

A465 River Clydach Bridge

INNS Management Plan

Alun Griffiths (Contractors) Ltd

61593

August 2026





A465 River Clydach Bridge

INNS Management Plan

Alun Griffiths (Contractors) Ltd

August 2026

TACP (UK) Ltd
4th Floor James William House
9 Museum Place
CARDIFF
CF10 3BD

Project Number: **61593**

Version: **P1**

Status: **FI**

Version	Status	Completed by	Checked by	Approved by	Date of version
P1	FI	MW	IB	TW	11/08/2026

This report will be deemed to be accepted by the client as final if no comments are received within two weeks of issue.

S0 – Work in progress

S1 – For coordination

S2 – For information

S3 – For review and comment

S4 – For approval

FI – Final

CONTENTS

1	Introduction	1
1.1	BACKGROUND	1
1.2	SITE LOCATION	1
1.3	DEFINITION OF INVASIVE NON-NATIVE SPECIES	1
1.4	MANAGEMENT PLAN CONTENT	1
2	Legislation and Guidance	3
2.1	GENERAL	3
2.2	OTHER RELEVANT GUIDANCE	3
2.3	LEGISLATION ON INVASIVE NON-NATIVE SPECIES (INNS)	3
3	Method	6
3.1	SURVEY DETAILS	6
3.2	WEATHER CONDITIONS	6
3.3	SURVEY PROCESS	6
3.4	LIMITATIONS	6
4	Results	7
4.1	OVERVIEW	7
5	Identification	8
5.1	JAPANESE KNOTWEED	8
5.2	WHY CONTROL JAPANESE KNOTWEED	9
6	Management Options	11
6.1	JAPANESE KNOTWEED MANAGEMENT	11
7	Management	17
7.2	GENERAL MANAGEMENT MEASURES	17
7.3	CONTAMINATION MANAGEMENT PROTOCOL	18
7.4	RISK ASSESSMENT	20
8	References	21
	Appendices	23

FIGURES

Figure 1: Identification guide to Japanese knotweed.	9
--	---

Tables

Table 1: Relevant Legislation for INNS Management.	3
Table 2: INNS present within the Site.	7
Table 3: Management options for Japanese Knotweed.	12
Table 4: Site Based Risk Assessment	20

List of Abbreviations

Abbreviation	Full Description
CIEEM	Chartered Institute of Ecology and Environmental Management
INNS	Invasive Non – Native Species
JK	Japanese knotweed
NRW	Natural Resources Wales
PEA	Preliminary Ecological Appraisal
UK	United Kingdom
WG	Welsh Government

1 INTRODUCTION

1.1 Background

- 1.1.1 Alun Griffiths (Contractors) Ltd have commissioned TACP (UK) Ltd (TACP) to prepare this invasive non-native species (INNS) management plan to support the proposed maintenance and strengthening works to the A465 River Clydach Underbridge (Hereafter referred to as 'the Site').
- 1.1.2 A preliminary ecological appraisal (PEA) was undertaken by TACP on 29th July 2026 consisting of a desk-based study and field survey to assess the habitats' value and identify ecological receptors and potential constraints and ecological opportunities associated with the proposed works. The survey was carried out following appropriate Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines (Guidelines for Preliminary Ecological Appraisal 2nd edition. CIEEM (2017)) and standard Phase 1 Habitat Survey protocol (JNCC, 2010).
- 1.1.3 The survey concluded that an invasive non-native species management plan is recommended. This should include an appropriate buffer zone potentially up to 7 metres supervised by a suitably qualified ecologist, cleaning procedures and detailing of the works within the contaminated areas. The plan should also address biosecurity measures to prevent the further spread of these species, establish disposal protocols for contaminated plant material in accordance with the Environmental Protection Act 1990, and set a schedule for ongoing monitoring and follow-up treatments over several years to ensure successful eradication.
- 1.1.4 This is a live document that will be updated according to further details of the construction programme and works to be undertaken.

1.2 Site Location

- 1.2.1 The Site comprises the bridge structure and habitats immediately surrounding the River Clydach. The works will be undertaken within and immediately adjacent to the bridge structure and include temporary working areas associated with the planned refurbishment and maintenance activities. The proposed works and Site location map is provided in Appendix A.

1.3 Definition of Invasive Non-Native Species

- 1.3.1 INNS are species introduced outside their natural geographic range, causing environmental, social, or economic harm, as defined by the Parliamentary Office of Science and Technology (The Parliamentary Office of Science and Technology, 2022)).

1.4 Management Plan Content

- 1.4.1 This management plan outlines:
- Relevant legislation, policies, and guidance related to the management of INNS.
 - Identification methods for critical species, Japanese knotweed (*Fallopia japonica*)
 - Results of TACP's Site assessment, highlighting affected areas.

- Evaluation of various management options.
- A comprehensive management plan.
- Monitoring protocols for effective long-term control

2 LEGISLATION AND GUIDANCE

2.1 General

2.1.1 Several regulations, acts, and orders form the legislative framework for the management of invasive non-native species in Wales and the wider UK. These primarily aim to prevent the introduction, spread, and improper disposal of invasive species. Table 1 provides a summary of the key legislation relevant to INNS impacting the Site.

2.2 Other relevant Guidance

2.2.1 Natural Resources Wales (NRW) and the Welsh Government (WG) have produced guidelines for controlling Japanese knotweed that all organisations must exercise vigilance and implement suitable control measures to impede their dissemination – they include:

- Welsh Government - Public information on invasive species in Wales: Japanese knotweed (Jones, Public information on invasive species in Wales: Japanese knotweed,2022).
- Natural Resources Wales – Japanese Knotweed: What you need to know (Wales, 2024).

2.3 Legislation on Invasive non-native species (INNS)

2.3.1 The legislation concerning INNS is governed by various regulations, acts, and orders, all of which aim to prevent the introduction and spread of invasive species. Table 1 summarises the principal United Kingdom (UK) legislation pertinent to INNS that applies to areas within or near the Site boundary.

Table 1: Relevant Legislation for INNS Management.

Framework	Relevant Policy	Specification
Wildlife and Countryside Act 1981 (as amended) (UK Government, 2022)	Section 14, Schedule 9	It is illegal to plant or otherwise cause invasive non-native species to grow/spread in the wild in the UK.
Anti-social Behaviour, Crime and Policing Act 2014 and Community Protection Notices (UK Government, 2023c)		Local councils and the police have the power to issue Community Protection Notices against “individuals who are acting unreasonably and who persistently or continually act in a way that has a detrimental effect on the quality of life of those in the locality” including for invasive non-native species. A notice could require an individual and or organisation to make reasonable efforts to make good the problems arising as a result of invasive non-native species within

Framework	Relevant Policy	Specification
		a specified period of time and/or a requirement to take reasonable steps to prevent future occurrence of the problem. Breach of any requirement of a Community Protection Notice, without reasonable excuse, would be a criminal offence
Environmental Protection Act 1990 (UK Government, 2023a)	Sections 33 and 34	If taken away from the Site of origin, invasive non-native species and associated material, e.g. soil, becomes Controlled Waste and must be disposed of at a landfill Site that is authorised to accept it. Invasive non-native species waste that is disposed of at a landfill Site must be accompanied by appropriate waste transfer documentation.
The Invasive Alien Species (Enforcement and Permitting) Order 2019 (UK Government, 2021)	Schedule 2, and Table 1 of Schedule 1	It is an offence to import, transport, purchase, sell, cultivate or otherwise cause to grow in the wild invasive non-native without a licence or permit. Schedule 2 contains the list of plants covered by the Order. Table 1 of Schedule 1 contains a list of provisions.
Regulation (EU) No 1143/2014 on Invasive Alien Species (IAS Regulations) (UK Government, 2020a)	(EU) No 1143/2014	Retained in UK law, It is an offence to import into, or transport within the EU. It is also an offence to purchase, sell, cultivate or otherwise cause to grow in the wild invasive non-native without a licence or permit.
Town and Country Planning Act 1990 (UK Government, 2023b)	Section 215 of the England and Wales Act	Although these Acts do not make specific reference to specific weeds, they provide local authorities with power to serve notices on owners or occupiers of land to control weeds that may be harming the amenity of the surrounding area and if the owners and occupiers fail to remedy the situation, they may be liable to a fine or have to repay the costs of action taken by the local authority to control the weeds.

Framework	Relevant Policy	Specification
The Environmental Protection (Duty of Care) Regulations 1991 (UK Government, 1991)		Japanese knotweed is classed as 'controlled waste' and as such must be disposed of safely at a licensed landfill Site according to the Environmental Protection Act (Duty of Care) Regulations 1991.
Control of Pesticides Regulations 1986 (UK Government, 1986)		All reasonable precautions shall be taken to protect the health of human beings, creatures and plants, safeguard the environment and in particular avoid the pollution of water, when treating invasive non-native. For application of pesticides in or near water, approval from NRW should be sought before use.
Common Law		There is provision within Common Law to take civil action against neighbouring landowners where the spread of INNS is considered to be a private or public nuisance.
Infrastructure Act 2015 (UK Government, 2018)	Schedule 9a	Environmental authorities may issue control orders under which landowners can be obligated to carry out species control operations for invasive non-native animal and plant species.

3 METHOD

3.1 Survey Details

- 3.1.1 TACP conducted the Preliminary Ecological Appraisal (PEA) on 29th July 2026. Charlotte Ingram (BSc), an experienced surveyor, conducted the survey during the optimal window for INNS (April - September) on behalf of TACP as part of the PEA.
- 3.1.2 A desk-based study was also undertaken as part of the PEA to review available historical and existing records of INNS within the Site and the surrounding area. This review considered records from relevant databases and previous surveys to identify any known or potential INNS constraints that could influence the design, construction, or operation of the Site.

3.2 Weather Conditions

- 3.2.1 The surveys were performed under clear and dry weather conditions, providing optimal visibility for accurately identifying invasive species.

3.3 Survey Process

- 3.3.1 The survey involved a Site walkover. The aim was to identify any INNS within the Site. The survey followed the established Chartered Institute of Ecology and Environmental Management (CIEEM) good practice guidelines (CIEEM, 2020).

3.4 Limitations

- 3.4.1 It is worth noting that while a PEA identified the presence of INNS within the Site, a dedicated INNS survey was not undertaken. As a result, the full extent, distribution and severity of INNS on the Site may differ from what has been recorded during the PEA.

4 RESULTS

4.1 Overview

- 4.1.1 During the preliminary ecological surveys, areas within the Site were identified containing INNS species Japanese knotweed (See Appendix B). Japanese knotweed is listed as Schedule 9 under the Wildlife and Countryside Act 1981. Table 2 below identifies the INNS species present within the Site.

Table 2: INNS present within the Site.

Common Name	Species Name
Japanese knotweed	Fallopia japonica

- 4.1.2 The survey results indicate the presence and extent of INNS observed on the Site. Two stands of Japanese knotweed were recorded within the Site at TN1 and TN2. (see Appendix C for site photos).

5 IDENTIFICATION

5.1 Japanese knotweed

Background

- 5.1.1 Japanese knotweed exhibits rapid proliferation through asexual reproduction, as its infertile flowers do not yield seeds. Even minute leaf or rhizome fragments have the potential to initiate new plant growth upon contact with the soil.

Identification

- 5.1.2 The growth cycle of Japanese knotweed commences in early spring, around March to April, initiating with the emergence of red or purple shoots. The plant is characterised by its large, heart-shaped green leaves and hollow, bamboo-like stems, which can reach heights of up to three meters. By late summer, the plant showcases creamy-white flower tassels. It forms dense clusters that undergo a colour transformation to red or orange before the stems perish during the winter season (see Figure 1).

Reproduction & Dissemination

- 5.1.3 Japanese knotweed primarily propagates through asexual reproduction, as its inflorescence does not produce seeds. Japanese knotweed can develop an extensive rhizome network even in confined spaces reaching depths of 3m and laterally reaching to 7m with the plants ability to regenerate from miniscule fragments of network upon contact with soil is noteworthy.
- 5.1.4 Contaminated material can be dispersed through direct physical contact including transportation via boots, machinery or other equipment. Additionally, wind and water are natural vectors for spreading rhizomes or stem fragments, sufficient to cultivate new infestations.



Figure 1: Identification guide to Japanese knotweed.

5.2 Why Control Japanese knotweed

Legal Responsibility

- 5.2.1 Landowners are legally responsible for controlling Japanese knotweed on their property and ensuring it does not spread to neighbouring land in accordance with Schedule 9 of the WCA. Failure to manage this invasive species can result in legal and financial consequences.

Ecological and Socioeconomic Impacts

5.2.2 Japanese knotweed is a highly invasive plant that spreads rapidly and aggressively, colonising roadsides, residential areas, recreational spaces, and derelict land. It weakens streams and riverbanks, leading to significant ecological and socioeconomic challenges. Key impacts include:

- **Reduced Habitat Availability and Quality:** Japanese knotweed outcompetes native plant species, reducing biodiversity among plants, invertebrates, and vertebrates. It also alters soil composition, negatively affecting ecosystem functions and services.
- **Habitat Alteration and Degradation:** The plant's dense growth directly impacts terrestrial and freshwater ecosystems, disrupting food webs and leading to habitat loss. These ecological changes can result in further socioeconomic challenges.
- **High Management Costs:** The financial burden of managing Japanese knotweed is substantial. In Wales alone, annual control efforts are estimated to cost over £8.8 million.
- **Impact on Property Valuation:** Japanese knotweed can significantly lower property values.
- **Soil Erosion and Embankment Instability:** Unlike native plants, Japanese knotweed has limited soil-binding capacity. Its shallow root system increases the risk of soil erosion and embankment collapse, mainly along riverbanks and transport infrastructure.
- **Access Restrictions:** Uncontrolled knotweed growth can render recreational areas, such as riverbanks and parks, inaccessible, impacting activities like fishing or hiking.
- **Litigation Risk:** Recent legal cases have demonstrated that failure to control Japanese knotweed can result in criminal and civil liability, with landowners facing potential legal action from neighbours or local authorities.

6 MANAGEMENT OPTIONS

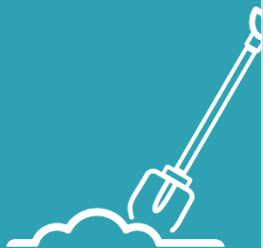
6.1 Japanese knotweed Management

- 6.1.1 Two stands of Japanese knotweed have been identified within the site however; it is located outside the proposed construction footprint and is not expected to be affected by the construction works. Given the limited duration of the construction programme, there is insufficient time for a conventional herbicide treatment programme (e.g. stem injection) to achieve effective control prior to commencement of works.
- 6.1.2 The preferred management approach is therefore avoidance, with the Japanese knotweed area clearly demarcated on site plans and protected by an exclusion zone throughout the construction period. Site personnel shall be briefed on the location of the infestation and measures required to prevent accidental disturbance or spread.
- 6.1.3 Should works within the exclusion zone become unavoidable, any disturbance of Japanese knotweed shall be undertaken in accordance with relevant legislation and guidance. Table 3 provides the site-specific management options for Japanese knotweed, outlining methods, timelines, and expected outcomes to ensure effective species control.

Table 3: Management options for Japanese Knotweed.

FORM	OPTIONS	METHOD	PRO ✓	CON ✗
Plant	Avoidance (JK1)	1. Japanese knotweed is located outside the proposed construction footprint and will not be disturbed by the planned works. 2. Prior to commencement of construction, the extent of the infestation and a suitable buffer/exclusion zone shall be clearly demarcated and protected using high-visibility fencing or barriers. 3. All site personnel and contractors shall be made aware of the location of the Japanese knotweed stand during site inductions and toolbox talks. No excavation, storage of materials, vehicle movements, or ground disturbance shall occur within the exclusion zone. 4. Should the scope of works change and encroachment into the exclusion zone become necessary, specialist advice shall be sought and an appropriate remediation strategy agreed before any disturbance takes place.	• Most cost-effective management option. • No disturbance of contaminated soils or rhizomes. • Eliminates the risk of spreading Japanese knotweed during construction.	• Accidental encroachment by personnel or machinery could result in spread of Japanese knotweed. • Knotweed remains present on site and may require future management.

FORM	OPTIONS	METHOD	PRO 	CON 
PLANT	EXCAVATE [JK2]	- Complete excavation may be requirement for earthworks/construction progressing through the Japanese knotweed's location. - JK2 involves the complete or partial excavation of the Japanese knotweed stand up to 3m deep and 7m in circumference. Excavation must remove all rhizomes, and the excavated soil must be treated as contaminated.	Quickly removes Japanese knotweed from the affected area	- Soil disturbed may stimulate growth - Depth of soil must be appropriate for its future use - Soil which holds treated Japanese knotweed must still be classified as controlled waste.
ARISINGS	LANDFILL [JK3]	- The arisings can be removed to a licenced landfill from the Site, but this should only be considered a last resort. This is a very costly option and increases the risk of potentially spreading Japanese knotweed outside of the Site boundary. - Great care must be taken to avoid losing material during transportation. All vehicles transporting the arisings from the Site must be covered to prevent the material from falling. All machines and vehicles used in excavating and transporting the arisings must be thoroughly cleaned	- Quickly removes Japanese knotweed from the area. - Works can progress quickly. - Fast and efficient.	- Relatively expensive. - Destined landfill must be licenced to accept contaminated waste. - Potential for Japanese knotweed to spread through haulage offsite.

FORM	OPTIONS	METHOD	PRO ✓	CON ✗
		before their use in or upon any other aspect of the work. - All contaminated waste must be disposed of at a suitably licensed or permitted disposal facility. The facility must be informed that living Japanese knotweed is within the material. - A persistent herbicide should not be used if this option is considered.		
SOIL	 BURY [JK4]	- This involves burying excavated contaminated soil on-site in a contaminated soil cell. The contaminated soil does not require herbicide treatment. - Excavation should follow a lateral excavation extent of up to 7m and a depth of 3m. The contaminated soil may then be buried on-site in a cell. The cell must be at least 5m deep, lined with sand, followed by a root protection barrier. Once all contaminated soil has been deposited, the cell should be wrapped in a root protection barrier to seal it and backfilled with 2m of uncontaminated soil. - It is advisable to apply a non-persistent herbicide at least once to reduce the	- Does not require a set-aside area for control. - Work can continue immediately after burial. - Quickly removes Japanese knotweed from the affected area. - Minimises requirement for herbicide treatment.	- Location of buried material must be recorded and information shared. - Possibility of a large area required for cell. - Considerable amount of contaminated soil must be removed, potentially leaving a deficit for other uses.

FORM	OPTIONS	METHOD	PRO 	CON 
		growth potential when buried. Persistent herbicides must not be used for this purpose. 4. The Japanese knotweed cell should not be incorporated in any areas subject to future development/disturbance or as part of a landscaping site. The pit may not be within 7m of a watercourse/waterbody. The pit dimensions should be accurately recorded, and the location and details should be passed on to NRW. 5. Contaminated material should not be buried within 7m of an adjacent landowner's Site.		
SOIL	LANDFILL [JK5]	1. The soil can be removed from the Site to a licenced landfill, but this should only be considered a last resort. It is a very costly option and increases the risk of potentially spreading Japanese knotweed outside of the Site boundary. 2. Great care must be taken to avoid losing material during transportation. All vehicles transporting the arisings from the Site must be covered to prevent the material from falling. All	- Quickly removes Japanese knotweed from the area. - Works can progress quickly. - Fast and efficient. - Reduces use of herbicide.	- Relatively expensive. - Destined landfill must be licenced to accept contaminated waste. - If herbicide is present, the disposal of waste incurs extra costs. - Potential for Japanese knotweed to spread

FORM	OPTIONS	METHOD	PRO 	CON 
		machines and vehicles used in excavating and transporting the soil must be thoroughly cleaned before their use or upon any other aspect of the work. 3. All contaminated waste must be disposed of at a suitably licensed or permitted disposal facility. The facility must be informed that living Japanese knotweed is within the material. 4. A persistent herbicide should not be used if this option is considered.		through haulage offsite.

7 MANAGEMENT

- 7.1.1 Area-specific management can be tailored on-site with a suitably experienced ecologist regarding construction activities, types of vehicles, and related INNS present.

7.2 General Management Measures

- 7.2.1 To effectively manage INNS on-Site, the following protocols must be implemented before the commencement of any works:
- 7.2.2 **Site Identification:** All areas containing INNS and potentially contaminated regions should be marked with high-visibility fencing and prominently displayed "Biosecurity Restricted Access" signs. These areas must maintain an appropriate buffer potentially up to 7m buffer zone. A suitably experienced ecologist or Site ECoW should carry this out.
- 7.2.3 **Soil Stockpiling:** Stockpiles of soil contaminated with INNS must be isolated from other materials and appropriately labelled. Any topsoil excavated affected by INNS must be isolated and not used in uncontaminated stockpiles or landscaping activities.
- 7.2.4 **Vehicle Restrictions:** Tracked vehicles should be avoided inside contaminated sites unless necessary. In such cases, implement all practicable measures to prevent contamination, including using dedicated haul routes lined with root-barrier membranes.
- 7.2.5 **Haul Route Protocols:** Vehicles exiting contaminated areas must adhere to designated haul routes protected by root-barrier membranes and undergo thorough pressure washing or dry brushing.
- 7.2.6 **Transport Vehicle Cleaning:** Vehicles transporting contaminated soils should be cleaned comprehensively in a designated wash-down area (hard standing or on a non-permeable membrane) before being repurposed for other tasks. If near a watercourse, dry brushing may be needed.
- 7.2.7 **Equipment and PPE:** All hand tools and equipment used within the contaminated areas, including boots and PPE, must be cleaned before entering another area.
- 7.2.8 **Waste Disposal:** Under INNS waste regulations, collected materials from vehicle cleaning must be contained and disposed of as controlled waste (UK Government, 2023a).
- 7.2.9 **Protection of Non-Excavated Areas:** Areas contaminated by INNS that will not be excavated should be safeguarded with root-barrier membranes. These membranes should be protected from vehicular damage by placing layers of sand and hardcore above and below.
- 7.2.10 **Topsoil Compliance:** In line with Section N.6.4.5 of British Standard (BS) 3882 Specification for Topsoil (The British Standards Institution, 2015), all topsoil brought onto the Site must be free from INNS and subject to inspection for contamination.
- 7.2.11 **Controlled Waste Classification:** INNS classified as 'controlled waste' under the Environmental Protection Act 1990 (UK Government, 2023a). Their disposal must comply with this classification.

- 7.2.12 **Training and Awareness:** All relevant personnel, including subcontractors, must be trained to recognise INNS and understand their responsibilities in managing these species.
- 7.2.13 **Management Oversight:** A suitably qualified project member shall be designated to oversee INNS management efforts.
- 7.2.14 **Risk Assessment Integration:** Areas containing Japanese knotweed should be managed according to site-specific constraints outlined in task-specific Risk Assessment Method Statements (RAMS).
- 7.2.15 **Co-occurrence Treatment Protocol:** Where Japanese knotweed and Himalayan balsam are present, treatment should follow the guidelines established for Japanese knotweed.
- 7.2.16 **Supervised Operations:** All vegetation clearance and excavation within contaminated areas must be conducted under the supervision of an experienced Environmental Clerk of Works (ECoW) or Ecologist.
- 7.2.17 **Documentation of Contaminated Areas:** All locations used for disposing of buried INNS, and contaminated materials should be accurately mapped for future reference.

7.3 Contamination Management Protocol

Delination of Contaminated Zones

- 7.3.1 Clearly mark contaminated areas with fencing and prominently displayed signage to prevent unauthorised access.

Excavation Procedures

- 7.3.2 Japanese Knotweed: Excavate soil to a depth of at least 3 meters, or deeper if rhizomes are detected, as they can extend beyond this depth and lead to regrowth.
- 7.3.3 Soil Management: All excavated soil must be contained within a designated containment area equipped with impermeable sheeting to prevent leachate or the spread of contaminants before removal from the Site.
- 7.3.4 Equipment Use: Use a tracked excavator fitted with a designated smooth bucket for excavating invasive species, ensuring no cross-contamination with surrounding soil.

Handling and Containment

- 7.3.5 Stockpile all arisings on impermeable sheeting within a bunded area to contain leachate and mitigate contamination risks to surrounding areas.
- 7.3.6 Clean all excavation equipment, vehicles, and personal protective equipment (PPE).
- 7.3.7 Implement a wheel wash facility at the Site exit, ensuring that vehicles are cleaned before departing to prevent the spread of invasive species to other locations.

Transportation

- 7.3.8 Engage only licensed waste carriers duly registered with Natural Resources Wales (NRW) to ensure compliance with waste management regulations.

- 7.3.9 All excavated material must be categorised as controlled waste because it contains INNS.
- 7.3.10 Securely cover all loads with heavy-duty sheeting to prevent materials from escaping during transit and safeguard against environmental contamination.

Disposal

- 7.3.11 Transport all contaminated material to a licensed landfill Site that holds a specific permit to accept INNS, ensuring compliance with local environmental regulations.
- 7.3.12 Notify the landfill operator in advance regarding the specific nature of the waste being delivered.

Biosecurity Measures

- 7.3.13 Develop and implement a comprehensive Site biosecurity protocol, which must be thoroughly briefed to all contractors and personnel involved in the project to ensure a collective understanding of practices and responsibilities.
- 7.3.14 Conduct toolbox talks before commencing any fieldwork, providing detailed instructions and emphasising the importance of adhering to biosecurity measures.
- 7.3.15 Establish a dedicated cleaning station equipped with suitable pressure washers to facilitate the effective cleaning of tools and equipment after each use, thereby preventing the spread of invasive species.
- 7.3.16 To protect unaffected areas from potential contamination, strict controls should be enforced on the movement of personnel and machinery into non-infested zones.

Monitoring and Aftercare

- 7.3.17 Conduct thorough inspections of the Site following the removal process to identify any instances of regrowth or remaining invasive species. Implement a structured monitoring schedule, including:
- Monthly inspections for the first 6 months post-removal to closely observe for any signs of resurgence.
 - Quarterly inspections for the subsequent 2 years to ensure long-term management and eradication efforts.
- 7.3.18 Treat any regrowth found during monitoring with a non-persistent glyphosate-based herbicide, applying it strictly as a targeted spot treatment to minimise environmental impact.
- 7.3.19 Prepare and submit monitoring reports to the local authority as required, documenting findings and actions taken to ensure ongoing compliance and effectiveness of the eradication efforts.

7.4 Risk Assessment

Table 4: Site Based Risk Assessment

Risk	Mitigation
Spread of material during haulage	Secure loads, use of covered vehicles, and limited transport distances.
Contamination of clean areas	Dedicated machinery, effective biosecurity.
Working near watercourses	Follow NRW's GPP5 and PRA 22 guidance, and use sediment barriers.

8 REFERENCES

- CIEEM (2020) Good Working Practices, Professional Conduct Series No.12, Version 3. Published 1 September 2020. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- Environment Agency. (2019). Retrieved from <https://www.gov.uk/government/publications/treatment-and-disposal-of-invasive-non-native-plants-rps-178/treatment-and-disposal-of-invasive-non-native-plants-rps-178>
- GB Non-Native Species Secretariat. (2014). *Japanese Knotweed*. Retrieved July 19, 2023, from <https://i0.wp.com/emsmastery.com/wp-content/uploads/2014/03/japanese-knotweed.jpg>
- Jones, D. (2020). *Public information on invasive species in Wales: Japanese knotweed*. Cardiff: Welsh Government. Retrieved July 14, 2023, from <https://www.gov.wales/sites/default/files/publications/2022-03/japanese-knotweed-public-information-controlling-invasive-species-wales.pdf>
- Natural Resources Wales. (2023, June 20). *Using herbicides*. Retrieved July 24, 2023, from Natural Resources Wales: <https://naturalresources.wales/permits-and-permissions/water-discharges-and-septic-tanks/using-herbicides/?lang=en>
- The British Standards Institution. (2015). *BS 3882:2015 Specification for topsoil*. London: BSI Standards Limited.
- The Parliamentary Office of Science and Technology. (2022, May). Invasive non-native species. *POSTNOTE(673)*. Retrieved July 14, 2023, from <https://researchbriefings.files.parliament.uk/documents/POST-PN-0673/POST-PN-0673.pdf>
- UK Government. (1986). *The Control of Pesticides Regulations 1986*. Retrieved September 12, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/uksi/1986/1510/made>
- UK Government. (1991). *The Environmental Protection (Duty of Care) Regulations 1991*. Retrieved September 12, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/uksi/1991/2839/made>
- UK Government. (2018, October 10). *Infrastructure Act 2015*. Retrieved September 12, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/ukpga/2015/7>
- UK Government. (2020a, December 31). *Regulation (EU) No 1143/2014 of the European Parliament and of the Council*. Retrieved September 12, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/eur/2014/1143>
- UK Government. (2020b, December 31). *The Invasive Non-native Species (Amendment etc.) (EU Exit) Regulations 2019*. Retrieved July 14, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/uksi/2019/223>
- UK Government. (2021, May 4). *The Invasive Alien Species (Enforcement and Permitting) Order 2019*. (UK Government) Retrieved July 14, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/uksi/2019/527>
- UK Government. (2022, October 1). *Wildlife and Countryside Act 1981*. Retrieved 07 14, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/ukpga/1981/69>

UK Government. (2023a, April 4). *Environmental Protection Act 1990*. Retrieved July 14, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/ukpga/1990/43>

UK Government. (2023b, August 4). *Town and Country Planning Act 1990*. Retrieved September 12, 2023, from legislation.gov.uk: <https://www.legislation.gov.uk/ukpga/1990/8>

UK Government. (2023c, August 17). *Anti-social Behaviour, Crime and Policing Act 2014*. Retrieved September 12, 2023, from legislation.gov.uk: Anti-social Behaviour, Crime and Policing Act 2014

Wales, N. R. (2024). *Japanese Knotweed: What You Need to Know*. Available at: <https://naturalresources.wales> (Accessed: 19 November 2024).

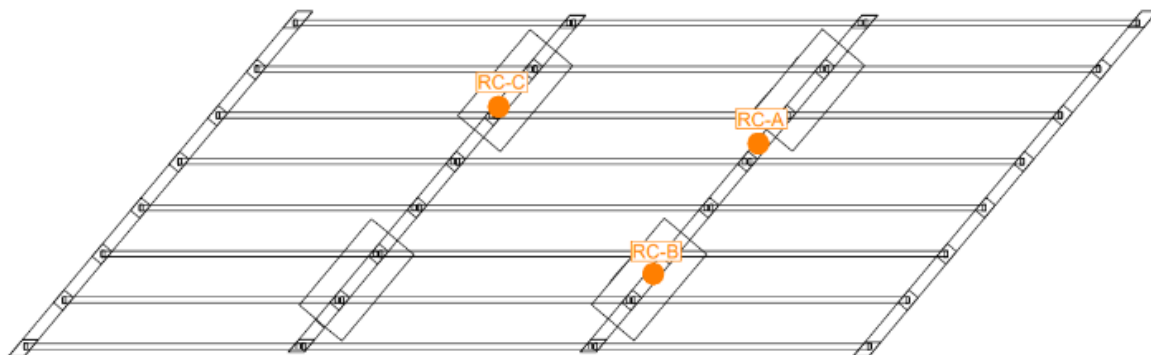
Welsh Government. (2021). *Planning Policy Wales*. Cardiff: Welsh Government. Retrieved July 14, 2023, from https://www.gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

APPENDICES

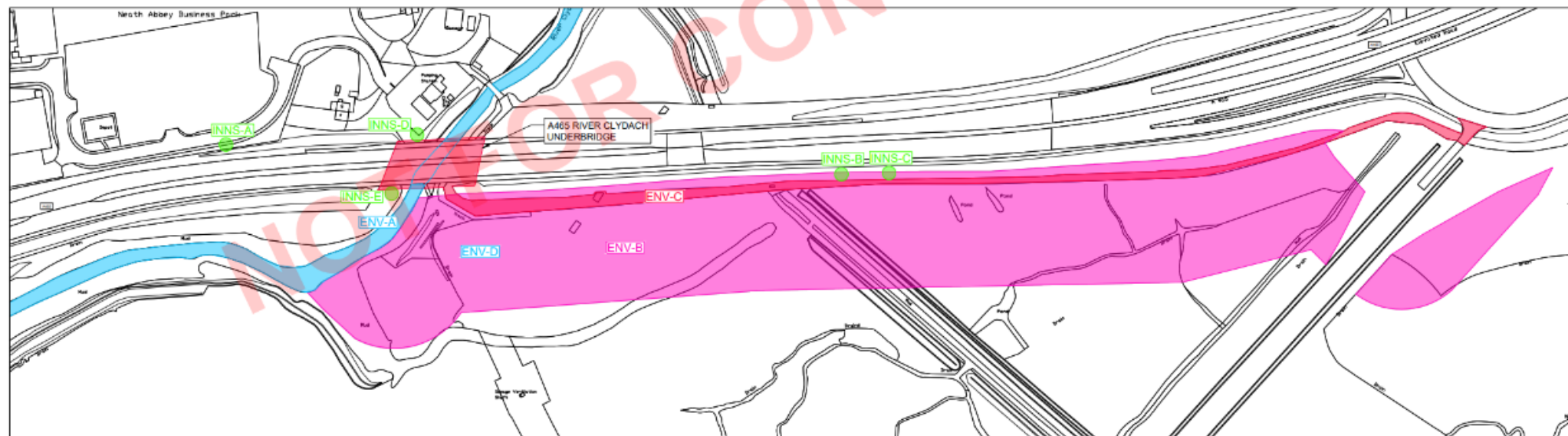
Appendix A

Proposed Works and Site Location

DO NOT SCALE



RIVER CLYDACH UNDERBRIDGE PLAN
SCALE 1:200



PLAN
SCALE 1:1250

TABLE 1. ENVIRONMENTAL CONSTRAINTS KEY

REFERENCE	DESCRIPTION	DESIGNER'S RISK ASSESSMENT REFERENCE
RC-A & RC-B	PRESENCE OF BATS PREVIOUSLY CONFIRMED WITHIN EXPANSION JOINT.	20
RC-C	PRESENCE OF BATS PREVIOUSLY SUSPECTED WITHIN EXPANSION JOINT.	20
ENV-A	RIVER CLYDACH (TIDAL)	3, 4, 25 & 26
ENV-B	COASTAL SALT MARSH AND SALINE REEDBEDS.	3, 4, 25 & 26
ENV-C	EXISTING ACCESS TRACK.	3, 4, 25 & 26
ENV-D	ADJACENT WORKING FARM & LIVESTOCK.	21 & 22
INNS-A, INNS-B, INNS-C, INNS-D & INNS-E	JAPANESE KNOTWEED.	19

HEALTH AND SAFETY INFORMATION
REFER TO DESIGN RISK ASSESSMENT DRA
DOCUMENT BP06_301-ATK-SBR-SWTRA-DR-000500
FOR DETAILS OF THE IDENTIFIED RISKS.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
SIGNIFICANT RISKS ARE SHOWN WITHIN TABLE 1 OF THIS DRAWING.

Maintenance / Cleaning

None

Use

None

Decommissioning / Demolition

None

Activity	Author	Revision	Drawn	Checked	Reviewed	Notified	Issue Date
Construction							
FOR TENDER							
FOR TENDER							
FOR TENDER							
FOR TENDER							
FOR TENDER							
FOR TENDER							

FOR TENDER

AtkinsRéalis

Copyright © AtkinsRéalis (2024)

West Glamorgan House
12 Orchard Street
Swansea
West Glamorgan
SA1 5AD
Tel: +44 (0)1792 641172
Fax: +44 (0)1792 472019
www.atkinsrealis.com

FOR TENDER

FOR TENDER

FOR TENDER

FOR TENDER

FOR TENDER

FOR TENDER

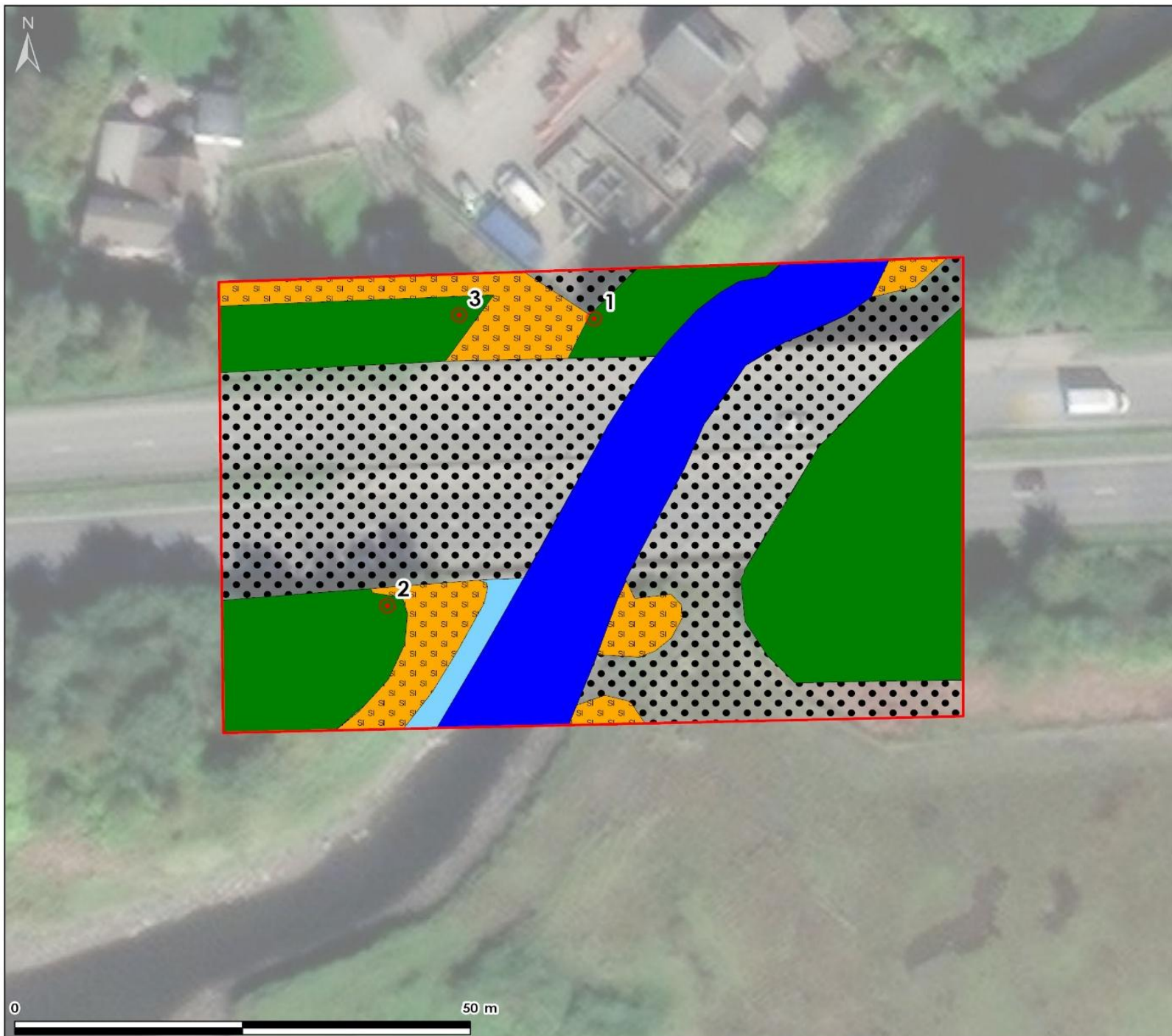
FOR TENDER

FOR TENDER

Project Title	A465 60 River Clydach Underbridge
Drawing Title	ENVIRONMENTAL CONSTRAINTS
Drawing Number	BP06_301 - ATK - SBR - SWTRA - DR - CB - 000500
Revision	1 of 1
Scale	1:1250
Sheet	P03

Appendix B

Phase 1 Habitat Survey Results



Legend

— Indicative Redline Boundary

● Target Notes

Phase 1 Survey

Woodland and scrub

■ A.1.1.1 (Semi-natural broad-leaved woodland)

Grassland and marsh

■ B.2.2 (Semi-improved neutral grassland)

Swamp, marginal and inundation

■ F.1 (Swamp)

Open water

■ G.2 (Running water)

Miscellaneous

■ J.4 (Bare ground)

P1	S2	04/08/2026	First Issue	TR	CI	IB
V.	S.	Date	Description	B.	C.	A.



4th Floor, James William House,
9 Museum Pl, Cardiff CF10 3BD

Alun Griffiths Contractors
A465 Clydach River Bridge
Phase 1 Survey

Drawing no.: 61593_DWG_Phase1Survey

Appendix C

Japanese Knotweed Site Images

