individual properties	Flood proofing of individual properties involves making buildings less susceptible to flood damage. It includes flood protection measures, such as portable flood barriers and plastic door guards. Alternative building materials can also be used to reduce the impact of floods and items such as electrical supply and appliances, heating boiler, etc. can be placed above the flood level.	**Impacts:** • Flood risks and environmental and economic impacts, if reduced, still remain. • Potential adverse effects to important or listed structures. **Opportunities:** • Could be done together with post flood refitting. **Constraints:** • Local flood barriers rely on good flood forecasting & warning. • Implementation cannot be enforced & may be difficult to monitor. • Does not provide community protection. • People at risk even though property is protected.
Sustainable Drainage Systems (SUDS)	SUDS address the management of runoff from developed areas that was traditionally routed as quickly as possible into drains & transported to the nearest watercourse. This has implications for flooding, water quality & water resources. Approaches to SUDS include storage of flows, online/ off-line tanks, porous pavements and road surfaces, grass strips, swales and soakaways for filtration, reeds beds and rainwater recycling. The Environment Agency, English Nature & Local Planning Authorities promote SUDS for new development, where appropriate. It is often included as a condition of the planning consent. SUDS are useful as a means of reducing run-off, limiting pollution, improving biodiversity and recharging aquifers. May be possible to increase the specification of SUDS at each site to contribute to the overall flood defence strategy.	**Impacts:** •Potentially damaging in terms of pollutants entering the ground and being exposed to wildlife • Increased cost/savings to the developer **Opportunities:** • Environmental benefits through habitat creation and the sensitive design of balancing ponds • Water quality benefits as infiltration can remove pollutants **Constraints:** • Not suitable for contaminated sites • Use of SUDS may not be effective at a catchment scale, but only suitable for small scale drainage problems • Lack of availability of land for additional storage in development areas • Unlikely to be a stand-alone answer • Implications for future maintenance costs
Flow diversion	Diversion or by-pass channels could be used to divert excess flows away from a vulnerable areas or bottlenecks. This could either be undertaken at a local or a larger scale.	**Impacts:** • May affect wildlife habitats • Disruption to people • New channels could be unnatural and unsustainable **Opportunities:** • Habitat creation • Recreational opportunities **Constraints:** • Availability of land • Existing infrastructure • Local topography • Cost
Pumped diversion	A pumping station and transfer pipeline could be used to remove flows from the river and discharge them at an alternative location, for example a neighboring catchment or further downstream.	**Impacts:** • Ecological impacts of removing water and water-borne organisms, transporting and releasing them to a different watercourse. • Impact on fish/fisheries • Impacts of construction and pipe laying. • Visual intrusion of new building and associated structures **Opportunities:** • Navigation • Economic feasibility, dependent on scale of operation
Management of minor tributaries	Changing the management of minor tributaries through the flood risk area could either provide benefits by reducing inflows to the major watercourse, or by reducing the risk of flooding from the tributary, either by the main watercourse backing up the tributary, or directly from the tributary. Options for altering management of tributaries could include almost any of the options considered above, with their associated impacts, opportunities and constraints, albeit on a smaller scale to those associated with the River Ouse and River Wharf.	