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Wales

**Area 2: Vale of Glamorgan:
LANDMAP Change Detection:
Visual & Sensory Aspect
Monitoring Report
Final: March 2015**

Bronwen Thomas

Rev No. 3

Contents

- 1.0. Introduction
- 2.0. Methodology
 - Stage 1: Baseline of Change
 - Stage 1a: Local Authority questionnaire findings
 - Stage 1b: Additional desk-based information
 - Stage 2: Fieldwork verification and survey completion
- 3.0. Monitoring Table Notes
- 4.0 General Approach to Recommended Amendments Relating to All-Wales Landscape Change
 - Phytophthera felling
 - Windfarms
 - Single wind turbines
 - Solar farms
 - Settlement expansion
 - Gradual increase in scattered developments ,'gentrification', etc.
 - Coastal erosion
- 5.0 Summary of Key Changes and Influences in Ceredigion
 - Expansion/development of settlements
 - Edge of Barry
 - Developments in villages and rural areas
 - Airport/RAF St Athan
 - Roads
 - Quarry expansion
 - Hensol Park and Castle
 - Windfarms and wind turbines
- 6.0 Monitoring Table and Figures

1.0 Introduction

1.1. In August 2013 Natural Resources Wales (NRW) commissioned Bronwen Thomas Landscape Architect (BTLA) to carry out stages 1, 2a and 2b of the interpretation of the LANDMAP Change Detection Packs (CDP) for the Visual & Sensory aspect covering several parts of Wales including Area 2 which includes the Vale of Glamorgan.

1.2. In September 2013 BTLA was commissioned to prepare and manage the Local Authority questionnaire input into Visual & Sensory Change Detection across all of Wales.

1.3. In July 2014 BTLA was commissioned to carry out field visits, complete the surveys and update the Visual & Sensory data including the on-line surveys and GIS for the parts of Wales covered in the first stages, including the Vale of Glamorgan.

2.0 Methodology

2.1. 'LANDMAP Guidance for Wales: Monitoring Landscape Change' (NRW 2014) provides a full explanation of the methodology. The tasks carried out, in brief, have been:

Stage 1: Baseline of Change

- Creation of monitoring tables for each of the local authorities, listing aspect areas, sources of change detection and recommended amendments;
- Desk study of maps and resources supplied in the Change Detection Pack to identify aspect areas where significant landscape change is anticipated, relating to boundaries, classification, evaluation and descriptions;
- Population of relevant columns to form the Stage 1 tables, relating to the CDP resources, namely:
 1. Aspect area UID and name;
 2. Change indicated by OS data, aerial photographs and roads/buildings maps;
 3. Change indicated by complexity maps (segment density) and NDVI;
 4. Change indicated by Phase 1 and seasonal change maps;
 8. (Draft) recommended LANDMAP amendments.

Stage 1a: Local Authority questionnaire findings

- Assessment of information derived from local authority questionnaire.
- Population of relevant columns in the monitoring table:
 5. Change indicated by LPA questionnaire
 8. Adjustments to recommended LANDMAP amendments

Stage 1b: Additional desk-based information

- Assessment of further information requested and supplied by NRW and local authorities;
- Cross-check against Consistency Report to ensure inconsistencies have been rectified;
- Population of relevant columns of the monitoring table:
 6. Changes indicated by other resources;
 8. Adjustments to recommended LANDMAP amendments

- Preparation of summary report to provide information specific to the Vale of Glamorgan and give a summary of key changes and influences, with illustrations, detected at this stage.

Stage 2: Fieldwork verification and survey completion

- Visits to aspect areas to verify significance of changes and identify additional changes;
- Population of relevant columns in the monitoring table:
 7. Change indicated by fieldwork
 8. Adjustments to recommended LANDMAP amendments
- Adjustments to monitoring table relating to feedback from LPAs and incorporation of further additional sources of information;
- Revision of summary report to take account of changes made at stage 2;
- Preliminary Quality Assurance.

Stage 3: Updating the Visual & Sensory Baseline

- Updating all aspect area surveys as recommended in the monitoring table;
- Updating aspect area boundaries in the Visual & Sensory GIS layer;
- Revision of monitoring table and summary report to take account of changes made at stage 3;
- Quality Assurance.

3.0 Monitoring Table Notes

3.1 The final monitoring table has been prepared in accordance with the Technical Specifications. The following general notes provide clarity and explain any modifications.

3.2 The final table accompanies this report.

3.3 Letters (**a. b.** etc.) refer to the separate changes that have been identified in each aspect area. This allows the recommended LANDMAP amendments to relate to the different changes.

3.4. Potential changes identified at stage 2 but not substantiated by fieldwork or other later methods have been retained in the final monitoring table for the sake of transparency.

3.5. Italics denote amendments required for consistency rather than landscape change.

3.6. Figures taken from mapping and aerial photographs show all boundary changes and illustrate some of the amendments. These are provided with the accompanying monitoring table.

3.7. The following notes relate to each column of the monitoring table:

Column 1: Aspect Area UID and name.

Column 2: The Mastermap road and built form change mapping, and the 2001 and 2010 aerial photographs provided the most useful data for detecting possible change. It must be noted that the aerial photographs provided in the CDP do not show the most recent changes.

Column 3: The complexity maps and NDVI mapping identified some possible vegetation changes. In the Vale of Glamorgan these have not proved to be conclusive of change but have assisted in verifying change.

Column 4: Phase 1 habitat mapping has not been supplied. Seasonal change has not provided any further information relating to significant Visual & Sensory change.

Column 5: The LPA responded to the questionnaire. Additional comments (JMpers.com.) are from a subsequent telephone conversation with John Marks (LPA). Feedback from the stage 2 monitoring table has also been incorporated.

Column 6: Other resources used for the Vale of Glamorgan:

- Forestry mapping showing conversion from conifer to broadleaf woodland
- Windfarm mapping showed no windfarm development in the Vale of Glamorgan, but nearby Taff Ely/Mynydd Portref windfarm in RCT has been considered for its visual impacts on the Vale of Glamorgan.
- Personal knowledge comments.
- Google Earth (referenced as GE2013) provides more up-to-date aerial photographs for the Vale of Glamorgan.
- *Inconsistencies have been noted in this column.*

Column 7: It must be noted that the fieldwork was carried out in summer 2014, approximately six months after the stage 1 monitoring table was completed, and several years after the aerial photographs were taken. Care was taken, therefore, to ensure that developments and other potential changes that appeared to be in progress at earlier stages were checked on site. Fieldwork has verified most of the changes identified.

Column 8: In summary, the following amendments are recommended:

- Twelve aspect areas require boundary changes. Three of these relate to inconsistencies.
- Fifteen aspect areas require amendments to survey data relating to descriptions.
- There are no recommended changes to classifications or evaluations.
- Two new aspect areas are recommended;

4.0. General Approach to Recommended Amendments Relating to All-Wales Landscape Change

4.1. The following notes provide an overview of the recommended amendments that have been applied to all areas of Wales being monitored by Bronwen Thomas Landscape Architect. Only notes that may be relevant to the Vale of Glamorgan are included.

Phytophthora felling

Source: Comprehensive coverage of actual felling has not been made available therefore this has not been able to be included as change, except where noted as significant during fieldwork. No specific change relating to *Phytophthora* has been detected in the Vale of Glamorgan.

Windfarms

Source: All Wales GIS mapping, August 2013. This maps all consented and operational windfarms, giving name, number and heights of turbines.

Some windfarms have already been included in the Visual & Sensory data, however these surveys will be checked and may be amended, with cumulative effects being considered. Operational windfarms are included as a landscape change within the aspect area, with amendments relating to detractive views within, change to sense of place, trend, condition, recommendations. Windfarms are also considered to be making significant change to views from other aspect areas within 5km, with detractive views out. If these aspect areas are primarily forestry, or valleys without views, or facing away from the windfarm, views from these have not changed significantly. The impact of all the operational and consented windfarms have been verified by fieldwork. Where windfarms are consented but not built, amendments relate to trend and recommendations. In order to provide consistent descriptions, the landscape types identified in 'Guidance on cumulative impact of wind turbines on landscape & visual amenity: Pembrokeshire and Carmarthenshire' (White Consultants 2012) will be used. These are: wind turbine landscape; windfarm. The nearest windfarm is more than 5km from the boundary of the Vale of Glamorgan.

Single wind turbines

Sources: LPA questionnaire. No comprehensive mapping has been available, therefore change detection has relied on LPA observations, personal knowledge and fieldwork observations.

There are many more (and larger) single or pairs of wind turbines now than at the time of the original Visual & Sensory surveys. Where there are a considerable number within an aspect area the cumulative effect may make a change to views within (detractive), trend, recommendations (e.g. parts of Pembrokeshire plateau and around Milford Haven). Where turbines are sparsely scattered and not prominent, no significant change is detected. The landscape types identified in 'Guidance on cumulative impact of wind turbines on landscape & visual amenity: Pembrokeshire and Carmarthenshire' (White Consultants 2012) will be used. These are: area with no turbines; area with occasional turbines; area with turbines. No significant changes relating to turbines have been detected in the Vale of Glamorgan.

Solar farms

Sources: LPA questionnaire. No comprehensive mapping has been available, therefore change detection has relied on LPA observations, personal knowledge and fieldwork observations.

Solar farms tend to be thinly spread at present and not considered to be making significant visual & sensory change yet (e.g. western part of Vale of Glamorgan, eastern parts of Pembrokeshire plateau). Fieldwork has shown that these are not prominent features from many viewpoints. These are noted and amendments will be made to trend and recommendations.

Settlement expansion

Sources: GIS Mastermap road and building change mapping, aerial photographs (2001 and 2010), plus Google Earth 2013 photography where applicable. The impacts of most of the areas of expansion have been verified by fieldwork.

As well as boundary changes around settlement aspect areas there is also encroachment on gaps between settlements which is significant in the 'busy' parts of the country such as M4 corridor and tourist areas such as Pembrokeshire and Ceredigion coast. As well as physical encroachment, there is encroachment on views with some prominent edges of settlements impacting on the adjacent rural aspect areas. Where this is significant in the rural aspect areas amendments are recommended to detractive views and trend/recommendation relating to encroachment.

Gradual increase in scattered development, 'gentrification' etc.

Sources: GIS Mastermap road and building change mapping, aerial photographs (2001 and 2010), plus Google Earth 2013 photography where applicable. LPA feedback has also assisted in assessing the significance of change.

This is difficult to quantify but it is noticeable in some of the more prosperous and tourist-related areas such as south Monmouthshire and parts of Pembrokeshire. These developments generally relate to dwellings, increases in rural industries and industrialised farming, and to tourist-related developments. Recommended amendments relate to trend with recommendation to ensure appropriate development.

Coastal erosion

Source: The Welsh Coastal Storms, December 2013 & January 2014 – an assessment of environmental change, NRW Evidence Report 33. This report became available in September 2014, after most fieldwork had been completed. LPA feedback has identified some specific areas of change which have all been verified by fieldwork.

The acceleration of coastal erosion, in terms of Visual & Sensory landscape change, is having a significant effect on some dunes systems (e.g. Newborough on Anglesey) or necessitating new sea defences (e.g. Borth in Ceredigion) but elsewhere is less significant. Amendment recommendations to aspect areas which have had specific erosion relate to trends and recommendations. No specific changes relating to coastal erosion have been detected in the Vale of Glamorgan.

5.0 Summary of Key Changes and Influences in the Vale of Glamorgan

Expansion/development of settlements:

5.1. Housing estates on the edge of Rhose, Barry and Penarth have extended beyond aspect area boundaries. Most new development, however, has taken place within the towns or other development aspect areas and therefore does not effect aspect area boundaries. Some of this development, however, is in prominent locations at the edges, seen from rural areas beyond, notably at Llandough Hospital (VLGLVS473).

Edge of Barry

5.2. Large areas of previously-built housing on the northern edge of Barry are not currently within the Barry aspect area. It is proposed that the aspect area boundaries are amended.

Developments in villages and rural areas

5.3. There appears to have been very little development in all the villages and in the open countryside despite the Vale's proximity to Cardiff. Fieldwork concluded that there has been no significant change relating to rural developments.

Airport/RAF St.Athan

5.4. Flying activity at both places has reduced, however it has not been possible to ascertain if this has a significant effect on the tranquillity of the surrounding aspect areas.

Roads

5.5. There are no new roads, but junction upgrading and additional traffic lanes are having localised effects on views.

Quarry expansion

5.6. Aberthaw Quarry and the cluster of limestone quarries in the west have expanded and have become more prominent. Aspect area boundary changes are proposed, plus a new aspect area for the western quarries.

Hensol Park and Castle

5.7. Recent and on-going developments, including golf courses, within the parkland and its environs add up to significant change. It is proposed that this historic area becomes a separate aspect area, classified as parkland.

Windfarms and turbines

5.8. There are a few individual wind turbines in the rural parts of the Vale but these do not have cumulative effects or add up to significant change at present.

6.0. Monitoring Table and Figures

Vale of Glamorgan Monitoring Table: Final

Italics denotes changes required for consistency rather than change

1 Aspect Area UID & name	2 Change indicated by: OS data, Aerial photographs & Roads/Buildings	3 Complexity maps (segment density) & NDVI	4 Phase 1 & seasonal change	5 LPA questionnaire + JMpers.com	6 other resources. +BTpers.com	7 Fieldwork	8 Recommended LANDMAP amendment
VLFGLVS001 Pant St Bride's Quarries	Three quarries have all expanded					Confirmed	GIS: three new polygons Survey: New record
VLFGLVS002 Hensol Park	Various new buildings within Hensol Park area. Plus golf course expansion					Confirmed	GIS: Single new polygon Survey: New record
VLFGLVS152 Penarth	a. Housing expansion to west of aa			b. Expansion of Penarth Learning Community - Possible visual impact given scale of development on edge of settlement of Penarth. c. Extension and expansion of Llandough Hospital. Visible on ridge slope, considerable expansion of	c. GE2013 shows extend to new works at hospital	b. No significant change. c. Hospital expanding and prominent	GIS:.Boundary changes with 473 (a. & c.) Survey: Amend summary and trend to reflect expansion of settlement and prominent edge development.

				site with additional works programmed.			
VLFGLVS161 Cowbridge	Large school buildings on edge (within)				School prominent on approaches from north.(BTpers.com.)	No significant change	No amendments required – no significant change
VLFGLVS219 Barry	a. Housing (not recent) on west edge not included in this aa b. Housing (not recent) on north east corner not included in this aa c. Various new building in docks and Barry Island			c. major on-going upgrading, tidying up of docks etc.But slowed down because of economic climate.chemical works general trend (JMpers.com.)		c. Significant amount of new development in former docks are, including large area of housing under construction.	GIS: <i>Boundary change with 473 (a.) and 620 (b)</i> Survey: Amend summary and trend to reflect change from derelict to development in docks area (c.) <i>And boundary changes</i>
VLFGLVS271 St Nicholas & Bonvilston ridge crest				a. Sycamore Cross -new junction alignment and associated works on A48 - much more open than previous alignment. b. 12m monopole turbine at Bryn Lodge, St Lythans near Wenvoe. Approved		a. Junction changes character of vicinity making A48 more prominent. b. No significant change	Survey: Amend summary, views, trend to reflect impact of Sycamore Cross/A48
VLFGLVS378	Quarries					Quarries expanding and	GIS: Boundary

Alun Valley	expanding into this aa					added visual/noise/disturbance impact.	changes to accommodate with new aspect area for quarries (VLFGLVS001) Survey: Amend summary and trend to reflect expansion/impact of quarries
VLFGLVS406 Ely Valley Floodplain					<i>Change value to high and re-word justification</i>		<i>Done</i>
VLFGLVS456 RAF StAthau	Large new building			No knowledge of significant change, but will be expanding (JMpers.com.)		Only seen from nearby road. Not much activity.	Survey: Amend summary and trend to reflect changes and expansion of activities.
VLGLVS473 Penarth & Dinas Powis urban fringe	c. Housing on western edge of Penarth expanded into this aa			a. Cardiff Road Bus Lane – resultant widening of road and temporary loss of screen. Widening of carriageway on approach to Merrie Harrier junction, Penarth. b. Extension and expansion of Llandough Hospital. Visible on ridge slope, considerable expansion of site with		a. No significant change b. New hospital prominent.	GIS: Boundary change with 152 (b & c.) Survey: Amend summary, views, and trend to reflect adjoining new developments

				additional works programmed.			
VLFGLVS620 Wenvoe environs	a. New retail at Culverhouse Cross, plus upgraded roads/junctions b. <i>Housing expansion of Barry (not recent) in this aa</i>						GIS: <i>Boundary change with 219 (b.)</i> Survey: Amend summary and trend to reflect expansion of Culverhouse Cross retail. (a.)
VLFGLVS663 Ogmore & Old Castle Downs	Various roads/tracks upgraded relating to quarry. Quarries have expanded					Considerably more visual/noise/movement impact from quarries	GIS: Create new aspect area for quarries. Boundary change to accommodate new aa for quarries. (VLFGLVS001) Survey: Amend summary, views, recommendations and trend to reflect increase in impact from adjoining quarries.
VLFGLVS641 Rhoose hinterland	a. New hotel at airport b. Quarry expanded c. Rhoose Point housing expanded into eastern part of this aa	b. Much less productive at boundary with Aberthaw quarry – expansion of quarry				a. No significant change.	GIS: Boundary change with 742 (b.) & 729 (c.) Survey: Amend summary and trend to reflect expansion of adjacent quarry and Rhoose
VLFGLVS696 Wenvoe					<i>Change to low value, plus justification</i>		<i>Done</i>

VLFGVLS723 Cardiff West airport	a.New hotel beyond in east			b.Generally less flights. Owned by Welsh government. (Jmpers.com.)		a. Not significant	Survey: Amend summary and trend to reflect reduction in use
VLFGVLS729 Rhoose	Some areas of new housing at Rhoose Point on former quarry and beyond aa boundary to east			Rhoose Point development to south of railway line. Visual impact in coastal location, change in nature of land from rough ground/quarry to housing estate.		Confirmed	GIS: Boundary change with 641 Survey: Amend summary and trend to reflect expansion of settlement
VLFGVLS742 Aberthaw Quarry	Quarry expanded eastward into 641	Much less productive to east of aa (in 641) – expansion of quarry		Extant consent so continuing to expand – check LDP (Jmpers.com.)			GIS: Boundary change with 641 Survey: Amend summary and trend to reflect expansion of quarry
VLFGVLS797 Ewenny Valley	Quarries expanded into this aa					Significant expansion and more intrusive quarries	GIS: Boundary changes with new aspect area for quarries. Survey: Amend summary, views, recommendations and trend to reflect expansion of adjacent quarries
VLFGVLS805 Lias Plateau	Quarry expanded into north west corner of this aa				GE2013 shows more expansion	Significant expansion and more intrusive quarries	GIS: Boundary change with new quarry aa.(VLFGVLS001)

							Survey: Amend summary, views, recommendations and trend to reflect expansion of adjacent quarries
VLFGLVS884 Barry & Sully coastal gap				On-going upgrading of developments – but slow (JMpers.com.)		Not visually significant	No amendments required – no significant change
VLFGLVS903 Sully Island					<i>Change to outstanding value</i>		<i>Done</i>
VLFGLVS913 Hensol Forest					<i>Change to high value</i>		<i>Done</i>
VLFGLVS943 Northern Vale Lias slopes				a. 100Kw Turbine at Pant Y Lliwydd Farm, Hen Dafydd, St Mary Hill. Approved	b. Views to large expanded Taff Ely/Mynydd Portref windfarm on ridge to north (BTpers.com.)	Wind turbines not significantly intrusive – too many trees	No amendments required – no significant change
VLFGLVS962 Ystradowen/Hensol area	a. Various new buildings within Hensol Park area. Plus golf course expansion				a. New hospital, sports facilities, conversion of castle, etc. within listed parkland (BTpers.com.) b. Expanded Taff Ely/Mynydd Portref windfarm on ridge to north (BTpers.com.)	a. Significantly different character to surrounding farmland – leisure landscape. b. Windfarm not particularly conspicuous	GIS: Create new aspect area for Hensol Park (VLFGL002) Survey: Amend summary to reflect changes for new aspect area
VLFGLVS987 Porthkerry country park & environs	<i>Housing (not recent) in edge of Barry included in this aa</i>						GIS: <i>Boundary change with 219</i> Survey: <i>note boundary change</i>

<p>VLFGLVS998 Thaw power station</p>	<p>Upgraded roads around power station</p>			<p>New visitor centre located on coast in front of Aberthaw power station. Highly visible structure on coastal edge but likely to be dwarfed by existing power station buildings in any assessment.</p>	<p><i>Change to low value</i></p>	<p>Not particularly conspicuous from coast.</p>	<p>No amendments required – no significant change</p>
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Vale of Glamorgan: Change Detection Figures

VLFGLVS152 Penarth expansion



Boundary change with 473 to include housing in 152

Barry VLFGLVS219 - north east housing development



Boundary extended into 620

Barry – housing to west



Boundary extended into 473

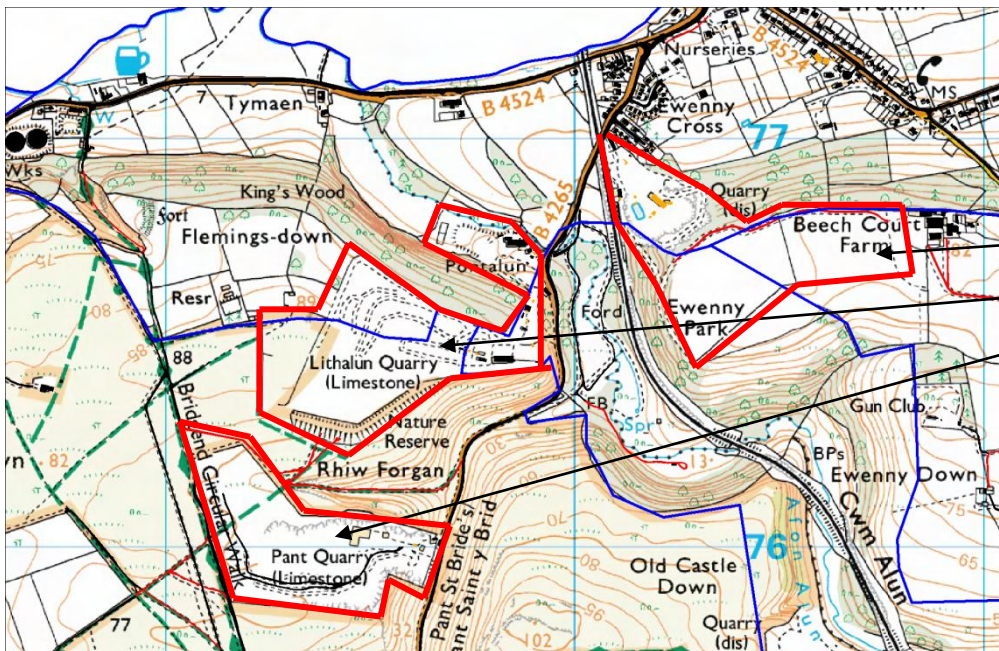
VLFGGLVS633, 797, 378, 805 New quarries aspect area



2001



2010

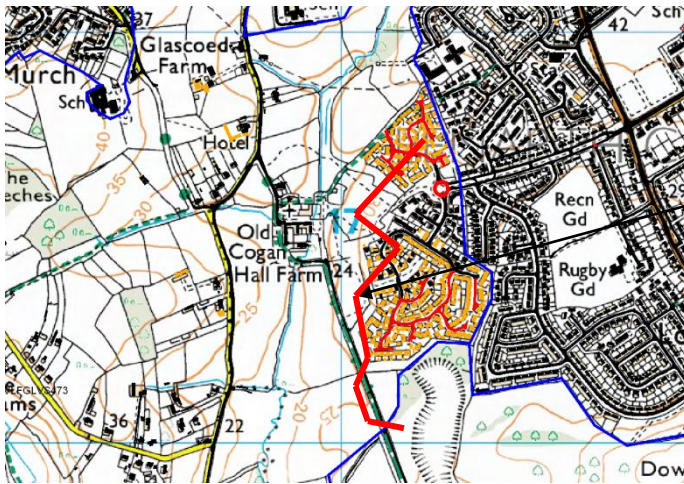


3 new areas to make up new quarries aspect area



2013

VLGL152 Penarth and 473

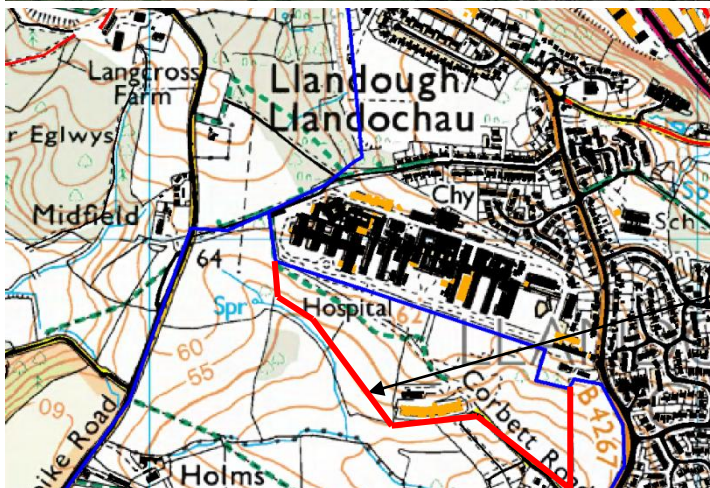


Boundary change from 473 to 152 to include housing

VLGL473 Llandough Hospital



2013



Boundary change from 473 to include new hospital in 152

VLFGGLVS729 Rhoose



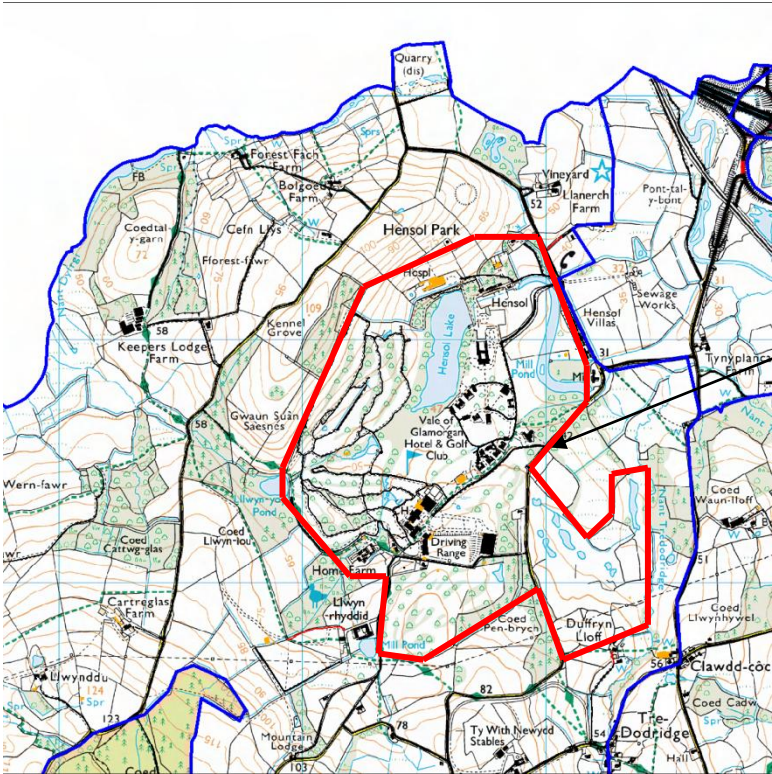
Boundary change with 641 to include housing in 729

VLFGGLVS742 – Aberthaw Quarry



Boundary changes with 641 to include expanded quarry in 742

VLFGGLVS962 - Hensol Park developments



New aspect area for Hensol Park in centre of 962



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