



River Taff Feeder Bridge, Abercynon

Landscape and Ecological Management Plan (LEMP)

BakerHicks on behalf of Rhondda Cynon Taff Borough Council

Trilogy One, 11 Woodhall
Eurocentral, Motherwell ML1 4YT

Prepared by:

SLR Consulting Limited

3rd Floor, Brew House, Jacob Street, Tower Hill, Bristol,
BS2 0EQ

SLR Project No.: 402.V63755.00001

Client Reference No: 116630

11 April 2024

Revision: V1

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
Draft	4 April 2024	CK	SM	CK
V1	11 April 2024	CK	SM	CK
	Click to enter a date.			
	Click to enter a date.			
	Click to enter a date.			

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with BakerHicks on behalf of Rhondda Cynon Taff Borough Council (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.



Table of Contents

1.0	Introduction	1
1.1	The Proposals	1
1.2	Purpose and Scope of Report	1
1.3	Previous Studies and Documents.....	2
1.4	The Site and Context.....	2
2.0	Management Period and Responsibilities	6
2.1	Management Period	6
2.2	Management Responsibilities.....	6
2.3	Overall Management Objectives.....	6
2.4	Monitoring and Review.....	7
3.0	Advanced Works (pre-Construction) and Construction Phase.....	8
3.1	Woodland and Scrub.....	8
3.2	Protection of Existing Vegetation and Habitats during Construction	9
3.3	Tree Surgery and Felling	9
3.4	Protection of Ecological Features and Habitats During Construction	9
3.5	New Planting	10
3.6	Ground Preparation.....	11
3.7	Cultivation and De-compaction.....	11
3.8	Soils for Planting Areas	11
3.9	Ecological Features.....	12
4.0	Specific Management and Maintenance Operations: Post Construction Establishment Phase (Years 1-5)	13
4.1	Existing Landscape Habitats and Ecological Features	13
4.2	Proposed Trees.....	13
4.3	New Hedges/Hedgerows.....	14
4.4	Proposed Areas of Scrub Planting.....	15
4.5	Meadow Grassland	15
4.6	Ecological Features.....	16
4.7	Hard Surfaces - Footpaths/Paving.....	16
4.8	Health and Safety Audit.....	16
5.0	Long Term Management Goals and Management Operations Year 6-15	17
5.1	Long term Management Goals	17
5.2	Standard Management Considerations	17



Figures in Text

Figure 1-1: Topographical Context.....	2
Figure 1-2: Existing Bridge Structure.....	2
Figure 1-3 - Area of hard standing along the southern bank.....	4
Figure 1-4 - Open area for housing proposed platform.....	4
Figure 1-5 - Level grassland area to the north around the roundabout at A472.....	5

Appendices

Appendix A Planting Plans and Plant Schedule

Appendix B Tree Constraints Plans and Tree Protection Plans



1.0 Introduction

SLR Consulting Ltd (SLR) was instructed by BakerHicks, on behalf of Rhondda Cynon Taff Borough Council (RCTBC) to prepare a Landscape and Ecological Management Plan (LEMP) to accompany a planning application for proposals relating to a proposed replacement footbridge which would cross the River Taff at Abercynon (hereafter referred to as the 'Proposed Development'), as shown on Drawing 30003237-BHK-00-XX-SK-C-SK001 and 30003237-BHK-00-XX-SK-C-SK001 Rev P02. The existing structure incorporated an old footbridge which was badly damaged in the February 2020 storms and removed in September 2020.

Details of the Proposed Development have been included in a separate Planning Statement and are outlined in paragraph 1.1 of this report.

The LEMP sets out the scope of management tasks for the first 5 years following implementation of the scheme and for a further 6-15 years following establishment. It is assumed that the long-term design objectives and periodic maintenance operations that are also specified for up to 15 years, will be followed beyond, in perpetuity.

This document should be read in conjunction with the Compensation Management and Monitoring Plan (CMMP), produced by Temple (2024), which outlines the ecological baseline conditions and provides detailed management prescriptions to maintain and enhance the form and condition of habitats on the Site.

1.1 The Proposals

Proposed development would include:

- Construction of a new footbridge crossing on top of the pipes;
- Repair of existing stone bridge abutments;
- Removal of the middle pipes to allow for the construction of the footbridge and creation of a 'feature' pedestrian connection;
- Scour repair (which relates to upriver and downriver embankment protection); and
- Temporary construction related infrastructure – Contractor's compound along the Abercynon roundabout at A470 and A472 and access road.

In addition to the proposals outlined above, the elements of the landscape and ecological proposals with particular relevance to this LEMP include:

- Reinforcement of existing hedge and infilling of gaps with native matrix hedge mix for the are/extent of hedge lost along the highway (A472), as a result of access related proposals;
- Reinstatement of meadow grass in disturbed area to the north, associated with access road into the Site and area of proposed construction compound;
- Area of tree and scrub planting to the south extending along the banks to the long-distance footpath Taff Trail; and
- Minimal landscape intervention within area of existing native and Ancient Woodland, and biodiversity proposals including bat boxes and hibernacula; and
- Other ecological proposals, as detailed in the CMMP.

1.2 Purpose and Scope of Report

This document outlines the following:



- Proposed planting, associated with the landscape and ecological proposals;
- Details of retained vegetation and details of associated management operations;
- Details of management tasks for the first 5 years following implementation of the scheme and for a further 6-15 years following establishment. It is assumed that the long-term design objectives and periodic maintenance operations that are also specified for upto 15 years, will be followed beyond, in perpetuity.

This document should be read alongside the following drawings, as included in Appendix 1:

- 402.63755.00001.29.004 - Landscape Planting Plans: Northern Embankment - Sheet 01;
- 402.63755.00001.29.005 -Landscape Planting Plans: Northern Embankment - Sheet 02

1.3 Previous Studies and Documents

The following arboricultural, ecological and landscape reports have previously been prepared for the development, and were used to inform this LEMP:

- SLR (2023) Landscape and Visual Statement;
- Temple (2024) Compensation Management and Monitoring Plan 2024 – 2054;
- Temple (2024) Preliminary Ground Level Tree Assessment North and South;
- Temple (2024) Preliminary Ecological Appraisal; and
- Temple (2024) Arboricultural Impact Assessment.

1.4 The Site and Context

The Proposed Development, as outlined in paragraph 1.1, is located across the River Taff, south-east of the Abercynon roundabout, and west of A4054. The Site lies within the river valley, with steeply sloping land on either side of the riverbanks, as shown on Figure 1 below.

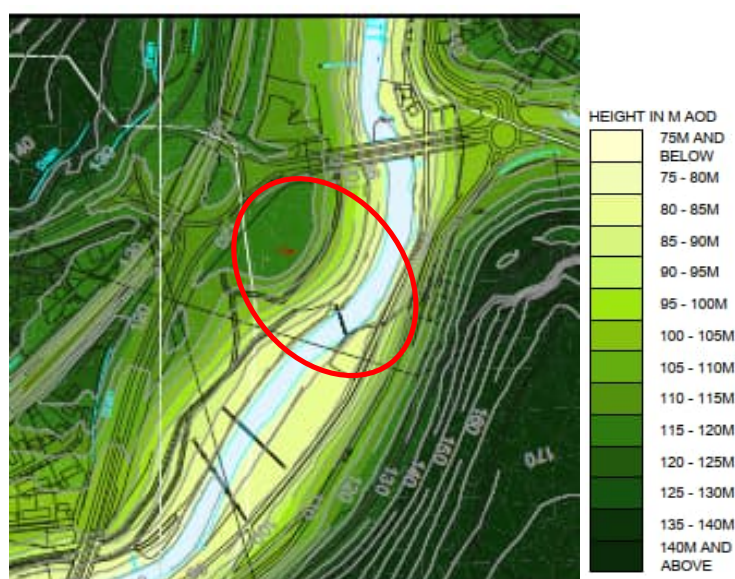


Figure 1-1: Topographical Context

The immediate context, to the north, is defined by land rising up to the Abercynon roundabout to approx. 12m AOD, with a relatively level area, just east of the roundabout.



The southern edge of the bridge rises steeply towards the long-distance footpath, Taff Trail, about 15m east of the bridge embankment. It rises again steeply towards A4054 and beyond to approximately 180AOD to the south-east.

Landscape Context

The local context is characterised by dense woodland along the southern edge of the River Taff extending to the A4054 corridor. The northern edge of the river is relatively patchy woodland (south of the Proposed Development), which becomes visually denser, moving north along the river towards the A472.

A Sustrans route (No 8) runs to south-east of the Site alongside the A4054 connecting Pontypridd to the south with Abercynon to the west and Edwardsville and Quaker's Yard to the north. A further route, Route 478 runs to the west of Abercynon and the River Cynon. The Taff Trail, a 88km cycle and walking route runs alongside the Sustrans Route No 8 and the A4054 linking Cardiff with Brecon.

The existing steel bridge crosses over the River Taff, supported by stone piers. The river flows south-west under the bridge. The riverbanks along the northern and southern edges of the river are a mix of natural stone outcrops, man-made stone walls, mudbanks and pebble beaches and edges with seminatural woodlands and associated ground flora on either side of the banks.



Figure 1-2: Existing Bridge Structure



The southern edge of the bridge is accessed by a series of concrete steps, from the Taff Trail leading down to the edge of the bridge. The riverbank on this side of the river is inaccessible, with a simple metal railing marking the edge of the accessible hard standing platform (Figure 1-3).



Figure 1-3 - Area of hard standing along the southern bank

The area leading down to the bridge south of the steps (Figure 1-4) is a sloping relatively open area predominantly covered with bramble, with a fence blocking access into this area. The proposed platform would be located within this area. New tree and scrub planting would form part of the proposals in this area.



Figure 1-4 - Open area for housing proposed platform

The northern bank comprises ancient semi-natural woodland and associated understorey and ground flora ancient woodland that lies immediately to the north of the Proposed Development, and extends further south, as shown on the AIA plans (Appendix B), produced by Temple.

The area indicated for proposed construction compound comprises the open area adjacent to the Abercynon roundabout. The area is characterised by level land with open grassland, bounded by gappy hedgerow along the roundabout and A470 carriageway. The area immediately south of this area comprises vast areas of bracken and scattered trees on the slopes leading south towards the river valley. The proposed construction access road runs south to the northern bank through this area.





Figure 1-5 - Level grassland area to the north around the roundabout at A472

Ecological Context

The site is not subject to any statutory nature conservation designations and no statutory designated sites are found within 2km radius of the site. There are 16 non-statutory sites designated as Site of Importance for Nature Conservation (SINC) present within 2km of the site. The nearest of these is Lower Taff and Edwardsville Woods located on the north of the River Taff directly across from the Site.

The River Taff and semi-natural broadleaved woodland habitats within the Site are classified as Priority Habitats in Wales. These areas also form areas of non-statutory designated sites (the Taff and Rhondda Rivers SINC, and the Lower Taff Edwardsville Woods SINC).

On the northern side of the Site an area of Ancient Semi-Natural Woodland falls within the Site boundary. The Site contains the Invasive Non-Native Species (INNS) Japanese knotweed, *Reynoutria japonica*. This is found present near the edge of the woodland areas and in close proximity to the pipe feeder bridge where works are to commence on the North side of the Site. It is also found throughout the site compound area on the South side of the Site. Control of this INNS should be paramount to prevent further spread. A separate Invasive Non-Native Species Precautionary Working Method Statement has been prepared by Temple.



2.0 Management Period and Responsibilities

2.1 Management Period

This LEMP prescribes the following scope of management works:

- advanced enabling works, such as installation of protective fencing around selected existing vegetation to be retained and protected;
- management works for the each of the operational phases of the development, covering the first five-year period following its completion; and
- longer-term management considerations and operations, covering the years 6-15.

2.2 Management Responsibilities

Responsibility for management will vary over the period of the project, with the contractors being partly responsible during the pre-construction habitat clearance and construction phases, and Rhondda Cynon Taff Borough Council (RCTBC) for overall project management and coordinating further habitat creation, monitoring and maintenance. All works to existing trees are to be carried out by a qualified tree surgeon/arboriculturalist. Ecological mitigation and monitoring will need to be conducted by a qualified and appropriately licensed ecologist. In the case of all work that affects woodland and scrub canopy habitats connected to wider woodland, all clearance work must be supervised by the qualified and appropriately licensed ecologist. All site staff will have responsibilities to comply with environmental legislation through their own actions, and this will be discussed during initial toolbox talks before works begin.

2.3 Overall Management Objectives

The key principles and objectives of this LEMP are:

- Secure the long-term establishment of the landscape infrastructure;
- Establish a flexible maintenance regime that delivers the core design and management objectives, as well as addressing any arising management issues;
- Reinforce and reinstate degraded vegetation features;
- To protect the features of landscape and nature conservation interest and their connectivity to the wider landscape through scheme design and sensitive construction;
- Introduce complimentary and compensatory landscape and ecological features/habitats through sensitive and proactive management;
- To ensure that the local conservation status of protected species present is maintained (Refer to CMMP for details);
- To ensure that the Invasive Non-Native Species (INNS) Japanese knotweed, *Reynoutria japonica*, currently on site is controlled, and not allowed to spread and cause further ecological damage (Refer to Invasive Non-Native Species Precautionary Working Method Statement for details);
- To create areas of compensatory habitat of landscape and ecological value within and outside the development boundary and provide a net gain in biodiversity value. This includes tree planting around the proposals;



- To ensure that the proposals are integrated and complement the existing vegetation framework, increase the botanical diversity, visual amenity as well as maintaining existing and creating new wildlife habitats; and
- To ensure that the management allows the scheme to achieve the design intentions while promoting sustainable practices, as far as possible, and ensure the safety and security of those using the area.

Where the methodologies and measures set out in this LEMP are followed, it is considered that all relevant legislation will be complied with, and the biodiversity and landscape value of the site will be enhanced.

2.4 Monitoring and Review

The effectiveness of the proposed management regime will be assessed after five years (covering the establishment period) against the management objectives and adjusted accordingly.

The various tasks contained within the LEMP should, subsequently, be reviewed and revised as deemed necessary every five years after the initial five-year period, informed by visual inspections. All areas of the landscape scheme will be closely monitored throughout the five-year period so that the most appropriate management regime can be defined on an area-by-area basis. This process will identify where the existing management regime requires modification to meet management objectives, both annually and in the long-term.



3.0 Advanced Works (pre-Construction) and Construction Phase

Most of the impacts to ecological receptors will be avoided by removing habitat in the advanced works phase using appropriate methodologies, under licence where necessary, as outlined below. However once these habitats have been cleared within the footprint, some precautionary methods should still be followed to avoid/minimise impacts to some species, and maintenance and management will also be necessary for newly created habitats.

3.1 Woodland and Scrub

Introduction

All trees, woodland and scrub that can be retained around the periphery will be protected, in accordance with the separate Arboricultural Report, Tree Constraints Plan and Tree Protection Plan (Temple 2024), to comply with the provisions of BS 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'.

The Arboricultural Impact Assessment (AIA), Tree Constraints Plan and Tree Protection Plan provide details of root protection areas, protective fencing and other protective measures to be undertaken prior to commencement of construction works. For reference, the Tree Constraints Plan and Tree Protection Plan are provided in Appendix B.

When working within the Ancient Woodland, all operations should ensure existing vegetation within the Ancient Woodland to be retained, is protected. All works should be undertaken under the supervision of a suitably qualified ecologist.

Management of Vegetation to Facilitate Development - Tree Surgery and Felling, and Scrub Removal

Tree management works required to facilitate development, as specified in the separate AIA will be supervised by a qualified tree surgeon. In addition, it is essential that any woodland habitat affected is only removed using the correct methodology and under the supervision of the qualified and appropriately licensed ecologist.

Removal of all canopy vegetation will also be generally supervised under an Ecological Clerk of Works, to also avoid/minimise impacts to other protected or notable species, as identified in the CMMP, or nesting birds. The general nesting season for nesting birds is March to August (inclusive), however it should be noted that some species such as pigeons or barn owl can sometimes nest outside these months. Further details for various species and groups are provided in the CMMP.

Any works to existing trees to be retained, such as removal and pruning/cutting back of overhanging branches that obstruct construction access, shall be carried out by a qualified arboriculturist/tree surgeon and member of the Arboricultural Association. Works will comply with BS 3998 and HSE Forestry and Arboricultural safety leaflets. Trees will be left with a well-balanced shape and natural appearance. Chainsaw operatives must hold a certificate of competence. Chain or hand saw wounds should be as small as possible, cutting back to sound wood, leaving a smooth surface, angled to shed the water and avoiding bark tears.

No works are to be carried out to any trees subject to a Tree Preservation Order, without prior formal approval from Rhondda Cynon Taff Borough Council. Should it become evident that construction works may negatively impact on the health of trees to be retained, a suitably qualified arboriculturist/tree surgeon will be consulted to access the most feasible solution to ensure the long-term survival of any affected tree(s).



Due to the large amount of non-native invasive Japanese Knotweed on site, precautions must also be taken to prevent any offsite spread of this species (which would be illegal, as it is listed under Schedule 9 of the Wildlife and Species Act 1981 (as amended)).

3.2 Protection of Existing Vegetation and Habitats during Construction

Protective fencing, as outlined in the AIA, Tree Constraints and Protection Plans, will be erected around the existing vegetation to be retained prior to any construction activity commencing and will be maintained in good condition until practical completion of all clearance and engineering works, in accordance with the provisions of BS 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'. The protective fencing will be checked by a qualified arboriculturalist. If for any reason the fencing needs to be moved or altered, this will only be done under the supervision of the appointed arboriculturalist.

No materials will be stored and no works, including excavation or filling will take place within protected areas, nor will there be any access for machinery, including dumpers, diggers, and delivery lorries. Ground levels must not be changed and there will be no infringement into the protected zone.

Barriers comprising Heras fencing (refer to the detail in the arboricultural report) will be erected at the edge of the tree root protection zones prior to any construction activity commencing and will be maintained in good condition until practical completion of all engineering works. Access will be temporarily required within fenced zones to undertake no dig construction for example, but fencing should be reinstated until practical completion.

Root protection areas are shown in the Tree Protection Plan (see Appendix B). Once the protection zone fencing is erected, these shall be erected on the barrier with words such as: 'Construction exclusion zone - NO ACCESS'

Information on how contractors must work around trees will be provided in the contractor's on-site accommodation and posted on noticeboards.

3.3 Tree Surgery and Felling

See relevant guidelines associated with working around identified notable species, as outlined in the CMMP. These methods must be followed closely for felling to be legal.

It should also be noted that further bat and/or badger licensing may become necessary if any roosts or setts have appeared on site in the last year; if so these would need licensing with Natural England, and, with further details of working methodology, acceptable mitigation, enhancement and monitoring as agreed in the licence.

Works to existing trees to be retained, such as cutting back overhanging branches that obstruct construction access, shall be carried out by a qualified tree surgeon and member of the Arboricultural Association, and follow all details in the separate AIA.

3.4 Protection of Ecological Features and Habitats During Construction

All works to protect and enhance ecological interests will be undertaken in accordance with the approved scheme provided by CMMP.

The CMMP will set out the measures required to ensure that important ecological features and protected and notable species are implemented at each stage prior to the removal of existing vegetation and/or debris piles. This may include searches/supervision by an appropriately qualified Ecological Clerk of Works.



All temporary external lighting for site compounds or similar facilities will be designed to minimise the risk of light spill outside the area it is desired to illuminate, and particular care will be taken to minimise light spill on hedgerows or other linear features that can be used by bats for commuting, in accordance with Bats and Lighting in the UK, Institute of Lighting Engineers and BCT, 2009. This can be achieved using baffles and low-level lighting columns using directional LED downlighting with timing controls, and careful location and alignment of light sources in order to minimise surplus light spill.

3.5 New Planting

New planting areas within the Site have been indicated on Drawing 402.63755.00001.29.004 and 005, and species lists are provided on the drawings and as a separate Plant Schedule in Appendix A. No new planting is proposed within the extents of existing area of Native Woodland and Ancient Woodland. Upon cessation of construction works, the disturbed area to be left to allow for natural regeneration with no/minimal intervention. Any intervention, if unavoidable, kept to a minimum, and to be undertaken under the supervision of a suitable qualified ecologist.

Proposed Trees and Scrub Habitat

There are opportunities for new tree planting, scattered around the development proposals, as replacement for trees lost due to development. These new trees would be located outside Ancient Woodland boundary and appropriate offsets from service lines would be maintained, which would be determined on site, prior to planting.

New tree and scrub planting (plant species list included in the Plant Schedule- Appendix A). Where these habitats can be planted in advance of construction work, these will be created at the earliest opportunity within the planting season. New topsoil areas (if any) will avoid burying the root protection zones of existing retained vegetation, particularly tree trunks.

All new tree and scrub saplings will be pit-planted into 300mm of growing medium comprising a mixture of 80% existing or reinstated topsoil and 20% compost mixture between November and March (inclusive) and will be watered in immediately after planting. In scrub areas the spacing will be 1m between centres. Habitat creation onsite would largely follow in later winters, but at the earliest opportunity once groundworks are complete. New topsoil areas will avoid burying the root protection zones of existing retained vegetation, particularly tree trunks, as indicated in the Tree Constraints plan in the AIA (Temple; see Appendix B).

Stakes, ties and rabbit guards will be installed on new trees and adjusted/replaced/removed as required until anchorage has been achieved. Guards will either be biodegradable, or removed at a later date once trees have outgrown them.

Meadow Grass

A suitable seed mix for meadow grass is proposed as part of restoration phases after the works have been completed on Site and as indicated on the Planting Plans (Appendix A); this could be provided using seed mix EG1 by Emorsgate Seeds, or a similar seed mix from other suppliers. Seed can be sown either by hand or machine from 1 March to 31 May, or 1 September to 31 October. A sowing rate of 5-10g/m² is recommended for the EG1 seed mix. At least 80% of grassland should meet the following criteria:

- Within 1m of any point, there should be at least 8 different herbaceous species;
- Within 1m of any point there should be no more than 1 of the following species and a maximum of 5% coverage: common nettle, dock species (excluding common sorrel), creeping thistle, spear thistle, willow herb species and bramble;



- There should be no more than 10% bare ground; and
- Grassland areas should exhibit a range of heights between 4cm and 40cm.

Native Matrix Planting (highway verge hedgerows)

The line of the hedgerows contains a greater depth of soils material to aid the establishment of the hedgerows and promote root growth, compared to the grassland areas.

The proposed hedgerow enhancements will mimic species found in existing hedgerows including Hawthorn, Blackthorn, Field Maple, Holly and Hazel. The species included in the proposed new hedgerows, and in proposed hedgerow enhancement planting would reflect local species, and as outlined in the Plant Schedule in Appendix A.

Proposed hedgerow trees would be planted at gaps in existing vegetation to help to maintain an even distribution of tree planting along the hedgerow.

3.6 Ground Preparation

Prior to commencement of any softworks, all areas would be suitably cleared and prepared for planting / seeding. All proposed planting/seeding areas shall be cleared of all unwanted rubbish, and any debris and unwanted vegetation/weeds removed prior to planting. The location of any existing services within the site will also be established before clearance works and planting begins.

Vegetation requiring removal should be cleared outside the bird nesting season (which runs from March to early September inclusive) and checked for the presence of breeding birds prior to work commencing. Where the former is not possible, a bird nesting survey should be carried out prior to the commencement of works by a suitably qualified ecologist.

5.35 Proposed trees and hedgerow plants would be set into existing ground which would be cultivated according to the below recommendations.

3.7 Cultivation and De-compaction

The proposed methods of cultivation will be reviewed prior to the works commencing, in recognition of the need for a flexible approach, in view of changes over time in the design and availability of machinery and site conditions.

All areas of tree and scrub planting (including hedgerows) will be assessed for compaction prior to planting and if necessary and practical, de-compaction will be carried out to a depth of 500mm, with soils loosened, aerated and broken up, when ground conditions are reasonably dry.

All planting pits would be excavated on the same day of planting within the planting season (November or February/March, avoiding the winter frosts). Container stock will be planted with a pit size of nominally 300mm diameter by 300mm depth, or as necessary to accommodate their root systems. Trees will be pit planted with a slightly raised bottom to the pits and scarified sides, with a pit size to allow 300mm in any direction and 450mm depth, from the rootball.

3.8 Soils for Planting Areas

The restoration of the Site consists of varying depths of topsoil subject to the type of planting proposed. Final soil profiles will comprise:

- Species-rich calcareous grassland and wildflower mix: 150mm inert, impoverished free draining substrate;



- Scrub areas: 600mm thick layer of free draining neutral to acid substrate with a moderate organic content; and
- Tree planting areas: 1.5m thick layer of soils with a moderate organic content.

All soil handling operations will follow the guidelines set out in BS:3882: Specification for topsoil and requirements for use to make the best use of the available soil resource and minimise compaction. Soils will not be removed from below trees and root protection areas (RPA) to be retained.

Before spreading soil over planting areas, stones larger than 50mm as well as other debris will be removed from the ground and soil immediately. All soil will then be graded to smooth flowing contours to achieve the specified levels with local variations to encourage a diversity of conditions for a wide range of species. Any soil clods shall be reduced, and any large stones brought to the surface by cultivation activities shall be removed.

When working within the Ancient Woodland, all soil handling operations should ensure no/minimal disturbance/displacement to soils within the Ancient Woodland. All works should be undertaken under the supervision of a suitably qualified ecologist/soil scientist to ensure that soils within the Ancient Woodland are protected.

3.9 Ecological Features

As outlined in the CMMP, bat roosting features should be set up in the woodland adjacent to the bridge. 5no. bat boxes should be installed on suitable trees in the area, as indicated on the Planting Plans (Appendix A).

Any trees cut down from vegetation clearance would be left in situ to make suitable habitat for reptile hibernacula. Vegetation would be left where it would be undisturbed and get adequate sun exposure for basking reptiles. This would also provide suitable dead wood habitat for invertebrates in the area. One additional hibernacula is proposed in the woodland area to the north, as indicated on the Planting Plans (Appendix A).



4.0 Specific Management and Maintenance Operations: Post Construction Establishment Phase (Years 1-5)

4.1 Existing Landscape Habitats and Ecological Features

Prescriptions for existing habitats such as Semi-natural broadleaved woodland (priority habitat), Bracken, Scattered broad-leaved trees, Scattered scrub/tall ruderal and Grassland have been detailed within the CMMP.

The LEMP outlines details for the creation (see Section 3) and management and maintenance operations of proposed habitats, as below.

4.2 Proposed Trees

New trees will be planted at the earliest opportunity once construction activities/land reprofiling are completed, within the winter window of November to March when roots are dormant and new saplings will therefore have the best chance of successful establishment. Further planting will follow the same specifications described above in Section 3.

All new tree planting will be monitored annually between April and September post construction for the first five years to check on establishment and any replanting needs, and the following actions taken:

- Visual inspection to be undertaken annually in July, and any ruderal plants or tall grasses in/around tubes at this time will be cut back;
- Weeds will be removed within 0.5m of each plant. This will be carried out 4 times a year beginning 1 April until 1 September. Woodland ground flora will be allowed to grow up to 1m from wood edges.
- Tree stakes, ties and rabbit guards will be checked annually and be replaced as necessary and removed once trees are established;
- Plants will be maintained upright at all times; and
- Any dead, dying, missing or defective plants will be replaced the following winter.

Self-sown trees such as sycamore or ash will be removed. Live ash trees will not be moved to prevent the spread of Ash Dieback disease. Leaf and shoot material from log will be brushed from vehicles before they leave the site will help prevent unintentional spread.

Mature trees will not be pruned.

Hazel coppicing is not specified as part of this LEMP, but would also be permissible if required; regeneration of hazel coppice can lead to good hazelnut crops which are beneficial for dormouse. Any cutting will only take place in January or February for the following reasons:

- to allow flowers, fruits and nuts to fully develop before cutting, thus providing foraging for many insects, birds, bats, and dormouse;
- to avoid bird mortality or injury during the bird nesting season (generally March – to mid-September); and
- to prevent possible mortality or injury to dormouse while they may be active or nesting in the canopy (during January and February, dormouse will be safely hibernating in leaf litter at ground level).
- Where cutting is necessary, some piles of cut brash and logs would be left at woodland edges on dry, raised ground. Such log piles and accumulations of brash and leaf litter would offer hibernacula/sheltering places for dormouse, reptiles, and



amphibians and boost local invertebrate biodiversity including greater stag beetle (which will also benefit dormouse, reptiles, birds and bats).

The requirement for watering should be assessed regularly during long, dry periods (typically during the summer months between April and September) to ensure that all areas of new planting are maintained in good health and vigour. During the establishment period watering requirements should be monitored in response to weather conditions.

Trees found to be dead or dying within the first five years post planting to be replaced on a like-for-like basis as soon as possible within the next available planting season. Plants would be monitored and replaced as a result of damage, on an annual basis to maintain plants at 95% of original numbers at the end of the five-year period.

All tree/shrub guards / shelters and stakes would be inspected and adjusted/replaced/removed as required until anchorage has been achieved. This will be done biannually. When growth has reached a point where girth of plant exceeds 6-8cm diameter, tubes shall be selectively removed. Adjustment or removal of any rabbit protection measures where they are no longer required will also be undertaken bi-annually. At approximately year 5 all guards / tubes and stakes would be removed from trees and disposed of at a suitable facility, if the planting is sufficiently established.

Trees will be checked annually and after major storms for necessary remedial works, with works undertaken as advised by a suitably qualified arboricultural consultant.

Following pruning operations, all significant arisings (cuttings), such as large branches, will be removed from the Site. Some of the arisings from pruning trees and hedgerows should be used to top-up the wood piles. Other arisings may be chipped on site subject to Client approval.

Litter and rubbish will be removed, together with self-sown trees.

Remove and dispose appropriately of any identified invasive species.

Arisings from tree works (including fallen leaves and branches) will be removed at every visit, and, where practical, be used to create dead wood piles within or adjacent to hedgerows or chipped to provide mulch for use in amenity planting areas. Alternatively, they will be removed from Site on every maintenance visit.

4.3 New Hedges/Hedgerows

The base of new hedgerows, and hedges, will be kept 95% weed-free with a combination of visits to manually remove weeds. Any litter will be cleared at the same time; assume 8 visits per year.

The requirement for watering should be assessed regularly during long, dry periods (typically during the summer months between April and September) to ensure that all areas of new planting are maintained in good health and vigour. During the establishment period watering requirements should be monitored in response to weather conditions.

Beyond the establishment period, an assessment of watering need should be carried out during dry periods, with particular note paid to planting areas that could be more susceptible to dry conditions, and to be aligned with the wider highway maintenance visits.

An annual inspection to replace dead/diseased plants will be undertaken at the end of each growing season for the first 5 years after planting, and pruning to promote healthy growth, where required.

Cutting should only take place between November and February (inclusive) for the following reasons:



- to allow flowers, fruits and nuts to fully develop before cutting, thus providing foraging for many insects, birds and bats, if they colonise from other hedges within 1.5km; and
- to avoid bird mortality or injury during the bird nesting season (generally March to August (inclusive)).

Standard trees within/adjacent to the hedgerow will be left uncut and managed in a similar way to standard trees as outlined above.

Adjustment or removal of any rabbit protection measures where they are no longer required will be undertaken bi-annually. At approximately year 5 all guards / tubes and stakes would be removed from trees and disposed of at a suitable facility, if the planting is sufficiently established.

Dead, dying, defective and missing shrubs will be replaced, with similar size and species, annually for the first five years following planting.

Plants will be maintained upright.

4.4 Proposed Areas of Scrub Planting

An annual condition, and health and safety, inspection will be undertaken to identify essential works and review growth and height of planting.

During the first few years of establishment, routine maintenance would include checking of stakes, ties and protective guards / shelters where required and undertaking any necessary replacements, as well as hand weeding and watering during dry periods. At approximately year 5 all guards / tubes and stakes would be removed from trees and disposed of at a suitable facility, if the planting is sufficiently established.

As scrub matures, the requirement for additional tasks such as pruning would increase to ensure plants are maintained in good health and vigour with a neat appearance. When plants reach a height of approximately 1.5m guards / shelters may be removed to allow plants to spread and merge naturally.

A technique of rotational cutting will increase the age range within the scrub area and therefore improve the biodiversity value to help create a mosaic of scrub stands of varying age and size. Aim to cut during winter and use a rotational cutting policy to leave as many berries as possible to provide food for wildlife.

Following pruning operations, all significant arisings (cuttings), such as large branches, will be removed from the Site. Some of the arisings from pruning trees and hedgerows should be used to top-up the wood piles.

Litter and rubbish will be removed, together with self-sown trees.

Remove and dispose appropriately of any identified invasive species.

Dead, dying, defective and missing shrubs will be replaced, with similar size and species, annually for the first five years following planting.

4.5 Meadow Grassland

Mow newly sown meadows regularly throughout the first year of establishment to a height of 40-60mm, removing cuttings. This will reduce the number of coarse grasses and pernicious weeds and maintain the balance between faster growing grasses and slower developing wildflowers as the sward naturally establishes. Leave the 'hay' to dry and shed seed for 1-7 days then remove from Site, no more than 10 working days after cutting. This will also control the first flush of annual weeds.

Upon establishment, existing livestock/sheep grazing regime to be followed.



All grass areas will be reviewed annually for wear and tear, areas of settlement, and damage by wheel ruts. Any damaged areas will be made good by oversowing of a grass seed mix (to suit type of grassland) in March/April or September/October.

4.6 Ecological Features

Maintenance operations associated with the bat boxes and reptile habitat (hibernacula) provided would be in accordance with prescriptions included in the CMMP.

4.7 Hard Surfaces - Footpaths/Paving

Maintenance to be undertaken to ensure paths and hard surfaces remain clean, tidy and safe for use, as follows:

- All hard surfaces within the landscape areas should be maintained at every visit to the Site in a clean and tidy appearance, and this will include a general sweep and occasional spray of surfaces;
- Paved areas will be checked annually for wear and tear. Any areas of settlement or damage will be made good in accordance with current UK and EU safety standards;
- Paved areas will be kept free of litter, weeds, grass cuttings, and general debris.

4.8 Health and Safety Audit

A health and safety audit will be carried annually and a written record will be maintained. Any deficiencies will be rectified as soon as possible.



5.0 Long Term Management Goals and Management Operations Year 6-15

5.1 Long term Management Goals

The overall objective for the Proposed Development is to retain, manage and enhance existing vegetation to form a framework for the landform modifications and restoration works and ensure landscape character, biodiversity and amenity value is maintained within the Site and visually assimilated into its surroundings.

In the longer term, maintenance operations within the Site would be adapted to reflect the increasing maturity of planting and habitats and visual inspections would be carried out once per year in late September. Annual visual inspections would be required in order that operations can be adapted to respond to the needs of planting as it becomes more established and also to respond to unpredictable events, such as extreme weather, which may require additional, specific actions.

The management guidelines established in the first five years, would be followed, with variations as required, to suit the conditions, maturity, and establishment of the proposed planting. Therefore, during longer term, management considerations followed to be aligned with existing regimes being followed by Rhondda Cynon Taff BC in the wider area around the development.

5.2 Standard Management Considerations

Operations such as pruning and thinning should be carried out during the winter months as plants increase in size to keep footpaths and roadways clear of overhanging vegetation. All management operations requiring vegetation removal should have regard to the bird nesting season which runs from March to late August inclusive and any potential disturbance to bird habitats should be avoided during this time.

In all planted / seeded areas, weed control, including ring weeding and hand pulling of seedlings and monitoring for invasive non-native species should be carried out annually. In the longer term, maintenance to ensure that regeneration and creation of habitats created would be allowed to assimilate into the wider landscape. Maintenance visits would be aligned with existing regimes being followed by Rhondda Cynon Taff BC in the wider area around the development.

Under the provisions of the Weeds Act 1959, it is the responsibility of all occupiers of land to control injurious weeds, so that they do not spread. Weeds should be controlled by the appropriate application of herbicides by a certified competent person, according to manufacturer's instructions and in accordance with the Environment Agency Guidelines.

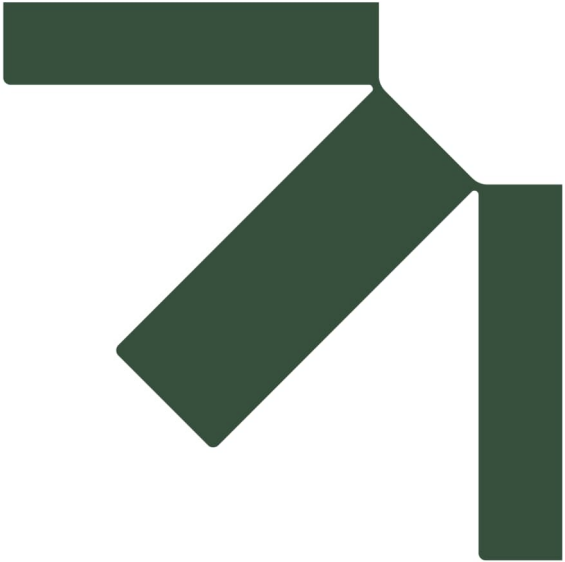
The requirement for watering typically reduces as plants become established.

All management operations requiring vegetation removal should have regard to the bird nesting season (running from March to late August inclusive) and any potential disturbance to bird habitats should be avoided during this time.

Disturbance of any developing habitats would be kept to a minimum, by avoiding the use of large vehicles or machinery for the felling. Felling of trees or scrub shall take place between September and early March to avoid the breeding bird season.

Annual visual inspections would be required in order that operations can be adapted to respond to the needs of planting as it becomes more established and also to respond to unpredictable events, such as extreme weather, which may require additional, specific actions.





Appendix A Planting Plans and Plant Schedule

River Taff Feeder Bridge, Abercynon

Landscape and Ecological Management Plan (LEMP)

BakerHicks on behalf of Rhondda Cynon Taff Borough Council

SLR Project No.: 402.V63755.00001

11 April 2024

Plant Schedule					
Trees					
Number	Abbreviation	Species	Girth	Height	Specification
6	Al ol	Alnus glutinosa	10-12cm	300-350cm	Selected Standard: 4 brks: 2x: B: Clear Stem min. 200cm
5	Po ni	Populus nigra	10-12cm	300-350cm	Selected Standard: 4 brks: 2x: B: Clear Stem 175-200cm
3	Sa al	Salix alba	12-14cm	350-425cm	Heavy Standard: 5 brks: 3x: B: Clear Stem 175-200cm
2	Ma sy	Malus sylvestris	6-8cm	150-200cm	Light Standard: 3 brks: 2x: B: Clear Stem 150-175cm
5	Ac ca	Acer campestre	10-12cm	300-350cm	Selected Standard: 4 brks: 2x: B: Clear Stem min. 200cm
3	Pr av	Prunus avium	18-10cm	250-300cm	Standard: 3 brks: 2x: B: Clear Stem 175-200cm

Edge Mix - Scrub					
Number	Abbreviation	Species	Height	Specification	Density/Percentage
220	As sc	Asplenium scolopendrium		Full Pot: C	2/m² 10%
220	Bl sp	Blechnum spicant		Full Pot: C	2/m² 10%
220	Co av	Coniulus avelana	100-125cm	Branched: 5 brks: RB	2/m² 10%
220	Or al	Oryopteris affinis		Full Pot: C	2/m² 10%
110	Ma sy	Malus sylvestris	175-200cm	Feathered: 5 brks: 2x: B	2/m² 5%
220	Pr sp	Prunus spinosa	80-80cm	1+1: Transplant - seed raised: Branched: 2 brks: B	2/m² 10%
110	Sa au	Salix auria	60-80cm	Bushy: B	2/m² 5%
220	Sa ci	Salix cinerea	60-80cm	0/1: Cutting: Branched: 2 brks: B	2/m² 10%
110	Sa my	Salix myrsinifolia	100-125cm	0/2: Cutting: B	2/m² 5%
220	Sa pe	Salix pentandra	100-125cm	0/2: Cutting: B	2/m² 10%
110	Sa ph	Salix phylicifolia	100-125cm	0/2: Cutting: B	2/m² 5%
220	Vi op	Viburnum opulus	40-60cm	1+1: Transplant - seed raised: Branched: 2 brks: B	2/m² 10%

Matrix Mix - Native					
Number	Abbreviation	Species	Height	Specification	Density/Percentage
102	Ac ca	Acer campestre	40-60cm	1+1: Transplant - seed raised: B	0.45Cr110%
152	Co av	Coniulus avelana	40-60cm	1+1: Transplant - seed raised: Branched: 2 brks: B	0.45Cr115%
303	Cr mo	Crataegus monogyna	40-60cm	1+1: Transplant - seed raised: B	0.45Cr150%
52	Fa sy	Fagus sylvatica	100-125cm	1+2: Transplant - seed raised: B	0.45Cr15%
52	Il aq	Ilex aquifolium	30-40cm	Bushy: 2 brks: C	0.45Cr15%
62	Li vu	Ligustrum vulgare	40-60cm	0/1: Cutting: Branched: 2 brks: B	0.45Cr15%
102	Pr sp	Prunus spinosa	40-60cm	1+1: Transplant - seed raised: Branched: 2 brks: B	0.45Cr110%
52	Ro ca	Rosa canina	40-60cm	Branched: 3 brks: C	0.45Cr15%
152	Vi op	Viburnum opulus	40-60cm	1+1: Transplant - seed raised: Branched: 2 brks: B	0.45Cr115%

Traced water main at 4.0m depth below existing ground level. Refer to survey carried out by Alpine Land Survey Ltd. for further details.

OPPORTUNITY FOR INFILLING GAPS IN EXISTING HEDGE WITH NATIVE MATRIX MIX

OPPORTUNITY FOR TREE PLANTING AS REPLACEMENT FOR TREES LOST. TREES LOCATED OUTSIDE ANCIENT WOODLAND BOUNDARY OFFSETS FROM SERVICE LINES TO BE MAINTAINED. TO BE DETERMINED ON SITE.

INFILLING AFTER COMPLETION OF CONSTRUCTION WORKS

Approximate extents of ancient woodlands
DISTURBED AREA TO BE REINSTATED WITH MEADOW GRASS MIX (EG1) AFTER REMOVAL OF CONSTRUCTION COMPOUND. EXTENT TO BE DETERMINED ON SITE. OPPORTUNITY TO INTRODUCE WILDFLOWER GRASS MIX (TO BE AGREED WITH ECOLOGIST)

Notes:

Legend:

- EXISTING TREES / VEGETATION
- EXISTING VEGETATION TO BE REMOVED (NOTE 1)
- EXISTING WOODLAND / VEGETATION WITH RPA (NOTE 1)
- TREE PROTECTION FENCE (NOTE 1)
- ANCIENT WOODLAND EXTENT
- PROPOSED TREES:
- AREA LEFT FOR NATURAL REGENERATION OF HABITAT NO PLANTING TO BE UNDERTAKEN
- AREA LEFT FOR NATURAL REGENERATION OF HABITAT. SOILS WITHIN ANCIENT WOODLAND TO BE RETAINED AND PROTECTED. NO PLANTING TO BE UNDERTAKEN
- NATIVE MATRIX MIX
- SCRUB PLANTING
- MEADOW GRASS MIX: EG1
- OVERHEAD ELECTRICITY LINE EASEMENT
- SEWER LINE EASEMENT 12M WIDE (6M EITHER SIDE)
- HIBERNACULA REPTILE REFUGE AREA (NOTE 3)
- BAT BOXES (NOTE 3)

NOTES:

- FOR TREE SURVEY INFORMATION / VEGETATION TO BE REMOVED AND RPA'S TAKEN FROM TEMPLE PLANS TPP1 & TPP2 V2 18/03/2024
- FOR ACCESS TRACK ALIGNMENT INFORMATION TAKEN FROM BAKER HICKS PLANS 30003237-BHK-00-XX-SK-C-SK001 & SK002 REV P02
- REFER TO ECOLOGY PROPOSALS FOR DETAILS.
- FOR PLANT SCHEDULE PLEASE REFER TO DRAWING 402.63755.00001.29.004

KEY DIAGRAM

SHEET 01
004

SHEET 02
005

3	MINOR AMENDMENTS	09/04/24	IG	CK	CK
Rev	Amendments	Date	By	Chk	Auth



Drawing Status & Suitability Code

Client
BakerHicks

Project
RIVER TAFF,
FEEDER BRIDGE

Drawing Title
LANDSCAPE PLANTING PLANS,
SHEET 01

Scale 1:250 @ A1		SLR Project No. 402.63755.00001	
Designed CK	Drawn TB	Checked CK	Authorised CK
Date 03/04/2024	Date 03/04/2024	Date 03/04/2024	Date 03/04/2024
Drawing Number 402.63755.00001.29.004			Rev 3

PLANT SCHEDULE

Schedule **402.63755.00001-RIVER TAFF**
name: **FEEDER BRIDGE**



Location: River Taff, Abercynon

Trees

Abbrev.	Botanical Name	Common Name	Girth/Dia. cm	Height cm	Root Zone	Specification	
Ac ca	Acer campestre	Common Maple	10-12	300-350	B	2x; SS; clear stem min. 200cm; 4 brks	Counted
Al gl	Alnus glutinosa	Common Alder	10-12	300-350	B	2x; SS; clear stem min. 200cm; 4 brks	Counted
Ma sy	Malus sylvestris	Common Crab Apple	6-8	250-300	B	2x; LS; clear stem 150-175cm; 3 brks	Counted
Po ni	Populus nigra	Black Poplar	10-12	300-350	B	2x; SS; clear stem 175-200cm; 4 brks	Counted
Pr av	Prunus avium	Wild Cherry	8-10	250-300	B	2x; Std; clear stem 175-200cm; 3 brks	Counted
Sa al	Salix alba	White Willow	12-14	350-425	B	3x; HS; clear stem 175-200cm; 5 brks	Counted

Edge Mix: Scrub

Abbrev.	Botanical Name	Common Name	Height cm	Root Zone	Specification	Mix %	per m ²
As sc	Asplenium scolopendrium	Hart's Tongue Fern		1.5-2L	Full pot	10.00	2
Bl sp	Blechnum spicant	Hard Fern		1.5-2L	Full pot	10.00	2



Co av	Corylus avellana	Common Hazel	100-125	RB	Branched; 5 brks	10.00	2
Dr af	Dryopteris affinis	Golden Scale Fern		2L	Full pot	10.00	2
Ma sy	Malus sylvestris	Common Crab Apple	175-200	B	2x; Feathered; 5 brks	5.00	2
Pr sp	Prunus spinosa	Blackthorn	60-80	B	1+1; Transplant - seed raised; branched; 2 brks	10.00	2
Sa au	Salix aurita	Eared Willow	60-90	B	Bushy	5.00	2
Sa ci	Salix cinerea	Grey Willow	60-80	B	0/1; Cutting; branched; 2 brks	10.00	2
Sa my	Salix myrsinifolia	Dark-leaved Willow	100-125	B	0/2; Cutting	5.00	2
Sa pe	Salix pentandra	Bay Willow	100-125	B	0/2; Cutting	10.00	2
Sa ph	Salix phylicifolia	Tea-leaved Willow	100-125	B	0/2; Cutting	5.00	2
Vi op	Viburnum opulus	Guelder Rose	40-60	B	1+1; Transplant - seed raised; branched; 2 brks	10.00	2

Matrix Mix - Native

Abbrev.	Botanical Name	Common Name	Height c m	Root Zone	Specification	Mix %	m Ctrs
Ac ca	Acer campestre	Common Maple	40-60	B	1+1; Transplant - seed raised	10.00	0.45
Co av	Corylus avellana	Common Hazel	40-60	B	1+1; Transplant - seed raised; branched; 2 brks	15.00	0.45
Cr mo	Crataegus monogyna	Common Hawthorn	40-60	B	1+1; Transplant - seed raised	30.00	0.45



Fa sy	Fagus sylvatica	Common Beech	100-125	B	1+2; Transplant - seed raised	5.00	0.45
Il aq	Ilex aquifolium	Common Holly	30-40	2L	Bushy; 2 brks	5.00	0.45
Li vu	Ligustrum vulgare	Common Privet	40-60	B	0/1; Cutting; branched; 2 brks	5.00	0.45
Pr sp	Prunus spinosa	Blackthorn	40-60	B	1+1; Transplant - seed raised; branched; 2 brks	10.00	0.45
Ro ca	Rosa canina	Dog Rose	40-60	2L	Branched; 3 brks	5.00	0.45
Vi op	Viburnum opulus	Guelder Rose	40-60	B	1+1; Transplant - seed raised; branched; 2 brks	15.00	0.45

KEY:

B = Bare-rooted and bagged

brk = Minimum number of breaks or shoots

L = Container size in litres

RB = Root-balled

1+0 = 1 year seedling not transplanted

1+1 = 2 year seedling transplanted after the first year

1+2 = 3 year seedling transplanted after the first year

0/1 = 1 year cutting not transplanted

0/2 = 2 year cutting not transplanted

2x = Number of times transplanted e.g. twice

LS = Light Standard

Std = Standard

SS = Selected Standard

HS = Heavy Standard





Appendix B Tree Constraints Plans and Tree Protection Plans

River Taff Feeder Bridge, Abercynon

Landscape and Ecological Management Plan (LEMP)

BakerHicks on behalf of Rhondda Cynon Taff Borough Council

SLR Project No.: 402.V63755.00001

11 April 2024

Job title

Feeder Pipe Bridge

Job no. 7028

Client

Baker Hicks

Map title

Tree Constraints Plan

Section

1 of 2

Scale
(at A2)

1:500

Date of survey

30/11/2023

Surveyor

Matthew Wilcox

Drawn

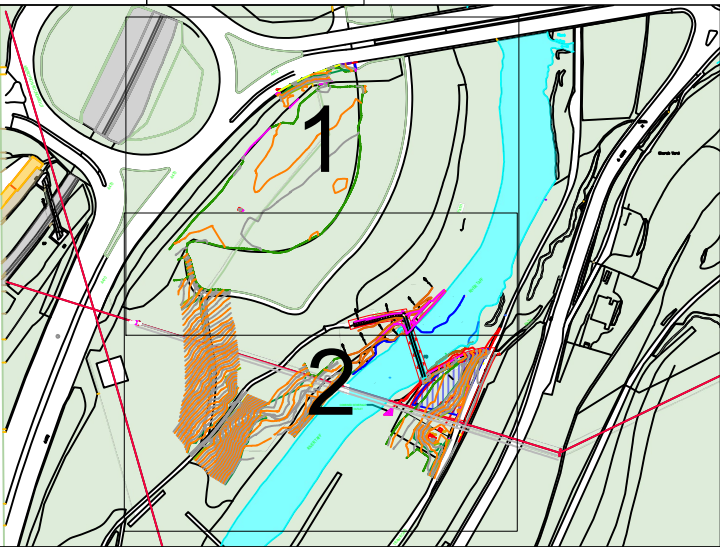
MW

Approved

JW

Date

03/01/2024



- Legend
- Crown spread of category A - Trees with high quality and value

Crown spread of category B - Trees with moderate quality and value

Crown spread of category C - Trees with low quality and value

Crown spread of category U - Trees of poor quality

RPA

Root Protection Area (RPA) of Category A Trees

RPA

Root Protection Area (RPA) of Category B Trees

RPA

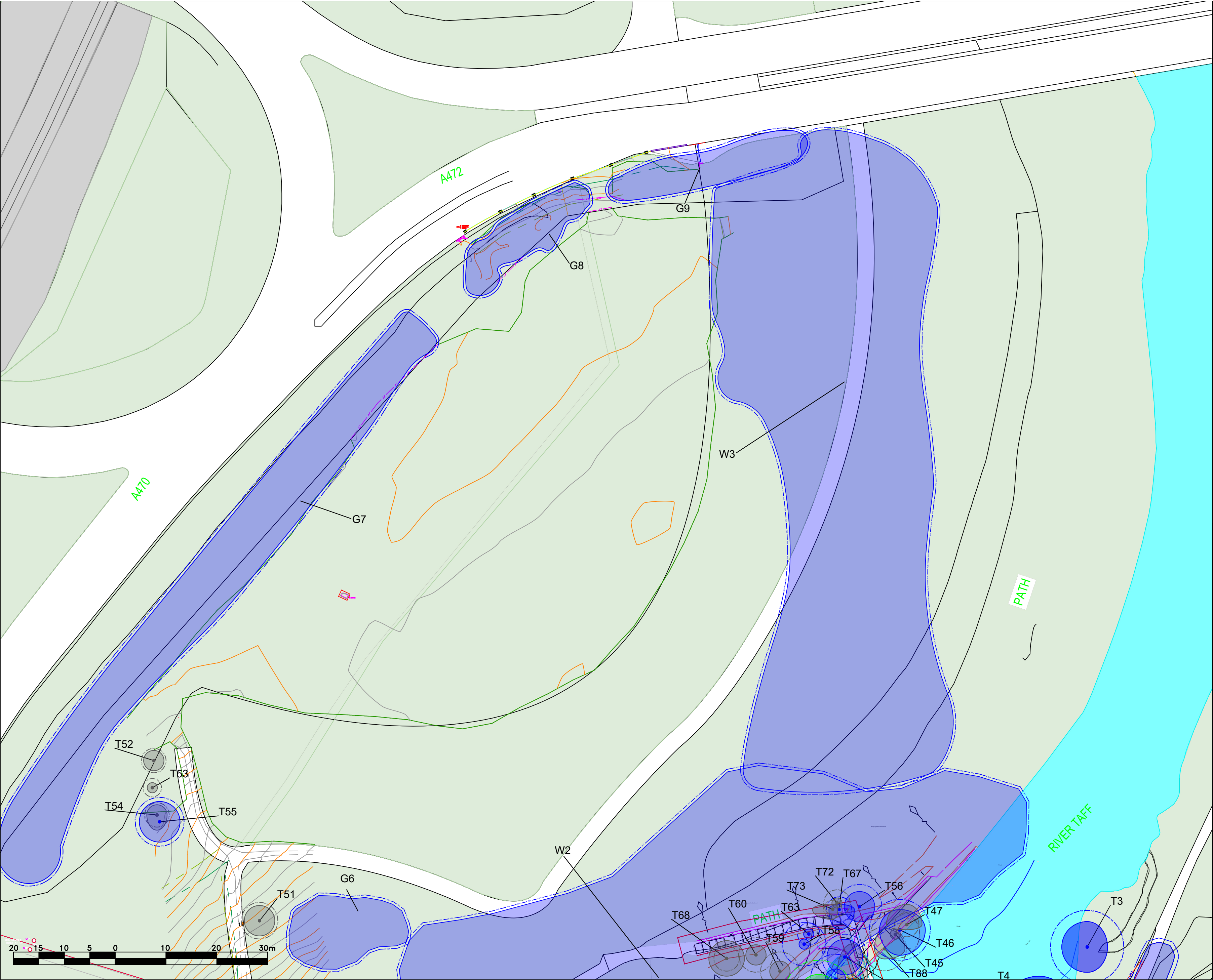
Root Protection Area (RPA) of Category C Trees

RPA

Root Protection Area (RPA) of Category U Trees



This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report



Job title
Feeder Pipe Bridge
Job no. 7028

Client
Baker Hicks

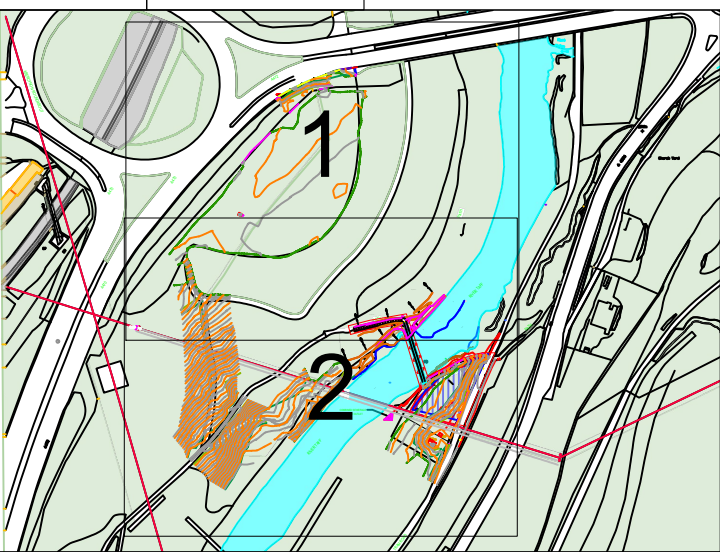
Map title
Tree Constraints Plan

Section
1 of 2
Scale
(at A2)
1:500

Date of survey
30/11/2023

Surveyor
Matthew Wilcox

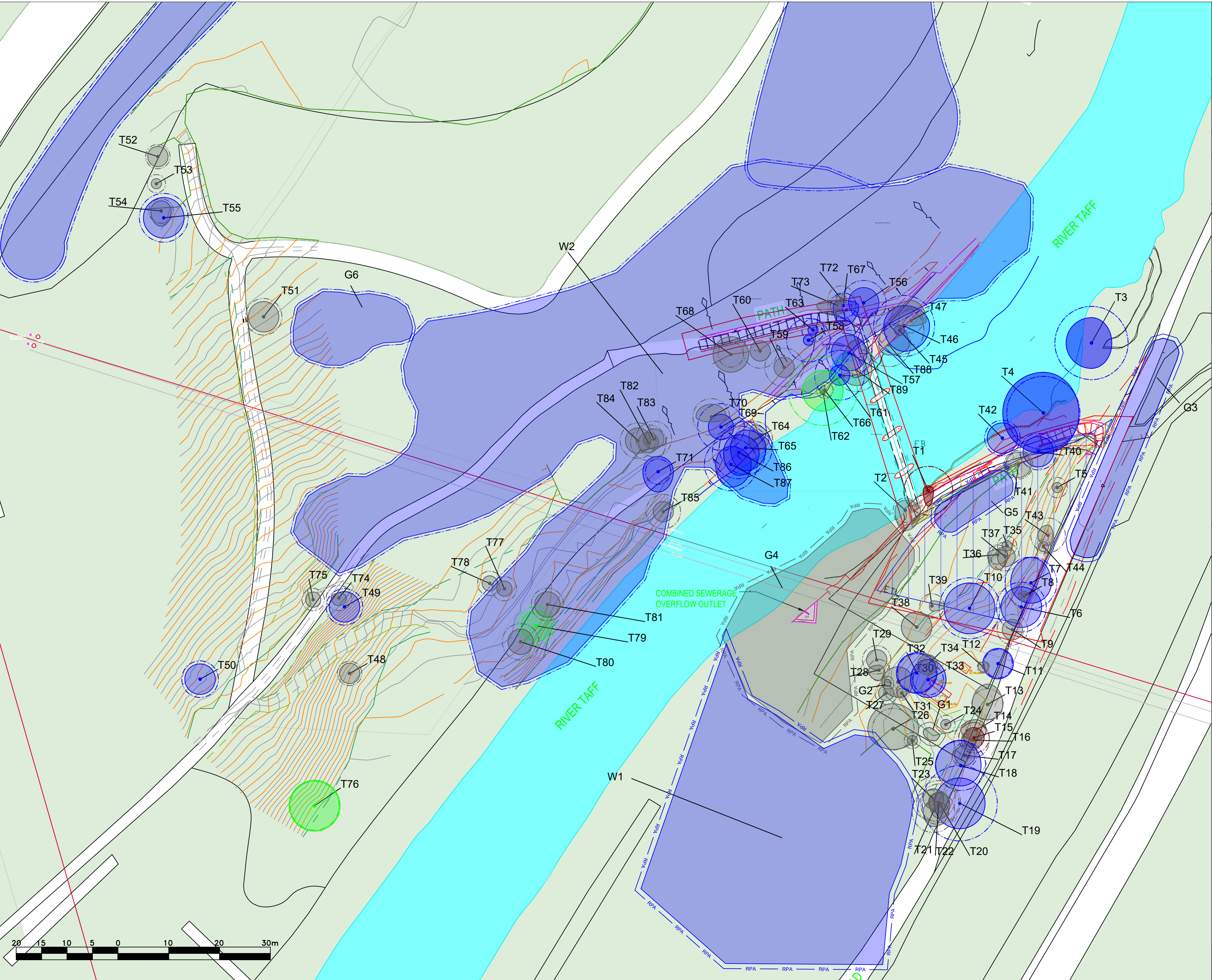
Drawn
MW
Approved
JW
Date
03/01/2024



Legend

- Crown spread of category A - Trees with high quality and value
- Crown spread of category B - Trees with moderate quality and value
- Crown spread of category C - Trees with low quality and value
- Crown spread of category U - Trees of poor quality
- RPA Root Protection Area (RPA) of Category A Trees
- RPA Root Protection Area (RPA) of Category B Trees
- RPA Root Protection Area (RPA) of Category C Trees
- RPA Root Protection Area (RPA) of Category U Trees

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report



Job title
Feeder Pipe Bridge

Job no. 7028

Client
Baker Hicks

Map title
Tree Protection Plan

Section
1 of 2

Scale
(at A2)
1:500

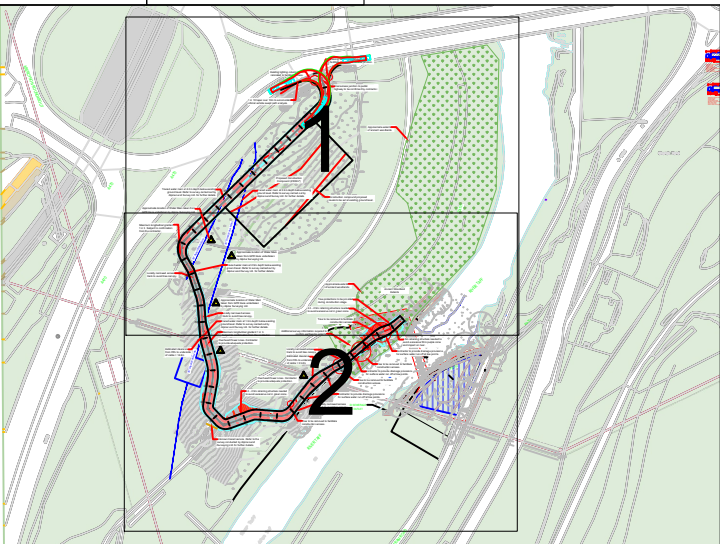
Date of survey
30/11/2023

Surveyor
Matthew Wilcox

Drawn
HB

Approved
JW

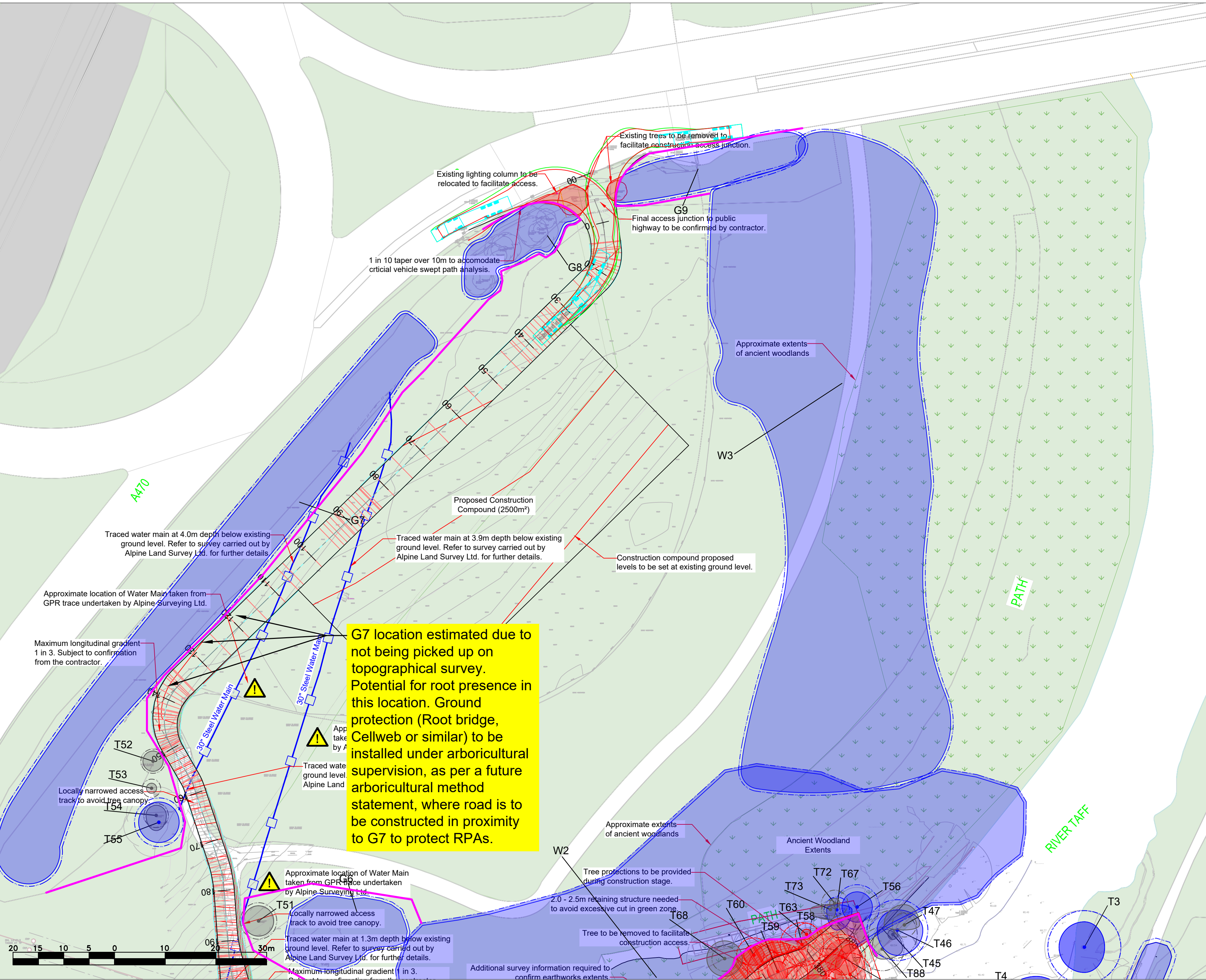
Date
06/03/2024



Legend

-  Crown spread of category A - Trees with high quality and value
-  Crown spread of category B - Trees with moderate quality and value
-  Crown spread of category C - Trees with low quality and value
-  Crown spread of category U - Trees of poor quality
-  RPA Root Protection Area (RPA) of Category A Trees
-  RPA Root Protection Area (RPA) of Category B Trees
-  RPA Root Protection Area (RPA) of Category C Trees
-  RPA Root Protection Area (RPA) of Category U Trees
-  Trees to be removed
-  BS5837:2012 Tree Protection Fencing

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report



Job title
Feeder Pipe Bridge
Job no. 7028

Client
Baker Hicks

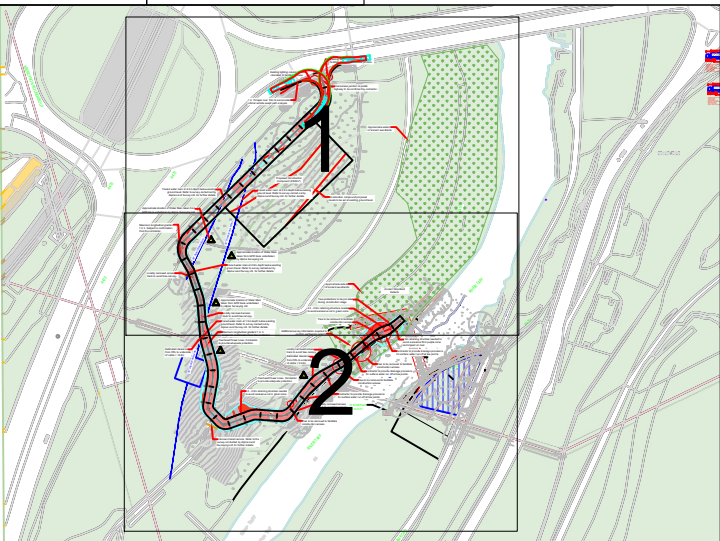
Map title
Tree Protection Plan

Section
1 of 2
Scale
(at A2)
1:500

Date of survey
30/11/2023

Surveyor
Matthew Wilcox

Drawn
HB
Approved
JW
Date
06/03/2024



Legend

- Crown spread of category A - Trees with high quality and value
- Crown spread of category B - Trees with moderate quality and value
- Crown spread of category C - Trees with low quality and value
- Crown spread of category U - Trees of poor quality
- RPA Root Protection Area (RPA) of Category A Trees
- RPA Root Protection Area (RPA) of Category B Trees
- RPA Root Protection Area (RPA) of Category C Trees
- RPA Root Protection Area (RPA) of Category U Trees
- Trees to be removed
- BS5837:2012 Tree Protection Fencing

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

Maximum longitudinal gradient 1 in 3. Subject to confirmation from the contractor.

Approximate location of Water Main taken from GPR trace undertaken by Alpine Surveying Ltd.

Traced water main at 2.5m depth below existing ground level. Refer to survey carried out by Alpine Land Survey Ltd. for further details.

Approximate location of Water Main taken from GPR trace undertaken by Alpine Surveying Ltd.

Locally narrowed access track to avoid tree canopy.
Traced water main at 1.3m depth below existing ground level. Refer to survey carried out by Alpine Land Survey Ltd. for further details.
Maximum longitudinal gradient 1 in 3. Subject to confirmation from the contractor.

Overhead Power Lines. Contractor to provide adequate protection.
Estimated clearance from FRL to underside of cable = 14.6m

Ground protection (Root bridge, Cellweb or similar) to be installed under direct arboricultural supervision, in compliance with an arboricultural method statement, throughout W2 to protect RPAs of retained trees.

Approximate extents of ancient woodlands

Ancient Woodland Extents

Tree protections to be provided during construction stage.

2.0 - 2.5m retaining structure needed to avoid excessive cut in green zone.

Tree to be removed to facilitate construction access.

Additional survey information required to confirm earthworks extents.

Locally narrowed access track to avoid tree canopy.
Estimated clearance from FRL to underside of cable = 33.2m

Overhead Power Lines. Contractor to provide adequate protection.

2.0 - 2.5m retaining structure needed to avoid excessive cut in green zone.

Locally narrowed access track to avoid tree canopy.

Tree to be removed to facilitate construction access.

Unknown traced service. Refer to the survey conducted by Alpine Land Surveying Ltd. for further details.

ED SEWERAGE OVER LOW OUTLET

W1

W2

W3

W4

W5

W6

W7

W8

W9

W10

W11

W12

W13

W14

W15

W16

W17

W18

W19

W20

W21

W22

W23

W24

W25

W26

W27

W28

W29

W30

W31

W32

W33

W34

W35

W36

W37

W38

W39

W40

W41

W42

W43

W44

W45

W46

W47

W48

W49

W50

W51

W52

W53

W54

W55

W56

W57

W58

W59

W60

W61

W62

W63

W64

W65

W66

W67

W68

W69

W70

W71

W72

W73

W74

W75

W76

W77

W78

W79

W80

W81

W82

W83

W84

W85

W86

W87

W88

W89

W90

W91

W92

W93

W94

W95

W96

W97

W98

W99

W100

W101

W102

W103

W104

W105

W106

W107

W108

W109

W110

W111

W112

W113

W114

W115

W116

W117

W118

W119

W120

W121

W122

W123

W124

W125

W126

W127

W128

W129

W130

W131

W132

W133

W134

W135

W136

W137

W138

W139

W140

W141

W142

W143

W144

W145

W146

W147

W148

W149

W150

W151

W152

W153

W154

W155

W156

W157

W158

W159

W160

W161

W162

W163

W164

W165

W166

W167

W168

W169

W170

W171

W172

W173

W174

W175

W176

W177

W178

W179

W180

W181

W182

W183

W184

W185

W186

W187

W188

W189

W190

W191

W192

W193

W194

W195

W196

W197

W198

W199

W200

W201

W202

W203

W204

W205

W206

W207

W208

W209

W210

W211

W212

W213

W214

W215

W216

W217

W218

W219

W220

W221

W222

W223

W224

W225

W226

W227

W228

W229

W230

W231

W232

W233

W234

W235

W236

W237

W238

W239

W240

W241

W242

W243

W244

W245

W246

W247

W248

W249

W250

W251

W252

W253

W254

W255

W256

W257

W258

W259

W260

W261

W262

W263

W264

W265

W266

W267

W268

W269

W270

W271

W272

W273

W274

W275

W276

W277

W278

W279

W280

W281

W282

W283

W284

W285

W286

W287



Making Sustainability Happen