Cyfoeth Naturiol Cymru
Natural Resources Wales

Llyn Tegid Reservoir Safety Project

Access Audit

Version: 3.0

Version History:

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1.0	12/09/19	*Draft Report - for NRW internal review*
2.0	14/11/19	*Draft Report - for NRW Enviro PM comment*
3.0	21/11/19	*Final Report – for Consenting*

Contents

1.0 Introduction

This access audit has been produced on behalf of Natural Resources Wales (NRW) to support and inform the design of the Llyn Tegid Reservoir Safety Project. It should be read in conjunction with other documents produced for the Reservoir Safety Project, with particular reference to the following:

- Environmental Constraints and Opportunities Record (ECOR)
- Environmental Constraints and Opportunities Plan (ECOP) – Population and Human Health
- Design & Access Statement (DAS)

2.0 Aims and Scope

The ECOR sets out the background and aims of the Reservoir Safety Project, the environmental baseline conditions, the key environmental constraints and opportunities, and describes the likely environmental impacts, mitigation and potential enhancements. This includes reference (under the theme of 'Population and Human Health'), to access issues. Along with the ECOP, it sets out the context in terms of the network of local Public Rights of Way (PRoW), cycleways, locally promoted routes for walking and cycling, permissive footpaths, local recreational facilities, uses and users. This wider context is not repeated here. However, the ECOR also identifies a need for a more detailed appraisal looking specifically at the existing footpaths affected by the project in terms of their surfacing, gradients and access controls (gates / stiles etc) to inform identification of opportunities for and design of environmental enhancements. That is the purpose of this document.

The study area for this access audit is shown in the Access Audit Location Plans (drawings 122918-BVL-Z0-00-DR-L-00004 - 122918-BVL-Z0-00-DR-L-00006 – see Appendix A). This covers the whole project working area boundary (i.e. the area defined by the limits of the reservoir safety works) but that is extended alongside the River Tryweryn to include the PRoW 'Y Bala Rhif 1' up to the Station Road (A494) bridge. It also extends further west to where 'Y Bala Rhif 4' meets the A494, adjacent the Loch Café, and further north along the route of 'Y Bala Rhif 5' to where that footpath meets Aran Street.

A site walkover by landscape architects has been undertaken to identify, photograph and, where appropriate, record dimensions of existing site features within the areas affected by the project. Analysis of topographical information has also been undertaken to inform the appraisal, particularly with regard to existing gradients of footpaths and ramps. The Access Audit Location Plans have been used to record the features which are referred to and represented in the photographs within the appraisal below.

3.0 Legislation and Access Standards

Key areas of legislation and guidance, relevant to the design of an accessible and inclusive environment in Wales, are highlighted below.

3.1 The Equality Act (EA) 2010

In terms of legislation, the EA requires due regard to be given to reducing socio-economic inequalities, the elimination of discrimination, harassment, and victimisation based on defined 'protected characteristics', including: disability, age, gender, race, religion or belief, sexual orientation, pregnancy and maternity and gender reassignment. The EA does not address detailed design issues or specifications and therefore 'compliance' in relation to specific site features cannot be assessed. Designs may be to the latest good practice guidance, but it is the way in which the environment is used in practice that may determine if the antidiscrimination duties imposed under the EA are being met.

Other relevant legislation relating to inclusive access is the Countryside Rights of Way Act 2000, and the Building Regulations 2000 (Part M and BS 8300-1:2018). The Environment (Wales) Act 2016 and the Well Being of Future Generations (Wales) Act 2015 place further duties on NRW to embed the sustainable management of natural resources (SMNR) principles into all its activity.

3.2 Design Commission for Wales' - Design and Access Statement Guidance

The Design Commission for Wales' Design and Access Statement guidance, appendix 2, sets out 5 key Principles of Inclusive Design. To not provide design criteria or recommendations that can be directly applied to an access audit, but the principles are relevant to this access audit. Inclusive design is design which:

- *Places people at the heart of the design process*
- *Acknowledges diversity and difference*
- *Offers choice where a single design solution cannot accommodate all users*
- *Provides for flexibility in use*
- *Provides buildings and environments that are convenient, enjoyable and safe to use for everyone*

Following these five principles in the design process for a development will lead to an environment that is:

- *Inclusive so everyone can use it safely, easily and with dignity*
- *Responsive taking into account what people say they need and want*
- *Flexible so different people can use it in different ways*
- *Convenient so everyone can use it without too much effort or separation*
- *Accommodating for all people, regardless of disability, age, mobility, ethnicity or circumstances*
- *Welcoming with no disabling barriers that might exclude some people*
- *Realistic offering more than one solution to help balance everyone's needs and recognising that one solution may not work for all*

3.3 'By all Reasonable Means' (BARM) (NRW, 2017)

This NRW guidance, produced by the Sensory Trust, aims to support equality of access to the countryside and open spaces for people of all ages, circumstances and

backgrounds. It includes specific guidance and criteria for undertaking access audits along public routes or paths.

Appendix 1, Table 1, sets out access standards in relation to three defined 'management zones'. The detail provided in Appendix 1, Table 1, includes recommended path surfaces, widths, gradients, ramp gradients, landings on ramps etc.

These standards are less stringent, and less detailed, than the recommendations of BS 8300-1:2018, which are highlighted below (for example maximum ramp gradients, stated in BARM Appendix 1, are steeper than those recommended under BS 8300-1:2018, and BS 8300-1:2018 also provides more detail on how gradients should vary according to overall rise and length).

BARM states that access audits should be undertaken according to the 'Least Restrictive Access' approach, against the highest possible access standards.

3.4 British Standard 'BS 8300-1:2018'

The British Standard *'BS 8300-1:2018 - Design of an accessible and inclusive built environment (Part 1 – External Environment)'* (hereafter called 'BS 8300') provides recommended design standards for an inclusive and accessible external environment. It includes guidance on overall principles and design strategies, site layout and planning, as well as detailed design criteria on specific elements including: information and signage, pedestrian surfacing, steps, ramps, gates, barriers and restrictions.

As a Code of Practice, BS 8300 sets out recommendations and guidance, rather than strict requirements or specifications. The recommendations given within BS 8300 apply to new developments but can also be used when assessing the accessibility and usability of the existing environment and for planning improvements. It includes standards for disabled users but is broader and considers inclusive design generally. It includes standards for access to buildings but is not limited to this and considers the wider external environment including parks and gardens and Public Rights of Way. It is therefore a relevant guidance document and benchmark to refer to here.

In its introduction, BS 8300 states:
'Where access is available as a right, for instance on countryside paths and bridleways, this standard applies to all interventions which affect the physical condition of a right of way, for instance, if a gate or stile is provided or a constructed surface applied to a route. It is also expected to be of use to those with management responsibility for ensuring that public space remains inclusive and accessible over time and through change.

On nature trails, and paths in parks and gardens, where it might not be practicable to adhere strictly to the recommendations in this standard, the aim would nonetheless be to maintain as close compliance as possible.'

3.5 ‘Access for All Design Guide’ (Environment Agency, 2012)

This guidance, produced by the Environment Agency, aims to find balance between operational needs, safe management and accessible environments, setting out standard approaches and design advice for a range of features frequently constructed in the natural environment.

This document provides design suggestions based on, and referring to, a range of other pre-existing guidance that may be relevant to the user. The document includes recommended path surfaces, widths, gradients, ramp gradients, landings on ramps etc for a range of public open space scenarios, however as a document it generally takes the form of ‘secondary’ guidance, collating and directing users to relevant ‘primary’ guidance.

Access for All provides extensive graphic representations of design principles, but states these are to be used as a starting point, and links provided within the document contain more specific and detailed information (such as the relevant British Standards and other existing guidance).

3.6 Application of Standards to this Audit

This audit is in line with the recommendations of BARM, but also refers to the more stringent recommendations of BS 8300. These are the two key guidance documents referred to throughout this audit. The most appropriate ‘Zone’ defined under BARM for the study area is ‘Zone B - Rural landscapes, farmland with Public Rights of Way’.

‘Access for All’ is also considered, particularly where no applicable guidance can be found within BS 8300 or BARM. Recommendations within ‘Access for All’ for barriers, width restrictions, path surface, step level change, crossfall gradients and maximum ramp gradient for ‘urban fringe and managed landscapes’ are identical to those given in BARM for Zone B (see Table 3.1).

Full compliance to access standards and recommendations will not be practical in many circumstances for the Llyn Tegid project, given the functional engineering requirements of the reservoir embankment, and especially when aiming to ‘retrofit’ improvements to existing infrastructure / site features. However, following the recommendations of BS 8300 to the greatest extent that is practical and possible will help to ensure provision of an accessible and inclusive environment, and to anticipate and overcome potential restrictions and barriers. Whilst strict compliance with BS 8300 is likely to be limited in many situations due to practicalities, following the principles of BARM and ‘Access for All’ should still be the aim.

3.7 Comparison of Standards

Table 3.1 summarises and compares selected key access standards recommended under BARM (‘Zone B - Rural landscapes, farmland with Public Rights of Way’) with the corresponding access standards recommended by BS 8300-1:2018, and the existing features typically found ay Llyn Tegid. The table highlights that path widths are generally above expected standards; ramp gradients are generally below BS 8300

standards but within BARM; a lack of ramp landings is below both standards; gates and barriers are not in accordance with either standard.

Table 3.1: *Comparison of Standards and existing (typical) scenarios within Study Area*

Feature	BARM – Zone B	BS 8300	Existing within study area (typical)
Barriers	No steps, or stiles or other physical barriers restricting access	2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers.	Gates and barriers not in accordance with BS 8300 or BARM
Path surfaces	Hard and firm with very few loose stones (no bigger than 10mm) not covering the whole surface	Unbound stone should not be used for an accessible path. Firm, slip resistant and reasonably smooth. Cobbles, bare earth, sand and unbonded gravel should not be used.	Tarmac (Y Bala Rhif 4) and unbound stone (Y Bala Rhif 1)
Path widths	At least 1m	At least 1.8m	Generally, between 1.5m – 2.5m. All at least 1m.
Width restrictions (e.g. at gates or gaps)	At least 815mm for no more than 300mm along the path, 915mm for no more than 1.6m along the path.	Gates should be a minimum of 1000mm wide. If path width is consistently less than 1800mm, passing places should be provided at 25m intervals. Where routes require narrowing this should be to no less than 1200mm and extend for no more than 2m.	Generally, no points that fall below width restrictions, all access barriers at least 1m.

Feature	BARM – Zone B	BS 8300	Existing within study area (typical)
Ramp gradients	Maximum 1:10	1:20 to 1:12 maximum, depending on rise.	Only 1 is more than 1:10, but most not in line with BS 8300 recommendations
Maximum rise of ramps (steeper than 1:20) between landings	950mm	500mm	No provision of landings. 6 ramps not in accordance with either standard.
Clear walking tunnel	At least 1m wide x 2.1m high	At least 1.8m wide x 2.5m vertical clearance	Width generally within standards, but vertical clearance less than both standards in places due to low branches.
Distance between resting places	300m	50m	Generally, more than 300m between seating places.
Vehicle parking control equipment	Not included	Route to machine should allow clear access to the machine by a wheelchair user. All controls and slots at least 750mm but no more than 1200mm.	Access leading to machines not compliant, machines appear to fit with guidance.
Step level change	Maximum 15mm step level change	Difference in levels between adjacent surface units should not exceed 2mm (5mm if filled to the surface).	Several changes exceed recommended maximum step level across site, particularly where there is a change in surface material

4.0 Site usage

Generally, usage is greatest to the west of the site where the café, car park and watersports centre are located, and along Y Bala Rhif 4 leading directly from these amenities. The informal lake foreshore footpath that runs parallel to Y Bala Rhif 4 is also one of the more heavily used routes, particularly by dog walkers, it is therefore likely greater consideration of access issues would be most beneficial in this part of the site. Access controls in this part of the site are inconsistent, whilst efforts have been made to limit access onto this route to pedestrians and permitted maintenance vehicles, several of the access controls are no longer fully functional as they do not lock or are broken. There are also four points along this route with no access control at all, all of which are directly connected to car parks in the area.

Unlike Y Bala Rhif 4 which is a heavily used area of the site, Y Bala Rhif 1 has much less footfall. It appears to have been more recently improved, with greater consideration being given to accessibility. Access control here is present at every access point, seemingly proportionate given the enclosed nature of the route and the fact that there are so few people around, potentially increasing the risk of antisocial behaviour. Access of unauthorised vehicles is prevented using gates that are accessible according to BS 5709:2006 Gaps, gates and stiles – Specification' (hereafter called 'BS 5709').

The existing fingerposts on the above footpaths are part of the Taith Tegid Promoted Long Distance Route, delivered in partnership with Denbighshire County Council Countryside Section; these would all need to be retained as part of any redevelopment works.

5.0 Description and Appraisal of Site Features

Table 5.1 provides a description and appraisal of accessibility of key site features, focussing on the PRoW affected by the project. The table starts at the western extent of the scheme (adjacent the Loch Café) and generally follows the PRoW Y Bala Rhif 4 along the embankment crest eastward, before following Y Bala Rhif 1 north up to the Station Road bridge.

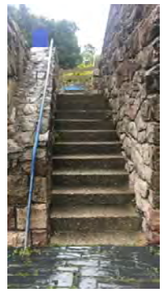
The PRoWs, including connections to adjacent routes / areas, are considered in terms of general compliance with the recommendations in BS 8300 and BARM. This includes consideration of gradients, path surfaces and widths, access control barriers, signage etc.

The location references in the table correspond to those stated on the Access Audit Location Plans. The photos were taken during the site walkover on 22/08/19, and the opportunities identified have been developed based on landscape architects' recommendations and discussion within NRW.

Opportunities in GREEN are to be explored further for delivery by NRW. Those in GREY have been excluded from potential delivery by NRW as part of the Llyn Tegid Reservoir Safety project.

Table 5.1: *Description and Appraisal of Features*

Location	Photograph	Description	Issues	Opportunities
	Y BALA RHIF 4			
R4/01	 	Access onto Y Bala Rhif 4 from Pensarn Road Access control barrier: Steel chicane approx. 1200mm x 1200mm, two-way opening, not self-closing. It is possible to avoid this gate and join Y Bala Rhif 4 in several other locations along this footpath, the closest being approx. 60m further east via the ramp (adjacent watersports building / public toilets). Path gradient: c. 1:20 (length c. 8m; rise c. 0.4m; width c. 1.5m – 2.5m). Surface material: tarmac, 1.5-2.5m wide. Worn in some parts making the surface uneven, no step level >15mm noted. Seating provided (first of three resting places on Y Bala Rhif 4 between Pensarn Road entrance and Watersports Centre). All on raised stone paving within grass, therefore not fully accessible. Litter bin provided. Timber PRoW fingerpost sign on Pensarn Road footpath, directing users onto Y Bala Rhif 4 footpath.	Access barrier not compliant with recommendations of BS 8300 (i.e. 2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers), or BARM (no steps, or stiles or other physical barriers restricting access). BS 8300: any gradient of 1:20 or steeper is a ramp, requiring a handrail on each side and landings at the head and foot of the ramp. Min recommended width is 1.5m. Max gradient for this rise is 1:16, so the gradient is acceptable. BS 8300: appropriate accessible space should be allowed for wheelchair users, integrated within the general seating provision, and a choice of seating options should be provided for a variety of users. BARM: regular seating provides resting points, particularly to reduce impact of gradients and distances.	Llyn Tegid Reservoir Safety project to replace access barrier with a two-way opening, self-closing gate that complies with recommendations of BS 8300. (Note this footpath can be accessed without restriction in four other locations nearby). Any opportunities to reduce the gradient of this ramp or improve access standards with handrails etc is beyond the working area, and therefore outside the scope of the Llyn Tegid Reservoir Safety project. Any opportunities to improve access standards (e.g. provision of accessible seating) would be beyond the working area, and therefore outside the scope of the Llyn Tegid Reservoir Safety project.
R4/02		Access to Y Bala Rhif 4 from lakeside car park at western side (includes access to parking payment machine) Access control barrier: see above, R4/01 Path gradient: At steepest c. 1:8 (gradient varies along ramp, steepest at top nr gate). Other gradients generally c. 1:23 – 1:28 (total length c. 30m; total rise c. 2.4m; width c. 0.6m – 1.0m). No handrails. No level landings.	The ramp is not compliant with BS 8300, which recommends that path gradients should be the lowest practicable gradient within the range of 1:20 to 1:12 (although maximum recommended gradient for this rise is 1:20), requiring level landings for every 500mm rise / 10m going, and requiring handrails. BARM recommended maximum ramp gradient should be 1:10.	Opportunities to improve access standards (e.g. by reducing gradients, widening paths etc) would be beyond the working area, and therefore outside the scope of the Llyn Tegid Reservoir Safety project.

Location	Photograph	Description	Issues	Opportunities
		Surface material: Tarmac and some stone paving (around pay machine and at base of ramp). Inconsistent tarmac surfacing at top of ramp, and uneven transition between tarmac and stone paving surfaces creates step levels >15mm along route. Parking payment machine along route (before steep section of ramp) accessible from the foreshore car park via tarmac footpath. See above (R1/04) for seating, litter bins and signage information.		Llyn Tegid Reservoir Safety project to provide the localised improvement of addressing the uneven transition between tarmac and stone paving surfaces.
R4/03	  	Ramp and stepped access from Y Bala Rhif 4 to lakeside car park at western side of Bala Adventure & Watersports building / public toilets (provides access from the lakeside car park to another parking payment machine) No access control barriers Ramp gradient: c. 1:15 (length c. 24m; Rise c. 1.7m; Width 1.4m – 1.6m). No handrails. No level landings. Step dimensions: Total rise c. 1.8m, width c. 1m. (individual step rise c. 180mm; tread c. 300mm). One handrail provided. Steps leading up to public toilets do not have any handrails. Seating provided (final of a set of three resting places along this stretch of Y Bala Rhif 4 between Pensarn Road entrance and Watersports Centre). All on raised stone paving within grass, not accessible. This is the last bench for app. 150m along Y Bala Rhif 4 (heading west to east) – next is located within leisure centre outdoor area. Litter bin and recycling bins provided. All accessible, recycling bins are within boundary of access route. Interpretation signage provided.	The ramp does not comply with recommendations of BS 8300 as the maximum recommended gradient for this rise is 1:20. Ramps require a handrail at either side, and level landings for every 500mm rise / 10m going. BARM guidance recommends a maximum ramp gradient of 1:10.	Re-grading the ramp and adding in level landings here is likely to be costly and disruptive, and is outside the scope of the Llyn Tegid Reservoir Safety project.
				Llyn Tegid Reservoir Safety project to provide a handrail to one side of the ramp and additional signage from the lakeshore car park, to improve compliance with BARM guidance.
			Steps not compliant with recommendations of BS 8300, lacking corduroy tactile paving top and bottom and contrasting nosings. Dimensional ranges for the steps should be between 150-180mm for the rise and between 300-450mm for the going, steps fall within these dimensions. A handrail should be provided on each side of the ramp or stair, stairs only have one handrail, some have none.	Opportunities to improve access standards here would be beyond the working area, and therefore outside the scope of the Llyn Tegid Reservoir Safety project.
			BS 8300 recommends litter bins, amongst other street furniture, should wherever possible be located at or beyond the boundaries of an access route.	The Llyn Tegid Reservoir Safety project will move the recycling bins so that they do not sit within the boundary of the access route, which will improve compliance with BS 8300 (there is plenty of room not within the footpath that they can be located).

Location	Photograph	Description	Issues	Opportunities
R4/04		Ramp on Y Bala Rhif 4 (west of Bala Adventure & Watersports building). Ramp gradient: c.1:15 (length c. 10m; rise c. 0.6m; width c.2.0m – 2.5m). No handrails. No level landings. Surface material: Tarmac. Even surfaced, no notable step levels.	The ramp does not comply with recommendations of BS 8300, as maximum recommended gradient for this rise is 1:20. Ramps require level landings for every 500mm rise / 10m going, and two handrails. BARM recommended maximum gradient is 1:10.	Reconstructing for compliant ramp dimensions here could be costly and disruptive. Opportunities to improve access standards here would be beyond the working area, and therefore outside the scope of the Llyn Tegid Reservoir Safety project.
R4/05		Ramp on Y Bala Rhif 4 (east of Bala Adventure & Watersports building). Ramp gradient: c.1:15 (length c. 10m; rise c. 0.6m; width c. 2.0m – 2.5m). No handrails. No level landings. Surface material: Tarmac. Even surface, no notable step levels.	The ramp does not comply with recommendations of BS 8300, as maximum recommended gradient for this rise is 1:20. Ramps require level landings for every 500mm rise / 10m going, and two handrails. BARM recommended maximum gradient is 1:10.	Reconstructing for compliant ramp dimensions here could be costly and disruptive. Opportunities to improve access standards here would be beyond the working area, and therefore outside the scope of the Llyn Tegid Reservoir Safety project.
R4/06	 	Path connecting leisure centre car park to Y Bala Rhif 4 Access control barrier: None Path gradient: Varies, path is lowest at toe of embankment line. c. 1:36 (embankment toe to Y Bala Rhif 4) and 1:140 (embankment toe to car park) Path width: 1.5-2.0m Surface material: Tarmac. Uneven where tarmac has worn at toe of embankment, other than this surface is relatively smooth. Step level where tarmac meets frame of demountable defence, this doesn't appear to be >15mm. No seating. Litter bin provided. Accessible, not within boundary of access route. No directional signage. Signpost at the end of the footpath from the car park could be adapted to	This is one of the access points onto Y Bala Rhif 4 that is uncontrolled, being directly connected to one of the well-used car parks in the area. Currently there is no known issue with unauthorised access from this connection. NRW aim to remove demountable defence / fill gap in wall as it creates operational risk.	Retain the open access between Leisure Centre Car Park and Y Bala Rhif 4, but at new location nearer Leisure Centre where a demountable defence would not be required. Block up this demountable defence to reduce flood risk. Opportunity to re-create connecting path at a location within Reservoir Safety Scheme, where it can lead directly on to ramp down to foreshore as part of open spaces enhancements proposed. Consider additional signage within development of detailed plans for enhancements around leisure Centre.

Location	Photograph	Description	Issues	Opportunities
		be useful navigation point for visitors (if this path is retained)		
R4/07		Ramped access to telescope from Y Bala Rhif 4 Gradient: c.1:15. No handrail. No level landing. Width: c. 1.2m. Surface material: Stone paving. Uneven surface, no step level >15mm noted. Note: Telescope unlikely to be useable for wheelchair users due to height.	Access is not compliant with BS 8300, 'where joints are filled but recessed below the surface, the difference in level between adjacent units should not be greater than 2mm, with joints not wider than 10mm and recess not deeper than 5mm'. BARM recommends path surfaces be 'hard and firm with very few loose stones' and that 'the ideal is non-slip, well-drained, level path'.	Filling recessed joints and smoothing of any protruding stone paving slabs would improve compliance with both guidance recommendations. 'Where joints are filled to the surface, the difference in level between adjacent units should be not more than twice the joint width, subject to a maximum difference in level of 5mm' (BS 8300). Making the paths as level as possible will improve compliance with BARM guidance. Opportunities to improve access standards here would however be beyond the scope of the Llyn Tegid Reservoir Safety project.
			The ramp does not comply with recommendations of BS 8300, maximum recommended gradient for this rise is 1:20. Ramps require level landings for every 500mm rise / 10m going, two handrails, and a minimum width of 1.5m. BARM recommends a maximum ramp gradient of 1:10, no preferred width is given, but minimum path width is 1m.	Opportunities to improve access standards here would be beyond the scope of the Llyn Tegid Reservoir Safety project.
R4/08		Concrete ramp from Y Bala Rhif 4 to lakeside, connecting to slate paved surfaces near watersports centre. Ramp gradient c. 1:10 (length c. 20m, rise c. 1.9m, width 1.2m – 1.5m). No handrails. No level landings. Surface material: Concrete, tarmac and stone paving. Tarmac is relatively even, consistent ramp edging. No step levels >15mm noted. Crossfall of pavement at top of ramp is <1:50 (see R4/08). Large loose stones across path at base of ramp (>10mm). NRW experiencing erosion issues with the rip rap at this location.	The ramp does not comply with recommendations of BS 8300, maximum recommended gradient for this rise is 1:20. Ramps require level landings for every 500mm rise / 10m going, two handrails, and a minimum width of 1.5m. BARM recommends a maximum ramp gradient of 1:10, no preferred width is given, but minimum path width is 1m.	Llyn Tegid Reservoir Safety project to deliver improved compliance with BS 8300, replacing this ramp with a reduced gradient ramp, min 1.5m wide, that connects with new path from Leisure Centre car park. Handrails not to be provided as not provided on nearby paths and ramps.
			BARM recommends path surfaces be hard and firm with very few loose stones (no bigger than 10mm) and that the ideal is non-slip, well-drained, level path. BS 8300 recommends a firm, slip-resistant and reasonably smooth surface, cobbles, bare earth, sand and unbonded gravel should not be used.	

Location	Photograph	Description	Issues	Opportunities
R4/09		Ramp on Y Bala Rhif 4 leading up to leisure centre Ramp gradient: c. 1:20, likely to be steeper as not a steady incline (length c. 19m, rise c. 0.9m, width 1.7m – 2.0m). No handrails. No level landings. Crossfall gradient is as steep as c. 1:25 at some parts of this section of footpath, particularly steep at the top of the concrete ramp leading down to the lake foreshore, greatly reducing. Surface material: Tarmac	The ramp does not comply with recommendations of BS 8300, maximum recommended gradient for this rise is 1:20. Ramps require level landings for every 500mm rise / 10m going, two handrails, and a minimum width of 1.5m. BARM recommends a maximum ramp gradient of 1:10, no preferred width is given, but minimum path width is 1m. According to BS 8300 where an access route has a gradient steeper than 1:60, but not as steep as 1:20, it should usually have a level landing for each 500mm rise of the access route. On access routes with a gradient not steeper than 1:30, a level resting place adjacent to the route may be provided as an exception.	Opportunities to improve access standards here (e.g. reducing gradients, providing resting places) would be beyond the scope of the Llyn Tegid Reservoir Safety project.
			BS 8300 recommends cross-fall gradient across a level access route should not exceed 1:50, except when associated with a dropped kerb or access route.	Llyn Tegid Reservoir Safety project to address cross-fall issue only if reinstatement is required here.
R4/10		Ramp between Y Bala Rhif 4 and Leisure Centre frontage Access control barrier: None. Ramp gradient: c. 1:10 (length c. 6m; rise c. 0.6m; width 1.8m – 3.0m). No handrails. No level landings. Surface material: Brick setts. Even and smooth surface. Not slip resistant when wet due to moss build up, likely worsened by area being heavily shaded by vegetation on embankment.	The ramp does not comply with recommendations of BS 8300 as maximum recommended gradient for this rise is 1:20). Ramps require level landings for every 500mm rise / 10m going, and two handrails. BARM recommends maximum gradient is 1:10 for a ramp.	Llyn Tegid Reservoir Safety project to provide a reduced gradient (no steeper than 1:20) access path as part of Leisure Centre enhancement works.
			This is one of the access points onto Y Bala Rhif 4 that is uncontrolled, being directly connected to one of the well-used car parks in the area. Currently there is no known issue with unauthorised access from this connection.	Retain the open access at this location, no access control would be proposed along the replacement footpath.

Location	Photograph	Description	Issues	Opportunities
R4/11	 	Series of 3 flights of access steps between Y Bala Rhif 4 and Leisure Centre (1 no. with enclosing walls, 2 no. without) Step dimensions: Total rise c. 700mm - 800mm, widths differ for each flight; c. 2.7m, 2.8m and 2.9m. (Individual step rise c. 200mm; Tread c. 300mm – rise differs with each step acc, to topo). No handrails. Surface material: Brick setts, even surface. Not slip resistant when wet due to moss build up, likely worsened by area being heavily shaded by vegetation on embankment. Staircase edge without enclosing walls would be difficult to navigate for someone who is partially sighted, exposed corners of brick at stair edges also pose a danger to pedestrians as there is no handrail. Although south facing, Leisure Centre area appears very dark, heavily shaded and uninviting due to dense and neglected overgrown vegetation. Three flights seem excessive for size and footfall of space. One flight leads to a space where there was formerly a café but now appears redundant.	Steps are not compliant with BS 8300, requiring the provision of tactile paving and contrasting nosings. Where practicable, the dimensional ranges for steps and stairs should be between 150 mm and 180 mm for the rise and between 300 mm and 450 mm for the going. The rise and going of each step within a flight should be uniform. Handrails should be provided at either side of a stair.	As part of Leisure Centre enhancement works, Llyn Tegid Reservoir Safety project to rationalise and improve access steps and connections between Leisure Centre and Y Bala Rhif 4, including the addition of tactile paving, handrails and resurfacing. Opportunity to reduce the number of flights to two as part of enhancement proposals for this area. Removal of vegetation as part of Reservoir Safety Scheme should improve issue of darkness and shading in this area. If resurfacing takes place, ensure surface materials comply with requirements recommended in guidance.
R4/12		Access road leading to east of the leisure centre frontage Access control barrier: None. Path gradient: .1:60 for most, if not all the route Path width: c. 1m – 4m	This is one of the access points onto Y Bala Rhif 4 that is uncontrolled, being directly connected to one of the well-used car parks in the area. Currently there is no known issue with unauthorised access from this connection, access appears to generally be for vehicular loading.	As part of Leisure Centre enhancement works, Llyn Tegid Reservoir Safety project to improve this outdoor space. Retain the open access at this location, no access control will be proposed along the replacement footpath.

Location	Photograph	Description	Issues	Opportunities
	 	Surface material: Tarmac. Leading on to brick sett surface outside the leisure centre. Picnic benches located within the leisure centre outdoor space. Litter bin provided. Accessible, not within boundary of access route. No directional signage leading from road to leisure centre or leisure centre on to Y Bala Rhif 4.	BS 8300 recommends that signage should reaffirm directions on a route that continues over a long distance, or at changes in direction.	As part of Leisure Centre enhancement works, Llyn Tegid Reservoir Safety project to provide addition of directional waymarker or fingerpost signage at this location indicating Public Right of Way.
R4/13	 	Steel field gate on timber posts, providing vehicular maintenance access onto Y Bala Rhif 4 at location of pump station. Path gradient (up to Bala Rhif 4): c. 1:4 (length c. 3m; rise c. 0.7m; width c. 4m). Seating area dimensions: c 7m x 9m (63m²) Surface material: Path leading up to access gate on Y Bala Rhif 4 is unsurfaced grass. Footpath is tarmac, bench and inspection chamber covers are set in concrete. Volume of exposed inspection chamber covers here mean that much surfacing is also steel. Seating provided, two benches overlooking panoramic lake views. Several metal inspection chamber covers and breaks in tarmac surface detract from appearance and make the surface unsmooth in parts and appear untidy. No litter bins. No signage.	*Ramped access and gate not considered here as not for public use* BARM recommends path surfaces be hard and firm with very few loose stones (no bigger than 10mm) and the ideal is a non-slip, well-drained, level path. BS 8300 recommends an access route have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used. Current materials are not non-compliant, but overall appearance is cluttered, untidy, and arguably uneven because of so many changes in surface material.	Llyn Tegid Reservoir Safety project to deliver surfacing enhancements including higher quality surfacing / surface dressing (consider recessed inspection chamber covers allowing uniform surfacing - subject to agreement with the asset owner DCWW).
			BS 8300 recommends that appropriate accessible space should be allowed for wheelchair users to be integrated within the general seating provision, and a choice of seating options should be provided for a variety of users. BARM acknowledges that regular seating provides resting points, particularly to reduce impact of gradients and distances.	Llyn Tegid Reservoir Safety project to improve seating area, within Reservoir Safety Scheme. Consider inclusive / accessible seating opportunities and interpretation / public art opportunities.

Location	Photograph	Description	Issues	Opportunities
R4/14	 	Ramp from Y Bala Rhif 4 to lake foreshore. Ramp gradient: c.1:8 (length c. 17m; rise c. 2.16m; width 0.7m – 1.1m). No handrails. No level landings. Surface material: Tarmac. Evidence of path edging remains in parts of the ramp but has disintegrated for much of the route and is inconsistent. Tarmac surfacing ends after approx. 13m creating a step level change >15mm, leading onto an exposed gravel/bare earth path and a series of informal footpaths along the lake foreshore. No seating. No litter bins. No signage provided. Footpaths that connect to this ramp are not accessible, one appears to be an established footpath (see below R4/13), however, several are part of a network of desire lines through the grass.	The ramp does not comply with recommendations of BS 8300 as maximum recommended gradient for this rise is 1:20). Ramp requires level landings for every 500mm rise / 10m going, a minimum width of 1.5m and two handrails. BARM recommends maximum gradient of 1:10.	Ramp to be retained as access to foreshore path.
			BARM recommends path surfaces be ‘hard and firm with very few loose stones (no bigger than 10mm)’ and that ‘the ideal is non-slip, well-drained, level path’. BS 8300 recommends ‘an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used’.	
			BS 8300 recommends pedestrian paths have a detectable demarcation which can be followed by people who are blind or partially sighted, for example a wall, building line, kerb edge, grass verge, barrier, or clearly detectable change in texture.	Construct all tarmac paths with consistent edging (with no upstands) to ensure robust construction; contrast between grass and tarmac is sufficient for demarcation
			BS 8300 recommend signage should reaffirm directions on a route that continues over a long distance or at changes in direction.	Llyn Tegid Reservoir Safety project to provide directional fingerpost signage here.
R4/15		Informal Lake foreshore footpath (runs parallel to Y Bala Rhif 4. Not a PRoW. Connects to Y Bala Rhif 4 via R4/12 and R4/19) Access control barrier: Large boulders reduce gap to c. 1m (maybe slightly less), presumably to prevent vehicular access onto the footpath from the car park. Path gradient: 1:30 – 1:60+ for most, if not all the route Path width: c. 0.5m – 1.5m (no definitive footpath) Surface materials: Unsurfaced footpath, grass and bare earth with some evidence of unbound stone being put down to formalise the path.	BARM guidance recommends there should be no physical barriers restricting access, and that a gap is preferred where possible, a minimum width restriction of 815mm is recommended. BS 8300 recommends at least 1m width for gates (no width is given for restrictive gap).	Access barrier complies with recommendations set out in BARM (no physical barrier, a gap is preferred access control) and the width restriction is greater than 815mm. Ensuring the access gap here is at least 1m would increase compliance with BS 8300 (which refers to BS 5709 for guidance on gap provisions, which recommends 1m minimum).
			Access for all acknowledges mown grass as an acceptable surface material, provided it is appropriate to the location and local landscape character. BARM recommends path surfaces be ‘hard and firm with very few loose stones (no bigger than 10mm)’ and that ‘the ideal is	Opportunity to improve part of this footpath as part of Reservoir Safety Scheme, creating a mown grass maintenance access strip which will effectively widen this informal route along forshore.

Location	Photograph	Description	Issues	Opportunities
		Uneven in parts, several areas where water gathers during rainfall. No seating. Litter bin provided. Not accessible due to nature of footpath. No signage noted along route.	non-slip, well-drained, level path'. BS 8300 recommends 'an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used'.	
			BS 8300 recommends minimum path width be 1.8m (although a minimum of 2m is preferred), BARM recommends at least 1m path width.	Widen footpath to 1m as part of surfacing (above). If there is scope to formalise this path addition of seating and directional signage should be considered.
R4/16	 	Ramped footpath connection onto Y Bala Rhif 5 from Y Bala Rhif 4 Access control barrier: Steel field gate, 1.2m wide, self-closing, opens one-way. Ramp gradient: c. 1:5 – 1:10 (length c. 5m; rise c. 0.5m; width: 1.1m – 1.8m). No handrails. No level landings. Surface material: Tarmac leading on to bare earth. Change in surface creates a step level exceeding 15mm between the ramp and unsurfaced path. No seating. No litter bins. No directional signage provided from Y Bala Rhif 4 (signage is provided on other side of gate from Y Bala Rhif 5 as shown).	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access).	Replacing the pedestrian access gate with a curved metal 'kissing gate' with RADAR bypass (as defined in BS 5709) would make the gate more accessible and improve compliance with both sets of guidance as well as maintaining ability to function as livestock farmland if necessary. GCC would prefer to replace with 2-way self-closing gate. Further discussion with landowner required. If no livestock here or use changes as part of Reservoir Safety scheme, then suggest no access barrier necessary.
			The ramp does not comply with recommendations of BS 8300 (maximum recommended gradient for this rise is 1:20), requiring level landings for every 500mm rise / 10m going, two handrails and a minimum width of 1.5m.	Llyn Tegid Reservoir Safety project to provide improved compliance to BS 8300 recommendations, reducing gradient and ensuring a 1.5m width (minimum) throughout. Resurface the path and remove any step levels greater than 15mm. No handrails considered necessary at this location.
			BS 8300 recommends that information and signage should be located where it is clearly identifiable and visible from all directions, and that signage should reaffirm directions on a route that continues over a long distance or at changes in direction.	Llyn Tegid Reservoir Safety project to add directional fingerpost or waymarker signage at this junction highlighting that Y Bala Rhif 5 is also a PRoW (from Y Bala Rhif 4).

Location	Photograph	Description	Issues	Opportunities
R4/17	 	Y Bala Rhif 4 (pumping station to Tegid Street) Path Gradient: >1:60 for most, if not all the route Surface material: Tarmac. Several step levels exceed 15mm along the footpath (particularly in this section) where irregular surfaces have arisen due to issues below the tarmac footpath surface. There are areas where this also affects the crossfall of this footpath. No seating (total length of route is 500m) No litter bins. No directional signage. Several trees along this section have self-seeded adjacent to the footpath and overhang so that there is less than 2.1m (height) clear walking tunnel for pedestrians.	BARM recommends that step levels should not exceed 15mm, anything greater than this is likely to be a trip hazard.	Llyn Tegid Reservoir Safety project to remove step levels greater than 15mm during footpath reinstatement.
			BARM also recommends that a ‘clear walking tunnel’ be maintained throughout an access route of 2.1m high and 1m wide (although it does state that priority should be eye level and spikey vegetation, this is neither).	Opportunity to rectify issue of clear walking tunnel as part of the Reservoir Safety Scheme, removal of trees that have self-seeded on the embankment is required to enable works. Management to ensure that any self-seeded trees are not left to establish on the embankment following works will help to prevent this issue from reoccurring in the future.
			BARM recommends the maximum distance between resting spaces in 300m. BS 8300 recommends that seating should be located such that it and its users do not reduce the access route width below 1.8m when in use by a variety of people.	Consider addition of accessible seating along this route as part of Llyn Tegid Reservoir Safety project enhancements, ensuring this doesn’t reduce the access route width to below 1.8m in parts, which will in turn reduce compliance with BS 8300.
R4/18		Access control and ramped connection from Y Bala Rhif 4 on to Y Bala Rhif 5 - adjacent to Rugby Club. Route of proposed Bala Railway extension. Access control barrier: Steel chicane (broken, swinging gate has come off hinges and been left propped up against remaining fences). If functional it would be approx. 1200mm x 1200mm, two-way opening, not self-closing (same as in R4/01). Ramp: gradient c. 1:13, length c. 21m, rise c. 1.6m, width c. 1.2-2.4m. No handrails. No level landings.	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access).	Subject to landowner consent, Llyn Tegid Reservoir Safety project to improve accessibility. Preference would be to remove access barrier (assuming not required for stock control). Alternatively, consider replacement with a two-way opening, self-closing gate that complies with recommendations of BS 8300, (but will not prevent access of unauthorised vehicles such as motorbikes).
			The ramp does not comply with recommendations of BS 8300, maximum recommended gradient for this rise is 1:20. Ramp requires level landings for every 500mm rise / 10m going, two handrails and a minimum width of 1.5m.	Llyn Tegid Reservoir Safety project to re-create ramp with improved compliance to BS 8300 recommendations, including gradient, level landings and a minimum width of 1.5m throughout.

Location	Photograph	Description	Issues	Opportunities
		Surface material: Tarmac. Exposed roots have created breaks and an uneven surface with a step level >15mm. Area is shaded, lots of leaf litter and debris build up behind the gate makes the surface slippery. No seating. No litter bins. No directional signage indicating this route is also a public right of way. It would be useful here as there is also a gate leading down into the rugby club (not PRoW).	BARM recommends path surfaces be level, step levels should not exceed 15mm.	Llyn Tegid Reservoir Safety project to ensure removal of any step levels greater than 15mm will increase compliance, as other than these areas of raised tarmac, surfacing appears compliant.
R4/19		Ramped connection from Y Bala Rhif 4 to the rugby club grounds (not PRoW) Access control barrier: Steel field gate, 1.2m wide, one-way opening. Gate not normally used for public access, however is used to go and fetch balls when kicked out of Rugby ground. Also used as an access to the embankments generally when the rugby club grounds are used for parking/ camping during big events (e.g. Bala Big Bash). Ramp gradient: c. 1:10; length c. 4m; rise c. 0.4m; width c. 0.5m – 1.0m. No handrails. No level landings. Surface material: Unsurfaced, combination of grass and bare earth. No seating. No litter bins. No signage.	BARM recommends path surfaces be 'hard and firm with very few loose stones (no bigger than 10mm)' and that 'the ideal is non-slip, well-drained, level path'. BS 8300 recommends 'an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used'. Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access).	Retain gate, but no access improvements proposed, as gate is rarely used and normally locked.
R4/20		Ramped footpath connection between Y Bala Rhif 4 and rugby club car park. No access control barrier. Ramp gradient: c. 1:13; length c. 25m; rise c. 1.9m; width: 1.0m – 1.1m. One handrail provided, no level landings. Surface material: Tarmac. No step levels >15mm noted. Evidence of path edging remains in parts but has disintegrated for much of the route and is	Ramp does not comply with recommendations of BS 8300 (maximum recommended gradient 1:20 for this rise). Ramp requires level landings for every 500mm rise / 10m going, two handrails, and a minimum width of 1.5m. This is one of the access points onto Y Bala Rhif 4 that is uncontrolled, being directly connected to one of the well-used car parks in the area. Currently there is no known issue with unauthorised access from this	Review need for this access to car park. Either reinstate like for like or consider removal of this access.

Location	Photograph	Description	Issues	Opportunities
		therefore inconsistent. Tarmac surfacing ends at base of ramp leading onto gravel car park (with loose stones > 10mm) with several large potholes. No seating. Bin provided at base of ramp in rugby club car park, not accessible from this route due to surface material of car park. No directional signage at this point, there is a signpost here that could be adapted to include directional information.	connection, access appears to generally be for vehicular loading.	
			BS 8300 recommends pedestrian paths have a detectable demarcation which can be followed by people who are blind or partially sighted, for example a wall, building line, kerb edge, grass verge, barrier, or clearly detectable change in texture.	Construct all tarmac paths with consistent edging (with no upstands) to ensure robust construction; contrast between grass and tarmac is sufficient for demarcation.
			BS 8300 recommends that information and signage should be located where it is clearly identifiable and visible from all directions, signage should reaffirm directions on a route that continues over a long distance or at changes in direction.	Llyn Tegid Reservoir Safety project to provide directional fingerpost signage (or adapt what is already there) confirming direction of the lake, leisure centre, Bala Town centre to aid people who may join Y Bala Rhif 4 at this point via the ramp.
R4/21	 	Ramped footpath connection between Y Bala Rhif 4 and lake foreshore path leading back to the lakeside car park. Ramp gradient: At steepest c. 1:10 (gradient varies along ramp); total length c. 55m; total rise c. 2.5m; width 0.5m– 1.2m. No level landings. No handrails. Surface material: Tarmac. Evidence of path edging remains in parts but has disintegrated for much of the route and is therefore inconsistent. Tarmac surfacing ends at base of ramp leading onto exposed earth path. Path is undulating and uneven, no step levels >15mm noted. No seating. No litter bins. No directional signage. Ramp apparently used during Bala Triathlon.	Ramp does not comply with recommendations of BS 8300. Ramp gradient varies over the full length but much of the fall takes place over 10m (it is approx. 1:13 here) making it steeper than the recommended gradient of 1:20 for this rise. Ramp also requires level landings for every 500mm rise / 10m going, two handrails and a minimum width of 1.5m.	Llyn Tegid Reservoir Safety project to maintain / re-create access to lake foreshore but relocated slightly to the west, so that the Bala railway crosses just one path here rather than two. Aim retain or improve on ramp gradient and width if possible, but full handrailing/ landings/ slack gradients etc are not justified in context of linked paths.
			BS 8300 recommends pedestrian paths have a detectable demarcation which can be followed by people who are blind or partially sighted, for example a wall, building line, kerb edge, grass verge, barrier, or clearly detectable change in texture.	Construct all tarmac paths with consistent edging (with no upstands) to ensure robust construction; contrast between grass and tarmac is sufficient for demarcation

Location	Photograph	Description	Issues	Opportunities
R4/22	  	Access onto Y Bala Rhif 4 from Tegid Street adjacent Rugby Club. Access control barrier (vehicular): Steel field gate (locking mechanism broken, being held shut with a stick), 2m wide, two-way opening. Access control barrier (pedestrian): Steel chicane 'kissing gate', 1.1m wide, two-way opening, not self-closing. Path gradient: Generally, c. 1:19 (steep section adjacent gate c. 1:8); length c. 15m; total rise c. 0.8m; width c. 2.0m – 4.5m. Surface material: Tarmac. Generally even surface, no step levels >15mm noted. Dropped kerbs between Tegid Street to Y Bala Rhif 4. Route opens out onto busy road, no blister paving present. Seating / resting place 10m from here (see TS/01). No litter bins. Timber finger post sign directs users onto Y Bala Rhif 4 and towards Y Bala Rhif 1 from Tegid Street.	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access). Ramp does not comply with recommendations of BS 8300 (maximum recommended gradient for this rise is 1:20). Ramp requires level landings for every 500mm rise / 10m going, and two handrails. No specific requirement or recommendation found in BARM or BS 8300 about installing blister paving where there are dropped kerbs, BS 8300 states that this is where it is commonly used to warn people who are blind or partially sighted of proximity to the crossing points	Llyn Tegid Reservoir Safety project to reconstruct path at junction with Tegid Street. To include barrier set short distance back from (busy) road. Need to maintain controlled vehicular access at this point. Llyn Tegid Reservoir Safety project to regrade footpath to a gradient less steep than 1:20, so it becomes a 'gentle slope' rather than a ramp. Consider the addition of blister paving as the PRoW opens out onto a busy road and an uncontrolled crossing point. Further discussion with GCC Highways required to agree specs.
	TEGID STREET AND B4391 (NOT PUBLIC RIGHT OF WAY)			
TS/01		Tegid Street bandstand. Path gradient: >1:60 on main footpath, behind bandstand embankment gradient c. 1:6. Surface materials: Tarmac (grassed embankment behind). Surface is generally even along footpath and tarmac inlet, no step levels >15mm noted. Seating / resting place: One long concrete structure with low-raised planters (two planters missing, there should be four). Height c. 600-800mm. Picturesque views of the Lake here, however seating is only accessible from roadside, not from lakeside due to embankment.	BS 8300 recommends that appropriate accessible space should be allowed for wheelchair users to be integrated within the general seating provision, and a choice of seating options should be provided for a variety of users. Future extension of Bala railway is likely to result in removal of this seating area as it will be too close to the proposed track alignment.	Llyn Tegid Reservoir Safety project to create a new more accessible space with views of the lake, slightly north of the existing bandstand area. Area to include informative signage about the area and accessible seating that allows all users to sit and enjoy views of the lake. Ensure any proposals still allow this to function as a passing space, as footpath falls below minimum recommended width of 1.8m.

Location	Photograph	Description	Issues	Opportunities
		No litter bins. No signage. Area may benefit from an information signage (history of bandstand, info about lake?) if this area was to be enhanced (ample directional signage before and after, this probably isn't needed here).		
TS/02	 	Tegid street and B4391 footpath (connecting route between Y Bala Rhif 4 and Y Bala Rhif 1) Path gradient: >1:60 for most, if not all of route. Path width: 1.2m – 1.5m Embankment gradient: c. 1:4 (no path provided to access seating located on here). Surface material: Tarmac footpath. Embankment is unsurfaced (grass and in some cases bare earth), uneven and inaccessible. Set of 4 benches on top of the embankment crest give picturesque views across Llyn Tegid but they are not accessible. Seating sits on concrete platforms within the embankment crest. No litter bins. There is directional signage at the bottom of Tegid Street, where it meets B4391, directing users to Y Bala Rhif 1 (and towards Y Bala Rhif 4 if approaching from the other direction).	BS 8300 recommends minimum path width be 1.8m (although a minimum of 2m is preferred). Where the surface width of an access route is less than 1.8m, passing places should be provided to allow two wheelchair users to pass each other. BARM recommends at least 1.2m path width for urban / formal landscapes. BS 8300 recommends that appropriate accessible space should be allowed for wheelchair users to be integrated within the general seating provision, and a choice of seating options should be provided for a variety of users. Future extension of Bala Railway along this embankment crest will remove opportunity for seating; the Reservoir Safety Project will install some of track bed here which will have some visual impact but not affect access.	Opportunity to widen the footpath to 1.8m is not a feasible option as it is located on a highway; no scope for increasing width as would impact on embankment . Existing benches not to be replaced here due to Bala railway project, and risk of damage to railway channel if seats needed to be removed in the future. Loss of seating here mitigated by creation of new high quality seating area (as TS/01), option to relocate these benches elsewhere within the community.
TS/03		Access onto Y Bala Rhif 1 from B4391 Path gradient: >1:60 for most of route. Slight gradient increase where dropped kerbs have been put in place to facilitate access to Y Bala Rhif 1 from B4391. Path width: c. 1.2m – 1.4m	No specific requirement or recommendation found in BARM or BS 8300 about installing blister paving where there are dropped kerbs, BS 83000 states that this is where it is commonly used to warn people who are blind or partially sighted of proximity to the crossing points.	The addition of blister paving at this uncontrolled crossing point would be good practice, as Y Bala Rhif 1 is the most accessible route within the survey area and there is no way to avoid crossing this road if accessing it from Y Bala Rhif 4. The Bala railway extension plan includes for a pelican crossing in this location that would almost certainly include blister paving; the Llyn Tegid Reservoir Safety project is

Location	Photograph	Description	Issues	Opportunities
		Surface material: Tarmac. Even surface, no step levels >15mm noted. No tactile paving at road interface. No seating. Dog litter bin provided at Y Bala Rhif 1 access control (see R1/01) Directional fingerpost signage directs users onto Y Bala Rhif 1 from B4391, or across the road towards Y Bala Rhif 4.		therefore to avoid intervention here, as it might be abortive work.
	Y BALA RHIF 1			
R1/01	 	Ramped access and access control (entrance from B4391). Access control barrier: Curved metal 'kissing gate' with RADAR bypass. Self-closing, opens both ways, has 'radar key' padlock system to allow wheelchair users to open fully outwards from either side and move straight through. c. 1.2m wide. Path gradient (footpath to barrier): c. 1:7; length c. 1.4m; rise c. 0.18m; width c. 1.2m. Surface material: Tarmac, concrete and bound stone. Tarmac footpath to concrete is a smooth, even surface, no step level. Stone path behind gate sits slightly lower than the concrete foundation for gate, step level >15mm where two surfaces meet. No seating. Dog waste bin provided. Accessible, not within boundary of access route. Timber finger post sign and dog litter bin provided here. Footpath on crest of embankment was surfaced with unbound stone approx. 15 years ago (formerly grass), to improve DDA standards.	BARM recommends path surfaces have very few loose stones, and none bigger than 10mm. BS 8300 recommends unbonded gravel should not be used. BARM recommends that any changes in surface should not result in step levels greater than 15mm to avoid creating a trip hazard. Ramp does not comply with recommendations of BS 8300, in which the maximum recommended gradient for this rise is 1:12, requiring level landings for every 500mm rise and 10m going, two handrails, and a minimum width of 1.5m. BARM guidance recommends that the steepest gradient be 1:10, no preferred width is given, but minimum path width recommended is 1m.	Llyn Tegid Reservoir Safety project to resurface this footpath in tarmac. Also remove RADAR by-pass curved kissing gate and replace with 2-way opening self-closing gate set into the footpath sufficiently to avoid it opening across the footway of the B4391 – idea supported by GCC PROW. Llyn Tegid Reservoir Safety project to remove step level during resurfacing (above) by ensuring joint where surface materials meet is flush. Llyn Tegid Reservoir Safety project to regrade this ramp, to increase compliance with BS 8300 at this location.

Location	Photograph	Description	Issues	Opportunities
R1/02		Y Bala Rhif 1 (Tegid Street to Bala Industrial Estate access road, approx. 800m) Path gradient: less than 1:60 for most, if not all the route. Some uneven points along path in which puddles gather during rainfall. No notable step level changes, clear walking tunnel throughout. Path width c. 1.5m – 2.0m Surface material: Footpath appears to have been surfaced in bound stone material, however large loose stones (>10mm) are all along the route, this is likely to be uncomfortable or cause difficulty for those with reduced mobility or wheelchair users. Seating provided (see below – R1/02) No litter bins along this route. No signage noted along the route (it is one straight path with no junctions, directional signage probably unnecessary). Information signage (about Tryweryn, weir, sluice gates?) may add interest.	BARM recommends path surfaces have very few loose stones (none bigger than 10mm). BS 8300 recommends unbonded gravel should not be used, footpath should be reasonably level.	Llyn Tegid Reservoir Safety project to resurface this footpath in tarmac. Opportunity to level out the path during resurfacing to ensure effective drainage will improve compliance with BS 8300, as it reduces the risk of surface water forming puddles and freezing.
			BS 8300 recommends minimum path width be 1.8m (although a minimum of 2m is preferred), BARM recommends at least 1m path width.	Llyn Tegid Reservoir Safety project to widen this footpath as part of resurfacing works, it is likely that grass has grown over path edges and reduced width in places, plenty of scope to widen to 2m throughout. Provide ramped access down to riverside (for vehicular maintenance access and public interest).
R1/03		Bench along Y Bala Rhif 1 Path gradient: As above (see R1/02) Path width: As above (see R1/02) Surface material: As above (see R1/02) Seating provided (one bench) on hard surface extended from the footpath (no other resting places provided within 300m of this one). Significantly more large loose stones are scattered around the bench than on the footpath, creating an uneven surface, bench does not reduce the access route width.	BARM recommends the maximum distance between resting spaces in 300m. BS 8300 recommends that seating should be no more than 50m apart for those with limited mobility. Given the level of use of this footpath seating every 50m would be excessive, though the area would benefit from addition of more seating.	Currently there is a large stretch of path with no benches / resting spaces; suggest re-using one of the benches from Tegid Street (TS02). Llyn Tegid Reservoir Safety project to provide new feature bench and interpretation at triangular meadow area (also along this stretch of PRoW).

Location	Photograph	Description	Issues	Opportunities
R1/04	 	Access control along Y Bala Rhif 1 (south of Bala Industrial Estate access road) Access control barrier (pedestrian): Curved metal 'kissing gate' with RADAR bypass. Self-closing, opens both ways, has 'radar key' padlock system to allow wheelchair users to open fully outwards from either side and move straight through. c. 1.2m wide. Access control barrier (vehicular): Steel field gate 2m wide. Opens one-way, presumed vehicular maintenance access gate. Path gradient (access road down to access control barrier): c. 1:10; length c. 10m; rise c. 1m; width c. 1.5m – 2.0m. No level landings. No handrails. Surface material: Gate foundations are concrete. Path is bound stone surface with loose stones >10mm and exposed bare earth, some small step level changes where surface materials change and have worn but none appear to be >15mm. Some vegetation appears to overhang below 2.1m and reduce width of path to less than 1m in parts.	Ramp does not comply with recommendations of BS 8300, in which the maximum recommended gradient is 1:20 for this rise. Ramps require level landings for every 500mm rise and 10m going, and two handrails. BARM guidance recommends that the steepest gradient be 1:10 for this type of access route. BARM recommends path surfaces be firm with very few loose stones (none bigger than 10mm). BS 8300 recommends unbonded gravel should not be used. BARM recommends that 'clear walking tunnel' be maintained throughout an access route of 2.1m high and 1m wide.	Llyn Tegid Reservoir Safety project to remove both RADAR kissing gates here for more open access; also provide surfacing and gradient improvements (no handrails and landings). Consider maintaining vehicular access with removable wooden bollards rather than a gate. This is the dead-end of an industrial estate road, with only through traffic being NRW to sluices. These vehicles stop here anyway to access through electronic barriers so very low traffic risk. Llyn Tegid Reservoir Safety project to re-surface the ramp in tarmac to improve compliance with guidance. Removal of overhanging branches outside of scope of project, however NRW operations team to be mindful of this when developing maintenance plans.
R1/05		Bala Industrial Estate access road (runs through Y Bala Rhif 1 footpath, provides NRW access to 'Bala Sluice House', pedestrians can also terminate Y Bala Rhif 1 at this point via an unnamed road through the industrial estate). Access control barrier: Large steel security gate, c. 4.5m wide, 2m high (to prevent public access). Path gradient: >1:60 Path width: 2.0m + Surface material: Tarmac. Surface is worn, large pothole visible with a step level greater than 15mm (although this can be avoided by pedestrians). Loose stones present but all <10mm here.	BARM recommends step levels should be a maximum of 15mm to avoid being a trip hazard.	NRW to repair tarmac pothole.

Location	Photograph	Description	Issues	Opportunities
		No seating. Dog waste bin provided. Accessible, not within boundary of adjacent access route. Directional fingerpost signage visible to all users (inc. those joining Y Bala Rhif 4 at this point)		
R1/06	 	Access onto Y Bala Rhif 1 (north of Bala Industrial Estate access road) Access control barrier (pedestrian): Curved metal 'kissing gate' with RADAR bypass. Self-closing, opens both ways, has 'radar key' padlock system to allow wheelchair users to open fully outwards from either side and move straight through. c. 1.2m wide. Access control barrier (vehicular): Steel field gate, 2m wide, two-way opening. Path gradient (from access road down to control barriers): c. 1:15; length c. 3m; rise c. 0.2m. No level landings. No handrails. Surface material: Gate foundation is concrete, slight gradient means that rainwater collects here, other than this the surface is even. Concrete ties in to bound stone footpath behind. Path to vehicular access gate is unsurfaced (bare earth / grass in parts). No step level >15mm noted here. No seating. Dog waste bin provided (see R1/04). Directional signage provided (see R1/04).	Maximum recommended gradient for rise of 0.2m is 1:12.7 over 2.5m distance, gradient is compliant, but as it is a ramp it requires level landings for every 500mm rise and 10m going and two handrails. BARM guidance recommends that the steepest gradient be 1:10 for this type of access route and acknowledges that regular seating provides resting points, particularly to reduce impact of gradients and distances. BARM recommends path surfaces be hard and firm with very few loose stones (no bigger than 10mm). BS 8300 recommends unbonded gravel should not be used. Path surface should be level.	Addition of handrails at this location is outside scope of Llyn Tegid Reservoir Safety project. Llyn Tegid Reservoir Safety project to remove this gate altogether for more open access along with surfacing and gradient improvements. Consider maintaining vehicular access through provision of removable bollards rather than a gate.

Location	Photograph	Description	Issues	Opportunities
R1/07	 	Y Bala Rhif 1 (500m, from Bala Industrial Estate access road to Station Road) Path gradient: less than 1:60 for most of route. One ramp present along route (see R1/07). Path width c. 1.5m – 2.0m Surface material: Footpath appears to have been surfaced in bound stone material, however large loose stones (>10mm) are all along the route, this is likely to be uncomfortable or cause difficulty for those with reduced mobility or wheelchair users. No step levels >15mm noted. Clear walking tunnel throughout. Seating provided (one bench) on hard surface extended from the footpath (no other resting places provided within 300m of this one). Dog waste bin provided. Accessible, not within boundary of adjacent access route. Directional signage provided near the end of the route indicating the three directions that are PRoW from the four-way footpath junction (users can also join or terminate PRoW through adjacent 'Green Car Park' here).	BARM recommends path surfaces be hard and firm with very few loose stones (no bigger than 10mm). BS 8300 recommends unbonded gravel should not be used. BS 8300 recommends minimum path width be 1.8m (although a minimum of 2m is preferred), BARM recommends at least 1m path width. BARM recommends the maximum distance between resting spaces is 300m. BS 8300 recommends that seating should be located such that it and its users do not reduce the access route width below 1.8m when in use by a variety of people.	Llyn Tegid Reservoir Safety project to resurface this footpath in tarmac. Widen footpath to 2m throughout route to improve compliance with BS 8300. Llyn Tegid Reservoir Safety project to install recycled plastic benches at approximate location R1/07, currently there is a large stretch of path with no benches / resting spaces; suggest re-using one of the benches from Tegid Street (TS02). Ensure addition of seating along this route does not reduce the access route width to below 1.8m or sit within the boundary of the access route (recommendations set out in BS 8300).
R1/08		Ramp Y Bala Rhif 1 Path gradient: c. 1:25; length c. 12m; rise c. 0.5m; width c. 2.0m. No level landings. Surface material: Bound stone with large loose stones (see R1/06). Even surface, no step levels >15mm noted. See R1/06 for seating, litter bin and signage information.	BARM recommends path surfaces be hard and firm with very few loose stones (no bigger than 10mm). BS 8300 recommends unbonded gravel should not be used.	Llyn Tegid Reservoir Safety project to resurface this footpath in tarmac.

Location	Photograph	Description	Issues	Opportunities
R1/09	 	Access onto Y Bala Rhif 1 from 'Green Car Park' Access control barrier (pedestrian): Steel 'K Barrier', base-gap width c.1m, top-gap width c. 300mm. Access control barrier (vehicular): Steel field gate 5m wide, presumed vehicular maintenance access gate. Path gradient: >1:60, width c. 2.0m+ Surfacing material: Bound stone surface with loose stones >10mm. Some small step level changes where surface materials change and have worn but none appear to be >15mm. See R1/06 for seating, litter bin and signage information.	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access).	Llyn Tegid Reservoir Safety project to replace existing access gate with 2-way opening self-closing gate (not RADAR kissing gate - on suggestion from GCC PROW officer) but retain vehicular access gate in this location.
			BARM recommends path surfaces should have very few loose stones (none greater than 10mm).	Llyn Tegid Reservoir Safety project to resurface this footpath in tarmac.
R1/10	 	Ramped footpath and access control (Station Road to Y Bala Rhif 1) Access Control Barrier: Timber field gate (broken, closing mechanism missing), 1.0m wide, not self-closing; one-way opening. Path gradient: Varies. c. 1:10 – 1:12, total length c. 40m; total rise c. 3.2; width 1.0m – 6.0m (steepest from Station Road to field gate). Surface material: Tarmac (Station Road to field gate) and bound stone surface with loose stones >10mm below gate. Worn tarmac at top of ramp creates an uneven surface and step level changes >15mm. See R1/06 for seating and litter bin information Directional signage on Station Road (and at base of ramp as described in R1/06).	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access).	Llyn Tegid Reservoir Safety project to replace existing access gate with 2-way opening self-closing gate (not RADAR kissing gate - on suggestion from GCC PROW officer).
			BARM recommends path surfaces should have very few loose stones (none greater than 10mm). BS 8300 recommends cobbles, bare earth, sand and unbonded gravel should not be used.	Llyn Tegid Reservoir Safety project to resurface this footpath in tarmac.

Location	Photograph	Description	Issues	Opportunities
	Y BALA RHIF 11			
R11/01	 	Ramped access on to Y Bala Rhif 11 from Y Bala Rhif 1 Path gradient: c 1:10; length c. 20m; rise c. 1.7; width c. 0.5m – 1.0m (no definitive path, just a desire line). No level landings. No handrails. Surface material: Unsurfaced grass and bare earth path, surface is uneven. No seating at base of ramp, bench at top as described in R1/06 No litter bins. Directional signage in place at the bottom of the ramp It is likely anglers use this route to get down to the river bank and head back along the river (parallel to Y Bala Rhif 1), it is also an access route for a (NRW?) canoe / kayak egress point.	Ramp does not comply with recommendations of BS 8300, in which the maximum recommended gradient for this rise is 1:20, requiring level landings for every 500mm rise and 10m going, and two handrails. BARM guidance recommends that the steepest gradient be 1:10, no minimum ramp width is given, minimum path width recommended is 1m. BARM recommends path surfaces be non-slip, well-drained and level. BS 8300 recommends slip-resistant surface, bare earth should not be used. BS 8300 recommends minimum path width be 1.8m (although a minimum of 2m is preferred), BARM recommends at least 1m path width.	Opportunities to regrade the ramp, addition of handrails and level landings would be costly and considered impractical at this location due to distance available and nature of the rest of the footpath, they are considered outside the scope of the Llyn Tegid Reservoir Safety project. Opportunities for widening and resurfacing of this path considered outside the scope of the Llyn Tegid Reservoir Safety project.
R11/02	 	Canoe / kayak egress point No apparent structure here, it appears to be a shallow cut out within the river bank. Car parking and amenities: ‘Green Car Park’ and adjoining public toilets located c. 50m from egress point. Access: See above (R11/01), not accessible. No seating or resting places at the canoe launch No directional signage for users from footpath, directional signage from river (other side of bridge). No informational signage about use of canoe launch or safety information.	No guidance for canoe access points is given in BS 8300 or BARM. EA publication ‘Access for all’ recommends inclusive canoe access, but also acknowledges that this is not always possible (particularly creating a fully accessible launch point). In this case, the route is not safe and accessible down to the launch point as recommended in available guidance.	Any works associated with this kayak launch point are considered outside the scope of the Llyn Tegid Reservoir Safety project.

Location	Photograph	Description	Issues	Opportunities
R11/03		Y Bala Rhif 11 (base of ramp to Tryweryn Terrace) Access control barrier: None. Path gradient: c. 1:20. No clear level landings. Surface material: Unsurfaced, bare earth footpath. Loose stone surface (>10m) under bridge arch. Footpath informal and uneven, no step level >15mm noted. Bridge arch restricts clear walking tunnel to less than 2.1m (vertically) clear of footpath. Nettles reduce clear walking tunnel to less that 1m (horizontally) at field gate. No seating provided. No litter bins. Directional waymarker signage is present throughout.	BARM recommends path surfaces be 'hard and firm with very few loose stones (no bigger than 10mm)' and that 'the ideal is non-slip, well-drained, level path'. BS 8300 recommends 'an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used'.	Opportunities for widening and resurfacing of this path considered outside the scope of the Llyn Tegid Reservoir Safety project.
			BS 8300 recommends that where an access route has a gradient steeper than 1:60, but not as steep as 1:20, it should usually have a level landing for each 500 mm rise of the access route. On access routes with a gradient not steeper than 1:30, a level resting place adjacent to the route may be provided as an exception'	Opportunities to improve gradient / provide level landings considered outside the scope of the Llyn Tegid Reservoir Safety project
R11/04		Y Bala Rhif 11 access control Access control barrier (adjacent to Tryweryn Terrace): Steel field gate. 1.0m wide; self-closing; one way opening. Path gradient: c. 1:20. No clear level landings. Surface material: Unsurfaced, bare earth footpath. No seating provided. No litter bins. Directional waymarker signage present.	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (no steps, or stiles or other physical barriers restricting access).	Removal of the access barrier altogether is unlikely to be an option in this area as the PRoW runs through farmland; replacing the gate is considered outside the scope of the Llyn Tegid Reservoir Safety project.

Location	Photograph	Description	Issues	Opportunities
	Y BALA RHIF 5			
R5/01	 	Access onto Y Bala Rhif 5 from Aran Street Path gradient: >1:60 for most, if not all of route. Dropped kerbs have been put in place from Plasey Street car park (and public toilets) and Aran Street. No significant step level changes noted. Path width: c. 1.5m - 4.0m. Surface material: Tarmac. No access control to prevent vehicular access, large field gate at the end of the track so may be used for farming vehicle access as well as footpath. Low wall enclosing the car park could be used as a resting / perching place, but no formal seating provided. Litter bin provided in Plasey Street car park. Fingerpost sign directs users down the path to the lake and leisure centre, and small sign attached to lamppost indicates public right of way. Entrance to a residential road may be mistaken for the public right of way here.	No issues, although addition of directional waymarker signage at the entrance to Y Bala Rhif 5 may make the route clearer to visitors.	
R5/02		Y Bala Rhif 5 (Route A) Path gradient: less than 1:60 for most, if not all the route Path width c. 1.5m – 2.5m	BARM recommends step levels should be a maximum of 15mm to avoid being a trip hazard.	Opportunities to improve tarmac surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project

Location	Photograph	Description	Issues	Opportunities
	 	Surface material: Tarmac surfaced. Uneven tarmac caused by root disturbance has led to step level changes >15mm at some points. No access control until the end of the footpath, path is wide enough in parts for a small vehicle to drive down. No seating along this route (or within 150m either side of the starting points of this route). No litter bins. No signage noted along the route. There are two spurs off the route, one is also Y Bala Rhif 5 and one is not (see R5/03 and R5/04). Signage would be useful at these points to clarify direction of PRoW. Some vegetation hangs low along this footpath (difficult to tell if it falls below 2.1m clear of the footpath).	BARM recommends the maximum distance between resting spaces in 300m. BS 8300 recommends that seating should be located such that it and its users do not reduce the access route width below 1.8m when in use by a variety of people.	This location is quite remote from the Llyn Tegid Reservoir Safety project, therefore no scope to deliver improvements. Suggestions below may be considered by GCC/ SNPA/ BTC as future opportunities. Additional seating / resting spaces along this route would improve compliance with BARM, although scope for this may be limited as path widths are relatively restricted, addition of seating along this route may reduce the access route width to below 1.8m in parts, which reduces compliance with BS 8300.
R5/03		Maintenance access gate off Y Bala Rhif 5. (Gate leads onto farmland, no public access) Access control barrier: Steel field gate. c. 3m wide, presumed vehicular maintenance access gate for farmland. Path gradient: c. 1:20 + (no topographic survey information for this area); length c. 2m; rise c. 0.1m, width c. 3m. Surface material: Path is tarmac surfaced as a continuation of Y Bala Rhif 4. No step level >15mm noted. See R1/06 for seating, litter bin and signage information.	*Access barrier is not continuation of Y Bala Rhif 5, and therefore not considered.* BS 8300 recommends that signage reaffirm directions on a route that continues over a long distance or at changes in direction.	This location is quite remote from the Llyn Tegid Reservoir Safety project, therefore no scope to deliver improvements. Suggestions below may be considered by GCC/ SNPA/ BTC as future opportunities. Given that some Y Bala Rhif 5 does run through farmland, a directional waymarker sign would be useful here to confirm that the PRoW continues to the left, and that there is no public access through this gate.
R5/04		Access control on to Y Bala Rhif 5 (Route B) Access control barrier: Steel field gate, c. 1.2m wide, self-closing, opens one-way.	Access control barrier does not comply with recommendations set out in BS 8300 (2-way self-closing gates may be used, but not revolving gates, turnstiles, kissing gates or A-frame barriers) or BARM (No steps, or stiles or other physical barriers restricting access).	Potential scope for Llyn Tegid Reservoir Safety project to replace with 2-way self-closing gate, subject to landowner agreement. Further discussion with landowner required. If no livestock here or use changes as part of scheme, then suggest no access barrier necessary.

Location	Photograph	Description	Issues	Opportunities
	 	Path gradient: c. 1:20 + (no topographic survey information for this area). Length c. 2m; width: c. 1.2m. Surface material: Tarmac to unsurfaced (bare earth / grass). Change in surface here creates a step level change >15mm. No seating No litter bins No signage provided from Y Bala Rhif 5 (route A) to indicate that this also a PRoW. Signage would be useful at this point as spur route is much less formal that the rest of Y Bala Rhif 5 and provides the most direct route to Y Bala Rhif 4.	Change in height between surfaces creates a step level greater than 15mm, which is the recommended maximum set out in the BARM guidance.	Opportunities to improve levels considered outside the scope of the Llyn Tegid Reservoir Safety project.
			BS 8300 recommends that 'information and signage should be located where it is clearly identifiable and visible from all directions' and 'signage should reaffirm directions on a route that continues over a long distance or at changes in direction'	Reservoir Safety project to provide addition of directional waymarker signage at this access control barrier to clarify that this route is also a PRoW, making the route clearer to users and improving compliance with BS 8300.
R5/05	 	Y Bala Rhif 5 (Route B) Path gradient: 1:20 - 1:60 for most, if not all the route (no topographical survey information for this area). Path width c. 0.5 – 1.0m (no definitive path width as it is grassland). Surface material: Unsurfaced (bare earth / grass), lack of formal surface makes the path very uneven in parts. No seating. No litter bins. No signage noted along the route, although it is present at the end of the path before joining Y Bala Rhif 4 (see R4/15).	BARM recommends path surfaces be 'hard and firm with very few loose stones' and that 'the ideal is non-slip, well-drained, level path'. BS 8300 recommends 'an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used'.	Opportunities to improve surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project.
			BS 8300 recommends minimum path width be 1.8m (although a minimum of 2m is preferred), BARM recommends at least 1m path width.	Opportunities to widen paths considered outside the scope of the Llyn Tegid Reservoir Safety project.

Location	Photograph	Description	Issues	Opportunities
	FORESHORE CAR PARK			
CP/01	 	Foreshore car park seating Nine benches noted in total, two are connected to the footpaths via small stone paved paths. Two dropped kerbs noted. Ramped access to both seating areas (c. 1:30 and >1:60), width c. 1.8m. Grass between stone pavers and uneven slabs mean the surface isn't 'level' in parts, paving joints don't appear to comply with recommendations set out in guidance. Others sit on stone paved bases within the grass, despite being level to the ground and on relatively flat areas of grass, lack of hard surfacing connecting benches to footpaths means benches are not accessible. Several benches leave a gap in between seating, presumably to enable wheelchairs and other mobility vehicles to sit at the table comfortably, so ensuring the benches are accessible would improve this area.	Access to seating is not compliant with BS 8300, 'where joints are filled but recessed below the surface, the difference in level between adjacent units should not be greater than 2mm, with joints not wider than 10mm and recess not deeper than 5mm'. BARM recommends path surfaces be 'hard and firm with very few loose stones' and that 'the ideal is non-slip, well-drained, level path'. BARM recommends that the ideal path surface is non-slip and well-drained. BS 8300 recommends an access route should have a slip-resistant and reasonably smooth surface. Bare earth should not be used. Access for all acknowledges mown grass as an acceptable surface material, provided it is appropriate to the location and local landscape character.	Opportunities to improve surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project. Opportunities to improve surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project.
CP/02		Foreshore car park (formal) Surface materials: Tarmac and paved stone. All car parking spaces are stone paved, tarmac used purely for road surfacing. Access: Two dropped kerbs noted connecting the car park to surrounding raised, both at the west side (one connects motorcycle bay to footpath, another to a small area, possibly a loading bay or coach parking for 2 coaches). No tactile paving noted. No designated disabled car parking spaces noted. No bicycle parking noted.	Access is not compliant with BS 8300, 'where joints are filled but recessed below the surface, the difference in level between adjacent units should not be greater than 2mm, with joints not wider than 10mm and recess not deeper than 5mm'. BARM recommends path surfaces be 'hard and firm with very few loose stones' and that 'the ideal is non-slip, well-drained, level path'. There is an opportunity to provide cycle parking in the area, in accordance with recommendations for cycle parking set out in BS 8300, to improve overall parking provision in the area. Consider provision of accessible litter bins for people using picnic benches.	Opportunities to improve surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project.

Location	Photograph	Description	Issues	Opportunities
		Seating: as described above. No litter bins provided here. Podium signage not accessible.	BS 8300 recommends 'appropriate tactile paving should be used, where necessary, on access routes to provide warning, guidance or information to people who are blind or partially sighted'. BS 8300 also recommends that designated accessible parking spaces be provided (a minimum of 6% of total parking spaces for recreation and leisure facilities).	Opportunities to improve surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project.
			BS 8300 'Information and signage should be located where it is clearly identifiable and visible from all directions' and 'maps should incorporate tactile embossing'.	For many visitors to Bala this will be the first stopping point in the area, therefore addition of signage clearly showing the location of the car park in relation to other amenities, and identifying accessible and step-free routes (including tactile embossing for those who are blind or partially sighted) would improve legibility of the area and compliance with BS 8300. NRW to discuss further with SNPA to agree details, but suggest there is scope for Llyn Tegid Reservoir Safety project to deliver these improvements.
CP/03		Foreshore car park (informal) Access control: Boulders restrict access width of car park to c. 6m, bollard restricts footpath access to c. 1.8m. Surface materials: Bare earth and unbound stone. Boulders used to line footpath (which are also bare earth).	BARM recommends path surfaces be 'hard and firm with very few loose stones' and that 'the ideal is non-slip, well-drained, level path'. BS 8300 recommends 'an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used'.	Opportunities to improve surfacing considered outside the scope of the Llyn Tegid Reservoir Safety project.

Location	Photograph	Description	Issues	Opportunities
		No seating provided. Dog waste bin provided. Signage provided.	BS 8300 recommends 'appropriate tactile paving should be used, where necessary, on access routes to provide warning, guidance or information to people who are blind or partially sighted'. BS 8300 also recommends that designated accessible parking spaces be provided (a minimum of 6% of total parking spaces for recreation and leisure facilities)	Consider addition of accessible car parking spaces if formalising this car park. Consider use of tactile paving to increase safety for those who are blind or partially sighted that may use this space. It is likely that boulders are being used to demarcate boundaries rather than restrict access, if formal surfacing is used there is an opportunity to remove these / reuse them elsewhere on site as hard surfacing for vehicular access should be clear without them.
CP/04	 	Water sports launch area Series of four egress points off lakeshore car park (one stone paved, three unsurfaced cut out points in the foreshore bank) Path gradients: Varies. c.1:15 – 1:20 (no topographical information for this area) Path widths: Varies. c. 2m - 6m Surface materials: Stone paving and exposed bare earth. Car parking and amenities: Car park directly behind. Public toilets and showers (at watersports centre) located c. 100m away. Café c. 150m away. No seating or resting places at the canoe launch No signage noted.	No guidance for canoe access points is given in BS 8300 or BARM. EA publication 'Access for all' recommends inclusive canoe access, but also acknowledges that this is not always possible (particularly creating a fully accessible launch point). The route is not accessible down to the launch point or between the launch point and nearby amenities to the standard recommended in available guidance.	Opportunity to improve this area through car park enhancement proposals, as part of the Reservoir Safety Scheme. However scope is limited– e.g. improving surfacing (unbound) at normal lake level, not building long concrete ramps.
CP/05		Informal footpaths and spaces along the foreshore Mostly unsurfaced; one footpath reinforced with unbound stone (see R4/13) that is well used. Others are a network of desire lines leading to lake. Gaps in vegetation on the foreshore use for barbecues, picnics during the summer. No surfaced areas here, just grass cover.	BARM recommends path surfaces be 'hard and firm with very few loose stones' and that 'the ideal is non-slip, well-drained, level path'. BS 8300 recommends 'an access route should have a firm, slip-resistant and reasonably smooth surface. Cobbles, bare earth, sand and unbonded gravel should not be used'.	Llyn Tegid Reservoir Safety project to rationalise some of this access through proposed car park enhancements. This would also include designating some of these areas as 'habitat restoration areas', for which access would be restricted using fencing, and pedestrians would be encouraged to use other areas of the lake foreshore for recreation.

Location	Photograph	Description	Issues	Opportunities
		No seating. No signage. No litter bins.		

6.0 Conclusions

Full compliance to the recommendations set out in BS 8300 is not practical in all circumstances, and there are significant limitations in 'retrofitting' improvements to existing infrastructure / features. However, a range of opportunities has been identified within this audit where improvements can be made to the level of accessibility within the study area, relative to BS 8300 and in line with the general approach advocated under BARM.

The likely levels of costs, benefits, disruption and justification associated with each of the improvement opportunities highlighted are variable. Where the locations of potential access improvements overlap with engineering works planned under the Llyn Tegid Reservoir Safety project there may be cost efficiencies and little or no additional disruption in delivering the improvements; in such cases, where the cost / benefit has been considered most favourable, and stakeholders have been supportive, the Llyn Tegid Reservoir Safety project will deliver a number of the recommended access improvements. These are noted in the table above and summarised below.

Where potential improvements identified as part of this access audit are not being implemented as part of the reservoir safety scheme, they represent opportunities for future enhancements by SNPA/ GCC/ BTC for consideration as appropriate.
Summary of NRW's approach to delivering access improvements under the Lyn Tegid Reservoir Safety project:

- Existing ramps and slopes within the working area, where reinstatement required anyway, will be made more accessible by reducing gradients to the extent possible, improving surface levels and quality, and – where space permits and access benefits result – increasing path width
- Additional seating and signage to be provided in key locations within the project working area
- Improvements to all-abilities access will be delivered where possible by removing unnecessary access barriers, and/or replacing existing barriers with 2-way opening self-closing gates where PRoWs exit close to busy roads.

Legend

Public Rights of Way
- Y Bala Rhif 4
- Y Bala Rhif 5 (Route A)
- Y Bala Rhif 5 (Route B)

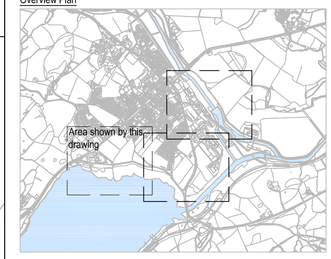
Other
- Regional Cycle Route
- Informal paths and ramped access
- Proposed Bala Railway Route

BV PROJECT NUMBER : 122918

Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

Notes
1. Not for construction
2. Do not scale from this drawing
3. For location reference information see document 122918-BVL-Z0-00-RP-L-00003

Overview Plan



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTER
CONSTRUCTION :
Not for construction
MAINTENANCE, CLEANING AND OPERATION :
Not for construction
DECOMMISSIONING OR DEMOLITION :
Not for construction

10m 0m 10m 20m 30m 40m 50m 60m 70m 80m

Scale 1:1000

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01.01	---	---	---	---	---	

Designed by: Date:

Status
S0 Initial Status or WIP

Client
Cyfoeth Naturiol Cymru Natural Resources Wales

Client Drawing No. | Revision

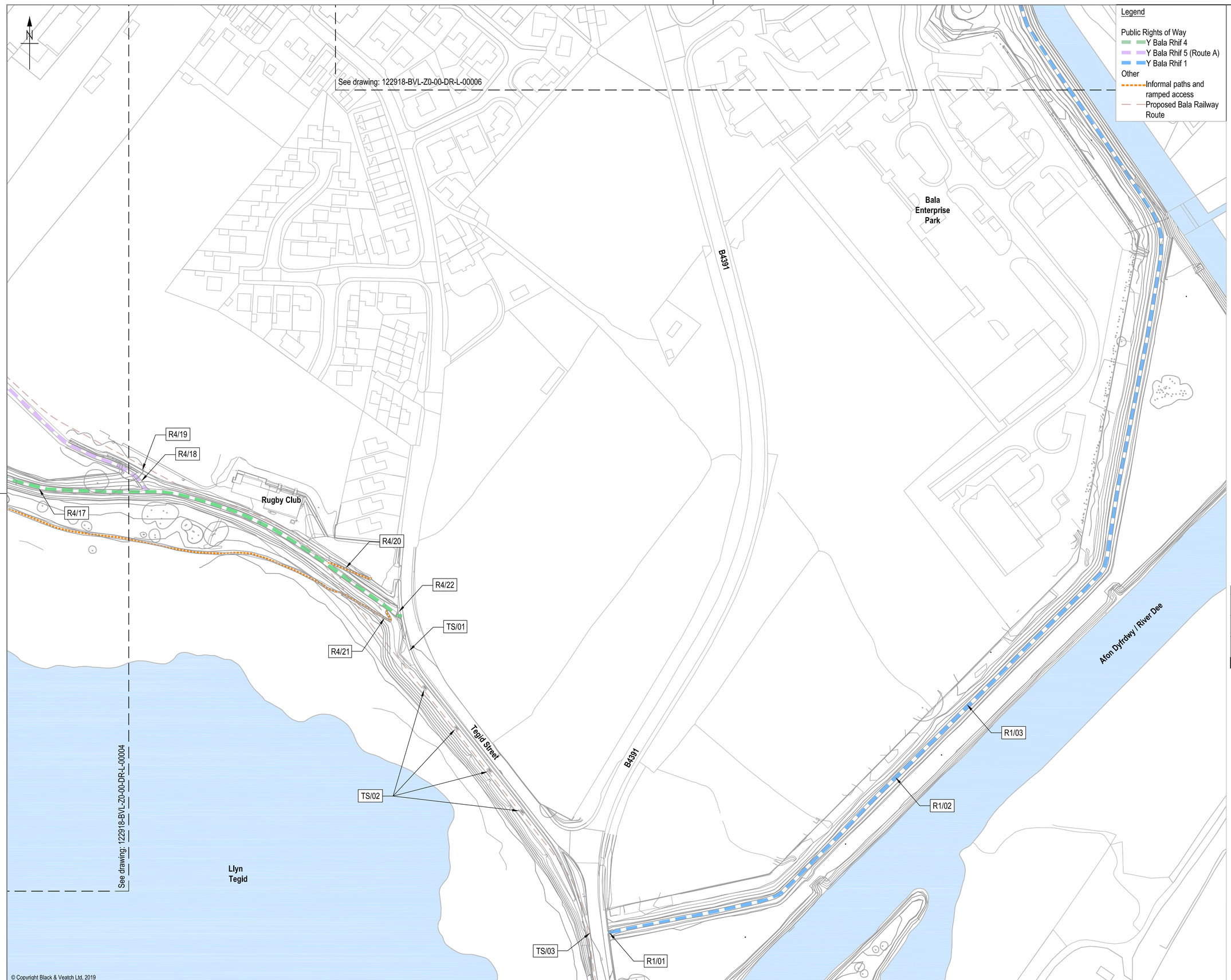
Black & Veatch Limited
60 High Street, Redhill, Surrey, RH1 1SH, United Kingdom
Tel: +44(0)1737 774155

Project
LLYN TEGID DESIGN AND PLANNING

Drawing title
ACCESS AUDIT LOCATION PLAN
SHEET 1 OF 3

Drawing scale: 1:1000 Sheet size: A1

Drawing no. 122918-BVL-Z0-00-DR-L-00004 | Revision P01.01



Legend

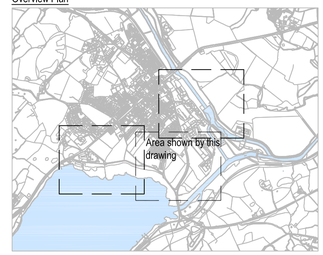
Public Rights of Way
- Y Bala Rhif 4
- Y Bala Rhif 5 (Route A)
- Y Bala Rhif 1

Other
- Informal paths and ramped access
- Proposed Bala Railway Route

Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

Notes
1. Not for construction
2. Do not scale from this drawing
3. For location reference information see document 122918-BVL-Z0-00-RP-L-00003

Overview Plan



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10m 0m 10m 20m 30m 40m 50m 60m 70m 80m

Scale 1:1000

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01.01	---	---	---	---	---	

Designed by: Date:

Status
S0 Initial Status or WIP

Client
Cyfoeth Naturiol Cymru Natural Resources Wales

Client Drawing No. | Revision

BLACK & VEATCH
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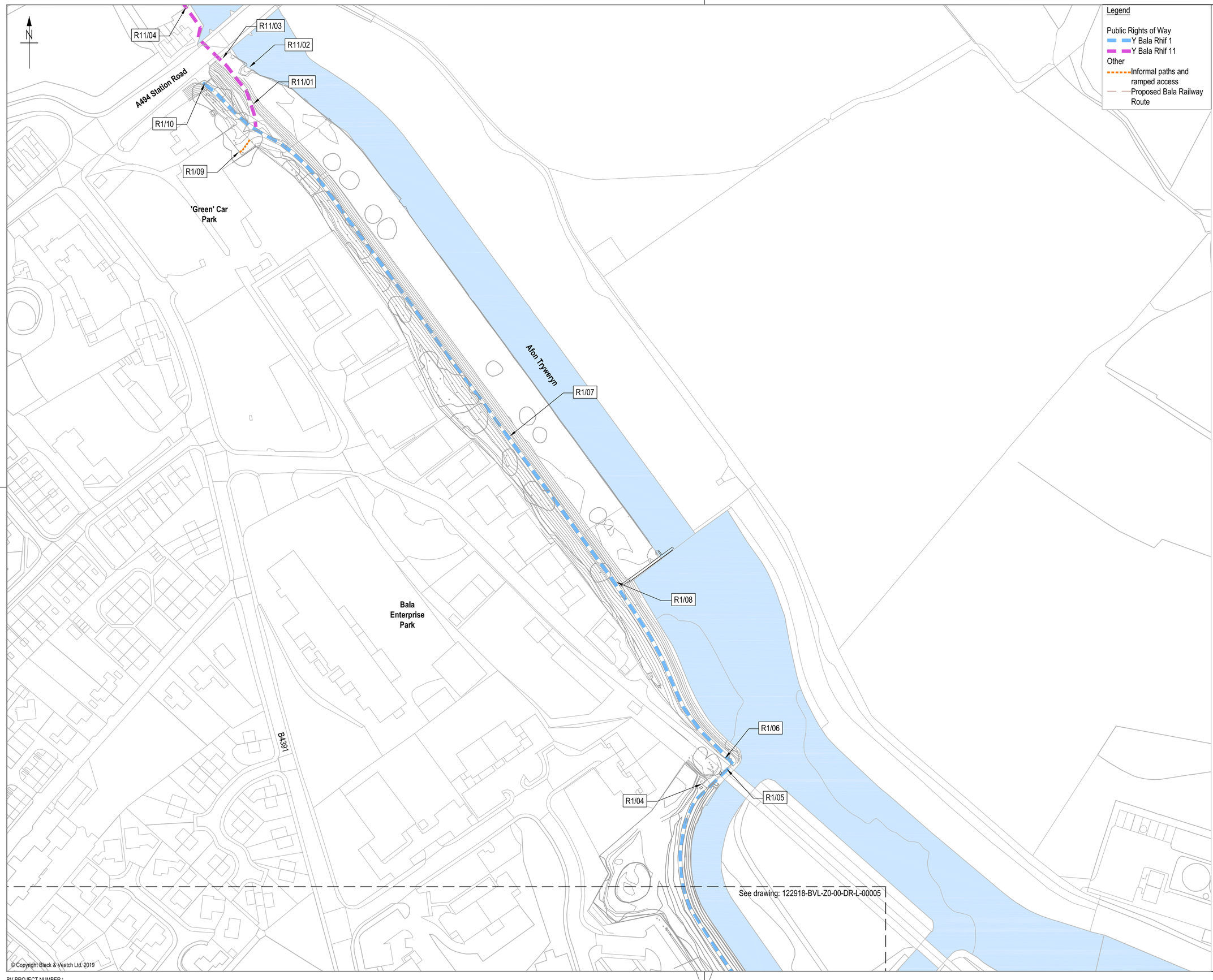
Project
LLYN TEGID DESIGN AND PLANNING

Drawing title
ACCESS AUDIT LOCATION PLAN
SHEET 2 OF 3

Drawing scale: 1:1000 Sheet size: A1

Drawing no. 122918-BVL-Z0-00-DR-L-00005 Revision P01.01

BV PROJECT NUMBER : 122918



Legend

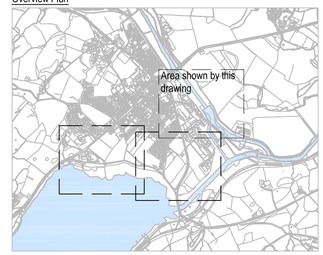
Public Rights of Way
- Y Bala Rhif 1
- Y Bala Rhif 11

Other
- Informal paths and ramped access
- Proposed Bala Railway Route

Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

Notes
1. Not for construction
2. Do not scale from this drawing
3. For location reference information see document 122918-BVL-Z0-00-RP-L-00003

Overview Plan



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10m 0m 10m 20m 30m 40m 50m 60m 70m 80m

Scale 1:1000

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01.01	---	---	---	---	---	

Designed by: Date:

Status
S0 Initial Status or WIP

Client

Cyfoeth Naturiol Cymru Natural Resources Wales

Client Drawing No. | Revision

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Project
LLYN TEGID DESIGN AND PLANNING

Drawing title
ACCESS AUDIT LOCATION PLAN
SHEET 3 OF 3

Drawing scale: 1:1000 Sheet size: A1

Drawing no. 122918-BVL-Z0-00-DR-L-00006 | Revision P01.01

BV PROJECT NUMBER :