

COMMITTEE DATE: 16/06/2021

APPLICATION No. **20/02448/MNR** APPLICATION DATE: 25/11/2020

ED: **LLANISHEN**

APP: TYPE: Listed Building Consent

APPLICANT: Dwr Cymru Welsh Water

LOCATION: GROUNDS OF LLANISHEN RESERVOIR, LISVANE
ROAD, LISVANE, CARDIFF, CF14 0SA

PROPOSAL: REPAIR AND RESTORATION OF EXISTING
EMBANKMENT STEPS, REPLACEMENT OF ONE SET OF
EXISTING STEPS , INSTALLATION OF ONE NEW SET OF
EMBANKMENT STEPS FROM SOUTH-WEST ENTRANCE,
CONSTRUCTION OF A FOOTBRIDGE FROM THE FIRST
FLOOR OF THE VISITOR HUB TO THE EMBANKMENT,
INSTALLATION OF NEW FOOTPATHS ALONG
EMBANKMENT AND NEW VEHICLE ACCESS ROAD
FROM THE VISITOR HUB CAR PARK TO THE NEW
SLIPWAY

RECOMMENDATION : That Listed Building Consent be **GRANTED** subject to the following condition(s):

1. **STATUTORY TIME LIMIT**
The works permitted shall be begun before the expiration of five years from the date of this consent.
Reason: In accordance with the provisions of Section 18(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990)
2. **APPROVED PLANS AND DOCUMENTS**
The works shall be carried out in accordance with the following approved drawings/documents:

PLANS

- i. Site Location Plan
- ii. Llanishen and Lisvane Reservoir Masterplan
- iii. 2601-BUR-17-XX-DR-CH-5000 GA SH1-P2-S2 – General Arrangement (Sheet 1)
- iv. 2601-BUR-17-XX-DR-CH-5000 GA SH1-P2-S2 – General Arrangement (Sheet 2)
- v. 2601-BUR-17-XX-DR-CH-5018 Revision P5 – New Staircase A – Proposed Details
- vi. 2601-BUR-17-XX-DR-CH-5019 Revision P5 – Existing Staircase B – Proposed Details
- vii. 2601-BUR-17-XX-DR-CH-5020 Revision P5 – New

- Staircase C – Proposed Details
- viii. 2601-BUR-17-XX-DR-CH-5021 Revision P5 – Existing Staircase D - Proposed Details
- ix. 3710_110_3_GA Plan Bridge – Bridge General Arrangement Plan

DOCUMENTS

- i. 70068544-002 – Heritage Impact Statement (WSP)

Reason: To ensure satisfactory completion of the development and for the avoidance of doubt in line with the aims of Planning Policy Wales to promote an efficient planning system.

3. STONEWORK METHOD STATEMENT

A detailed Specification and Method Statement for the re-bedding/jointing of stonework to the existing staircases shall be submitted to and approved in writing by the Local Planning Authority prior to commencement of works. The development shall be carried out in accordance with the approved details.

Reason: To safeguard the character and appearance of the listed asset in accordance with Local Development Plan Policy EN9 (Conservation of the Historic Environment).

4. BRIDGE LINK GATE DETAILS

Prior to the commencement of development, details of the bridge link automatic gate shall be submitted to and approved in writing by the Local Planning Authority. The details shall be submitted to a minimum scale of 1:10 in elevation and section which sufficiently describes the proposed unit (including any finish colour). The development shall be carried out in accordance with the approved details.

Reason: To safeguard the character and appearance of the listed asset in accordance with Local Development Plan Policy EN9 (Conservation of the Historic Environment).

5. STAIR LANDING DETAILS

Prior to the commencement of development details of the textured stair landings shall be submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details.

Reason: To safeguard the character and appearance of the listed asset in accordance with Local Development Plan Policy EN9 (Conservation of the Historic Environment).

1. DESCRIPTION OF PROPOSED DEVELOPMENT

- 1.1 Listed Building Consent is sought for the repair and restoration of existing embankment steps, replacement of one set of existing steps, installation of one new set of embankment steps from south-west entrance, construction of a footbridge from the first floor of the visitor hub to the embankment, installation of

new footpaths along embankment and new vehicle access road from the visitor hub car park to the new slipway at Llanishen Reservoir, Lisvane Road, Lisvane.

- 1.2 There are two sets of original steps on the outer grass embankment would be repaired and restored as part of the proposals. The repairs would be minimal as both steps are in a fairly good condition. Works would only consist of vegetation removal and surface cleaning. Stones would be reset where they have slipped or fallen out of place. Nothing would be replaced or removed, all original material would be restored.
- 1.3 The set of steps to be replaced are located in the north-western corner. These are not original to reservoir's design and are considered to be a much later addition, likely from the later 20th century. They are constructed of kerb stones placed into the embankment with a steel pole railing along one side. As these steps are not appropriate from a health and safety point of view a new set of steps in this location is proposed. They would be constructed to a standard design with a handrail along either side.
- 1.4 A second set of new steps are proposed in the south-west corner of Llanishen Reservoir. These steps would lead from the new proposed entrance in the south-west providing direct access to the upper embankment. Like the other new steps in the north-west, these would be constructed to a standard design with handrails on either side for improved health and safety.
- 1.5 A 2m wide self-binding gravel footpath would be created along the top of the reservoir embankment. The footpath would be installed around the entire circumference of the Llanishen Reservoir on top of the earth embankment. The installation of the footpath would not impact further than 0.1m into the top of the embankment. The top of the embankment has historically been used as an informal footpath, it is flat and wide and topped with natural grass.
- 1.6 Formal footpaths are required to guide visitors around the site and to protect the wax cap fungi which is protected by a SSSI designation. Due to the expected increase in visitors when the reservoir re-opens to the public, the formal footpath will improve health and safety around the site and also protect the embankment from erosion.
- 1.7 The proposals also include the construction of a new footbridge in the north-western corner of the reservoir. The footbridge would lead from the first floor of the proposed visitor centre onto the embankment connecting with the new proposed footpath. The bridge would be constructed of galvanized steel beams with a glass balustrade and wooden deck. It would be supported on two helical micro piles which have a number of benefits including minimal vibration, minimal disruption to the ground, no spoil removal, easy extraction and return of ground to original state if removal is required. The bridge would be attached to the embankment footpath with a movement joint. The proposed footpath bridge would allow seamless access from the visitor centre onto the reservoir for the public and would also be essential for enabling disabled access onto the upper footpath so that the reservoir remains accessible for all visitors.

- 1.8 The proposals also include the installation of new vehicle access road leading from the proposed visitor hub car park to the new slipway (below). The new slipway is currently being installed and has been permitted under the reservoir safety works and is therefore not part of this application. The access road would be constructed of resin bound gravel and would only be accessible to authorised vehicles. This access road is essential for the maintenance of the reservoir.
- 1.9 An associated application for full planning permission (ref: 20/02175/MJR) is also reported to this Committee for the development of a visitor centre including café/restaurant, boat workshop and associated works including access, landscaping, footpaths and recreational facilities.

2. DESCRIPTION OF SITE

- 2.1 The submitted Heritage Impact Assessment describes the site and affected areas of Llanishen Reservoir as follows:

“Llanishen Reservoir forms part of the nineteenth century water-supply system for Cardiff. Supply was first in the hands of a private waterworks company who constructed a reservoir at Lisvane in the 1860s, but the Cardiff Borough Council assumed responsibility for the growing town’s water supply in 1878.... Llanishen was the first of the four reservoirs to be built under the scheme, construction beginning in 1884. It served as the primary source of water for Cardiff during the construction of the other Taff Fawr reservoirs, then began receiving water from the first of these in 1891... The reservoir became redundant in the 1970s and it is understood there have not been any significant inflows of water in the intervening period.

The flat lowland site of Llanishen Reservoir necessitated a continuous encircling dam, enclosing an area of 238,000 square metres, almost a mile in length. Like the other reservoir dams of the Taff Fawr scheme, it uses a clay core and mass earth bund construction with sloping embankments. The inner embankment is faced in pitched stone, and the outer embankment is turfed. The main building structures – Nant Fawr Inlet Chamber and the outflow control ‘Valve Tower’ are faced in rusticated ashlar with heavily dressed plinths, strong courses and copings. Similar dressed stone is used on the Nant Fawr By-wash Channel, the stepped weir and the various culverts and Scour Tunnel exists” (HIS p.2)

- 2.2 There are two original sets of steps which are on the outer embankment, leading from the bottom to the top. These are of a simple design constructed of stone slabs and lined on either side with ashlar stone curbs with bevelled edges. They are in varying degrees of condition but are quite overgrown with some of the coping stones being displaced. There is also one set of steps on the inner embankment which lead down to the water and would normally be mostly submerged when the reservoir is full.

3. SITE HISTORY

- 3.1 20/00132/MNR – Listed Building Consent granted in March 2020 for works to enable full refilling of the Llanishen reservoir. Modifications to the Grade II Listed Nant Fawr inlet structures and associated buried apparatus. Construction of new buried valve chambers, wet well pumping station, pump station control building and compound.
- 3.2 19/02760/MNR: Listed Building Consent granted in December 2019 for the Cipoletti Weir Structure. Installation of new barrier across open side of chamber, and fitting of plate within existing weir aperture to prevent entry of waves into chamber.
- 3.3 19/01988/MNR: Listed Building Consent granted in September 2019 for refurbishment of operational assets. New pipe discharge into scour channel sump chamber, associated with the infrastructure to transfer 'Celsa' water supply from Lisvane to Llanishen Reservoir.
- 3.4 19/01661/MNR: Listed Building Consent granted in September 2019 for refurbishment of operational assets. Refurbishment of the existing concrete slipway, formed in the stone-pitched surface of the inner embankment at the northern end of the reservoir.
- 3.5 19/00999/MNR: Listed Building Consent granted in July 2019 for work to allow 'abandonment' of the following assets, which are no longer required for operations of the reservoir: Gauging Station, Cipoletti Weir Chamber, various pipe penetrations through the dam/embankment, various pipe runs buried within or near the dam/embankment.
- 3.6 19/00968/MNR: Listed Building Consent granted in July 2019 for refurbishment of valves and other operational infrastructure and access equipment within and associated with the valve tower. Dismantling of existing 'Semd' Bridge and construction of new bridge on same footprint, incorporating dismantled historical elements.
- 3.7 11/00384/DCO: Listed Building Consent sought for the alteration of the Llanishen Reservoir embankments and associated structures to facilitate development in accordance with appeal ref: APP/26815/A/07/2042394/WF for residential development, watersports lake, wetland area, sailing centre, wildlife centre and associated infrastructure. Called in by the Welsh Ministers in April 2011 and dismissed in April 2013.

4. POLICY FRAMEWORK

- 4.1 Planning Policy Wales: National planning policy in the form of Planning Policy Wales (Edition 11, 2021) (PPW) is of relevance to the determination of this application. The following chapter is of particular relevance in the assessment of this application:

- Chapter 6 - Distinctive and Natural Places: Recognising the Special Characteristics of Places (The Historic Environment).
- 4.2 Technical Advice Notes (TANs). The Welsh Government has provided additional guidance in the form of Technical Advice Notes. The following are of relevance:
- Technical Advice Note 24 – The Historic Environment (2017)
 - Technical Advice Note 12 – Design (2016)
- 4.3 Cardiff Local Development Plan (LDP) 2006-2026. There is no statutory requirement to have regard to LDP policies in determining applications for Listed Building Consent, however the following policies outline the Local Authority's stance in terms of the alteration of Listed Buildings and as they are based on National Policy may be considered material to any analysis:
- KP17: Built Heritage
 - EN9: Conservation of the Historic Environment
- 4.4 Other relevant evidence or policy guidance
- CADW, Conservation Principles (2011)
 - CADW, Managing Change to Listed Buildings in Wales (2017)
 - Welsh Government Circular 016/2014: The Use of Planning Conditions for Development Management

5. INTERNAL CONSULTEE RESPONSES

- 5.1 The Council's Conservation Team are satisfied that the amended plans now include further annotations clarifying finishes and details raised previously. He has no objections subject to relevant conditions.

6. EXTERNAL CONSULTEE RESPONSES

- 6.1 No consultations.

7. REPRESENTATIONS

- 7.1 The application has been advertised in accordance with statutory requirements being advertised by way of site and press notices in January 2021.
- 7.2 No representations have been received.

8. ANALYSIS

- 8.1 S.16 (2) of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires the local planning authority in considering applications for listed building consent to have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

- 8.2 The structure is Grade II listed on CADW's listing, the listing states the following:

HISTORY: Llanishen Reservoir forms part of the nineteenth century water-supply system for Cardiff. Supply was first in the hands of a private waterworks company who constructed a reservoir at Lisvane in the 1860s, but the Cardiff Borough Council assumed responsibility for the growing town's water supply in 1878, and commissioned a survey by its own engineer, John Avery Williams, to identify a suitable and sufficient water supply for the town. His report was presented in 1881, and the Taff Fawr scheme was the option favoured by the council. Early plans for Llanishen reservoir (also by J.A.Williams) pre-dated adoption of the scheme, but construction went ahead on the basis that it would be an integral part of it, as a storage reservoir receiving water impounded in the upper Taff valley. Llanishen was the first of the four reservoirs which comprised the scheme to be built, and construction began in 1884. It served as the primary source of water for Cardiff during construction of the Taff Fawr reservoirs, then began receiving water from the first of these in 1891.

EXTERIOR: The flat lowland site of the Llanishen reservoir necessitated a continuous encircling dam, enclosing an area of 238,000 square metres, almost a mile in length. Like the other reservoir dams of the scheme (Cantref, Beacons and Llwyn Onn), it uses a clay core and mass earth bund construction with sloping embankments. The inner embankment is faced in pitched stone, and the other embankment is turfed. The inlet gauge chamber from the Taff Fawr and the outflow control valve platform are faced in rusticated ashlar with heavily dressed plinths, string courses and copings. Similar dressed stone is used on the Nant Fawr by wash channel and spillway, the culvert exits, the stepped weir and scour tunnel exit.

REASONS: Listed as an integral part of the nineteenth century water-supply system for Cardiff. Together with structures associated with the impounding reservoirs in the upper Taff, the Llanishen Reservoir represents a major Welsh civic engineering scheme which has survived virtually intact.

- 8.3 The works described in Section 1 would bring the site up to an appropriate and accessible standard for its redevelopment. It is recognised that the works have been developed to minimise, as far as possible, impacts on the encircling embankment/dam of Llanishen Reservoir.
- 8.4 The restoration of the existing steps and installation of new steps will provide safe and convenient access around the site for visitors, facilitating safe movement. The repair and restoration of the existing steps is agreed to be beneficial some of the asset's original features would be improved and preserved.
- 8.5 The new steps to the northwest and southwest, footbridge installation and footpath construction would also aid the safe and convenient movement of visitors around the site. It is agreed that there would be some impact from these works on the existing embankments from construction work, however the

benefits arising from the works proceeding (preservation, long-term sustainability and public benefit) would outweigh any small incursions into the existing structure.

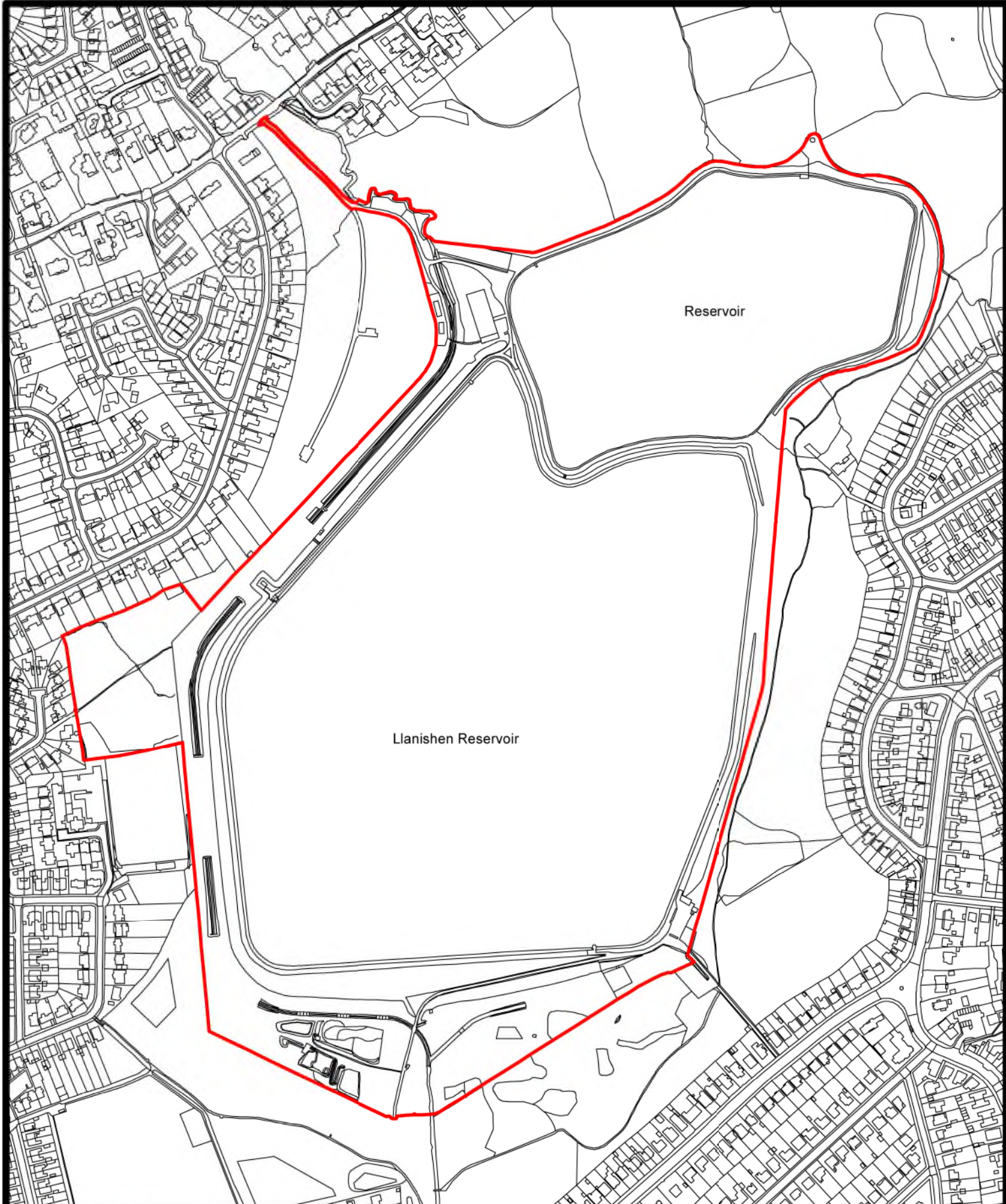
- 8.6 The new vehicle access would replace an existing mud/gravel surface, extending this and creating a new resin-bound surface finish. It would only be accessible to authorised vehicles. The physical works required are agreed to be minimal and it is noted the works are essential for future maintenance purposes. The surface would provide protection from further erosion and the benefits of its creation are considered to outweigh the minor harm that would occur.
- 8.7 Officers agree with the conclusions of the HIS that whilst harm would occur to the significance of Llanishen Reservoir, the proposed works would not materially harm the values of the asset. The essential nature of the works to facilitate the wider redevelopment of the site into a new public recreational facility are noted. This new use would ensure the long-term sustainability and viability of the site whilst preserving the asset in its entirety. Officers agree that the harm caused by the proposed works is outweighed by the public benefits of the scheme, both for public appreciation and for the preservation of the asset.

9. OTHER CONSIDERATIONS

- 9.1 Equality Act 2010. This Act identifies a number of 'protected characteristics', namely age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; sexual orientation; marriage and civil partnership. The Council's duty under the above Act has been given due consideration in the determination of this application. It is considered that the proposed development does not have any significant implications for, or effect on, persons who share a protected characteristic, over and above any other person.
- 9.2 Well-being of Future Generations (Wales) Act 2015. This Act places a duty on the Welsh Ministers (and other public bodies) to produce well-being objectives and take reasonable steps to meet those objectives in the context of the principle of sustainable development. The duty to improve the economic, social, environmental and cultural well-being of Wales, in accordance with the sustainable development principle, under section 3 of the Well-Being of Future Generations (Wales) Act 2015 (the WBFG Act), has been considered and account has been taken of the ways of working set out at section 5 of the WBFG Act in the determination of this application, and it is considered that this decision is in accordance with the sustainable development principle through its contribution towards one or more of the well-being objectives referred to in section 9 of the WBFG Act.

10. CONCLUSION

Having regard to the Local Planning Authority's statutory duties it is considered that the special interest of the building would be preserved. Accordingly it is recommended.



LEGEND	
	Sluice Valve
	Air Valve SINGLE
	Tap
	Pressure Reducing Valve
	Meter
	Bulk Meter
	Fire Hydrant
	Cap
	Non Dwr Cymru
	Existing Distribution Main
	Gravity Sewer
	Rising Main
	Outfall
	Pumping Station
	Lamphole
	Combined Sewer Overflow
	Special Purpose Chamber
	Treatment Works
	Private Sewer Transfer
	Lateral Drain
	Inspection Chamber

NB: Sewer symbol colour indicates the sewer type.
 RED - Combined
 GREEN - Surface Water
 BROWN - Foul

Notes:
 --- Type notes here ---
 --- Remembering to manually add line breaks ---

Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation.

Dŵr Cymru Cynhyrdd (the Company) gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is intended in the event of excavations or other works made by the vicinity of the company's apparatus. The area of locating apparatus includes carrying out any excavations with entirely on you. The information which is supplied by the Company is given as a guide only and does not constitute a warranty of accuracy and is given as a guide only and does not constitute a warranty of accuracy. It should be noted that the records that are available to the Company may not disclose the existence of a water main, sewer, storm drain or disposal main, or any associated apparatus located before 1 September 1988, or, if they do, the position thereof including their position underground may not be accurate. It must be understood that the furnishing of this information is entirely without liability to the person of the New River, and Dŵr Cymru Cynhyrdd and the Company's right to be compensated for any damage to its apparatus.

Service pipes are not generally shown but their presence should be anticipated.

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.

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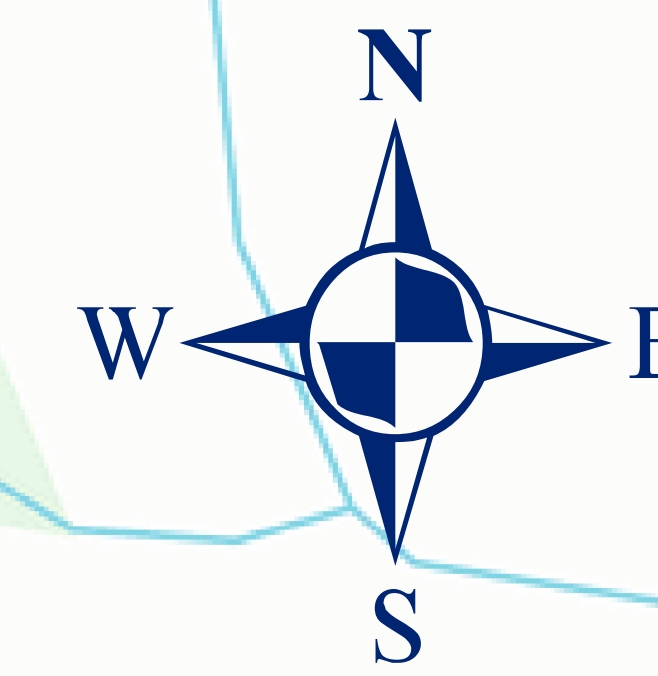


Map Ref: 318,741, 181,842
 Map scale: 1:5,000
 Printed by: sgrey
 Printed on: 04/10/2018

Llanishen & Lisvane Draft Master Plan

Produced by:
IMS and Asset Information
DCWW 761-01 Feb 2020

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Boggy ground / board walks
Removal of invasive species -
Holly and Cherry Laurel

Install
bat boxes

Enhance habitat for
glow-worms

4 - Towy Road Gate

Enhance Habitat
- Coppicing Alders and removal of
Cherry Laurel
- Restoration of Ponds

1 - Main Entrance

Coed-tv-llwyd

Disabled
bird hide

A

Bird Refuge

2 - Black Oak Gate

Bird hide

3 - Rhyd Y Penau Gate

Llanishen
Reservoir

Rhyd-y-pennau Wood

DCWW Boundary

Upper Footpath

Lower Footpath

National Cycle Track

Amenity Grass

Pollinators and Wildflower Fringe

Priority areas with high fungi/plant diversity

Priority areas with medium fungi/plant diversity

SSSI

Proposals

- ① Access Road upgrade
- ② Car Park and Visitor Centre
- ③ Slipway and Floating Pontoon
- ④ Water access pontoon
- ⑤ Picnic Area
- ⑦ Gwerny-Bendy-Wood Conservation Zone
- ⑧ Education Zone
- ⑩ Viewpoint/Rest point
- ✕ Lisvane Gates - Winter No Entry

- ↑ 1 - Main Entrance
- ↑ 2 - Black Oak Gate
- ↑ 3 - Towy Road Gate
- ↑ 4 - Rhyd Y Penau Gate

Under Consideration

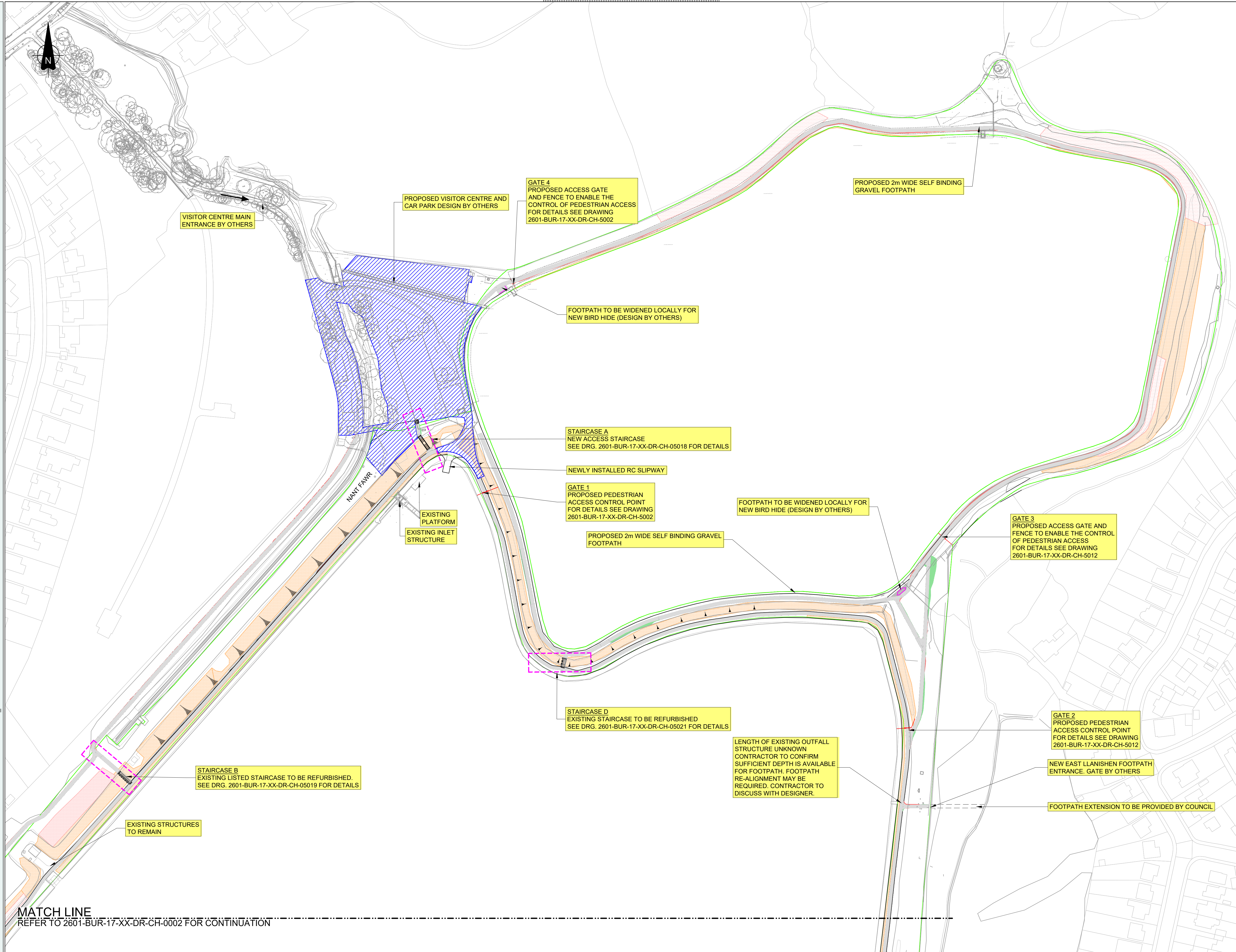
- ⑨ Recreation Zone

Other

- ⑪ Llanishen - Water Sports
- ⑫ Lisvane - Winter Conservation

10 cm - Caution as distortion can occur.

Y:\4260100 LLANISHEN AND LISVANE RESERVOIR FOOTPATHS\04 PRODUCTION_V19\DR\2601-BUR-17-XX-DR-CH-5000 CA SH1.DWG



MATCH LINE
REFER TO 2601-BUR-17-XX-DR-CH-0002 FOR CONTINUATION

10cm - Caution as distortion can occur.



Project:

**LLANISHEN AND LISVANE
RESERVOIR FOOTPATHS**

DRAWING NOTES:

1. DRAWING DETAIL IS ISSUED FOR INFORMATION PURPOSES ONLY.
2. ALL LEVELS ARE IN mAOD.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. DRAWING TO BE READ IN CONJUNCTION WITH THE SCHEME DRAWINGS 2601-BUR-17-XX-DR-CH-5001 TO 5021 AND DCWW STANDARD DETAILS DRAWING SDC2011-005 & SDC2010-008.
5. CONTRACTOR TO ENSURE THAT THERE IS MINIMAL DISTURBANCE TO THE SSSI AND FUNGI AREAS BY CARRYING OUT ALL CONSTRUCTION WITHIN THE PROPOSED FOOTPATH CONSTRUCTION AREAS. AN ECOLOGICAL CLERK WILL BE PRESENT TO REVIEW FOOTPATH LOCATION PRIOR TO CONSTRUCTION.
6. INSTALLATION OF FOOTPATH MATERIALS MUST BE AS PER DCWW METHODOLOGY/SPECIFICATION AND MAINLAND AGGREGATES LTD SPECIFICATION. (SEE DESIGN PHILOSOPHY - APPENDIX 1)
7. EXISTING LANDSCAPING WITHIN THE FOOTPRINT OF PROPOSED FOOTPATH AND ASSOCIATED EARTHWORKS OS TO BE REMOVED AND RECYCLED WHERE POSSIBLE WITHIN THE PROPOSED WORKS.
8. ALL TOPSOIL SHALL BE STRIPPED AND STOCKPILE SEPARATELY ONSITE FROM ALL OTHER BULK MATERIALS AND POTENTIAL SOURCES PF CONTAMINATION FOR RE-USE WITHIN THE PROPOSED WORKS.
9. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH BURROUGHS DESIGN PHILOSOPHY REPORT FOR OTHER ENGINEERING DETAILS.

LEGEND:

- SITE BY OTHERS
- SSSI BOUNDARY (GREEN)
- MEDIUM PRIORITY FUNGI AREAS (ORANGE)
- HEIGHTEST PRIORITY FUNGI AREAS (RED)
- PROPOSED GATE AND FENCE
- PROPOSED FILL MATERIAL
- PROPOSED CUT MATERIAL
- FOOTPATH FORMATION
SURFACE COURSE
50mm THICK, SELF BINDING GRAVEL
SUB-BASE COURSE
200mm THICK, MOT TYPE 3
GEOTEXTILE COURSE
TERRAM 1000
TIMBER EDGING ON BOTH SIDE OF THE FOOTPATH

ALL CIVIL DIMENSIONS ARE IN METRES - ALL STRUCTURAL DIMENSIONS ARE IN MILLIMETRES - ALL LEVELS ARE IN METRES.

Drawn By: K. YONG
Checked By: K. CRITCHLEY
Approved By: D. HICKMAN
Date: 17/09/20
Date: 24/09/20
Date: 24/09/20

P2-S2 FOOTPATH ADMENDED AND BIRD HIDE MOVED	19/10/20	KY	KC
P1-S2 ORIGINAL ISSUE	24/09/20	KY	KC
REV:	DATE	DRW	CHK

Drawing Title:

**SERIES 5000 - GENERAL
GENERAL ARRANGEMENT
SHEET 1**

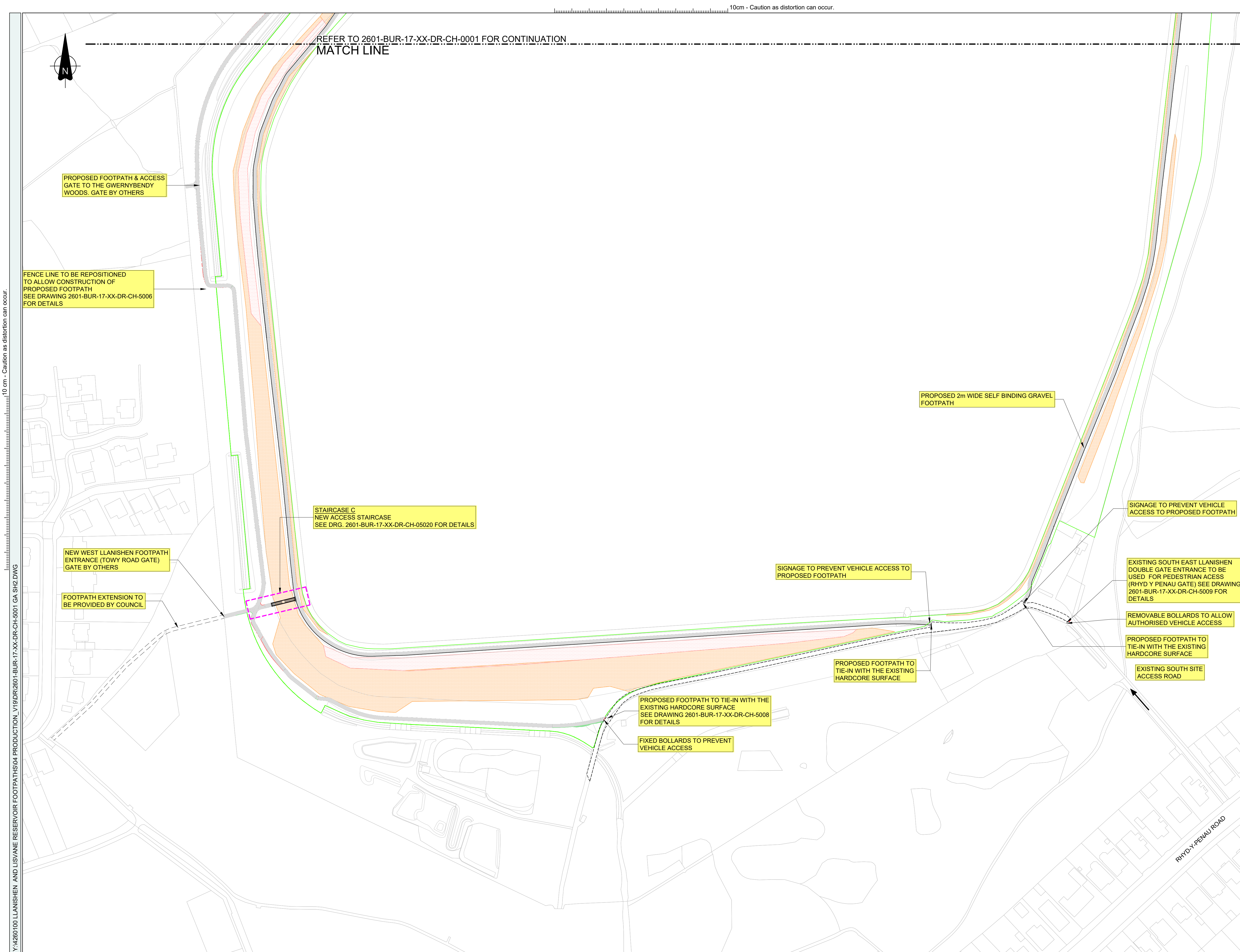
Burroughs Project No.: 4260100
Scale: 1:1000
Original Paper Size: A1

Drawing Number:
Project: 2601 -BUR- 17 - XX - DR - CH - 5000
Status: S2 - FOR INFORMATION
Revision: P 2 - FOOTPATH ADMENDED

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Y:\4260100 LLANISHEN AND LISVANE RESERVOIR FOOTPATHS\04 PRODUCTION_V19\DR\2601-BUR-17-XX-DR-CH-5001 CA SH2.DWG

10 cm - Caution as distortion can occur.



Project:
**LLANISHEN AND LISVANE
RESERVOIR FOOTPATHS**

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 - SSSI BOUNDARY (GREEN)
 - MEDIUM PRIORITY FUNGI AREAS (ORANGE)
 - HIGHEST PRIORITY FUNGI AREAS (RED)
 - PROPOSED GATE AND FENCE
 - PROPOSED FILL MATERIAL
 - PROPOSED CUT MATERIAL
 - FOOTPATH FORMATION
SURFACE COURSE
50mm THICK, SELF BINDING GRAVEL
SUB-BASE COURSE
200mm THICK, MOT TYPE 3
GEOTEXTILE COURSE
TERRAM 1000
TIMBER EDGING ON BOTH SIDE OF THE FOOTPATH

ALL CIVIL DIMENSIONS ARE IN METRES - ALL STRUCTURAL DIMENSIONS ARE IN MILLIMETRES - ALL LEVELS ARE IN METRES.

Drawn By: K YONG
Checked By: K CRITCHLEY
Approved By: D HICKMAN
Date: 17/09/20
Date: 24/09/20
Date: 24/09/20

Date	17/10/2020	P2-S2 BOLLARDS REMOVED AND NOTES AMENDED				19/10/2020	KY	KC	
		P1-S2 ORIGINAL ISSUE				24/09/2020	KY	KC	
		REV:	DESCRIPTION				DATE	DRW	CHK
Date	17/10/2020	Drawing Title:							
		SERIES 5000 - GENERAL							
		GENERAL ARRANGEMENT							
		SHEET 2							
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		Revision:		Revision Description:					
		P 2		- BOLLARDS REMOVED AND NOTES AMENDED					
Date	17/10/2020	Drawn By	K.YONG	This document is copyright of Burroughs Ltd. Use figured measurements only if not SCALE FROM DRAWING. Verify all dimensions prior to construction. Immediately report any discrepancies to DR or in doubt ASK. The drawing should be read in conjunction with all other associated project information.					
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