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ENVIRONMENTAL CONSULTANTS

Invasive Species Management Plan

Newport Ball Ally Footbridge, Co. Tipperary

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1. Introduction

1.1 Objective

The purpose of this Management Plan is to describe the methodology and management proposed for invasive alien plant species (IAPS) located within the environs of the proposed footbridge development in Newport, Co. Tipperary.

1.2 Project Overview

The site is located in Newport, Co. Tipperary, at grid reference R 72584 62297. The proposed footbridge will span the Small River, connecting Pound Street to the green area historically known for the three handball alleys. The surrounding habitats include Mixed Broadleaved Woodland (WD1), the River Small and Newport River (both classified as FW2), Amenity Grassland (GA2), and Buildings and Artificial Surfaces (BL3). The site is situated within the urban context of Newport, with residential and recreational areas dominating the immediate landscape. The closest designated conservation site is the Lower River Shannon SAC (002165), which encompasses both rivers and is hydrologically connected to the works area.

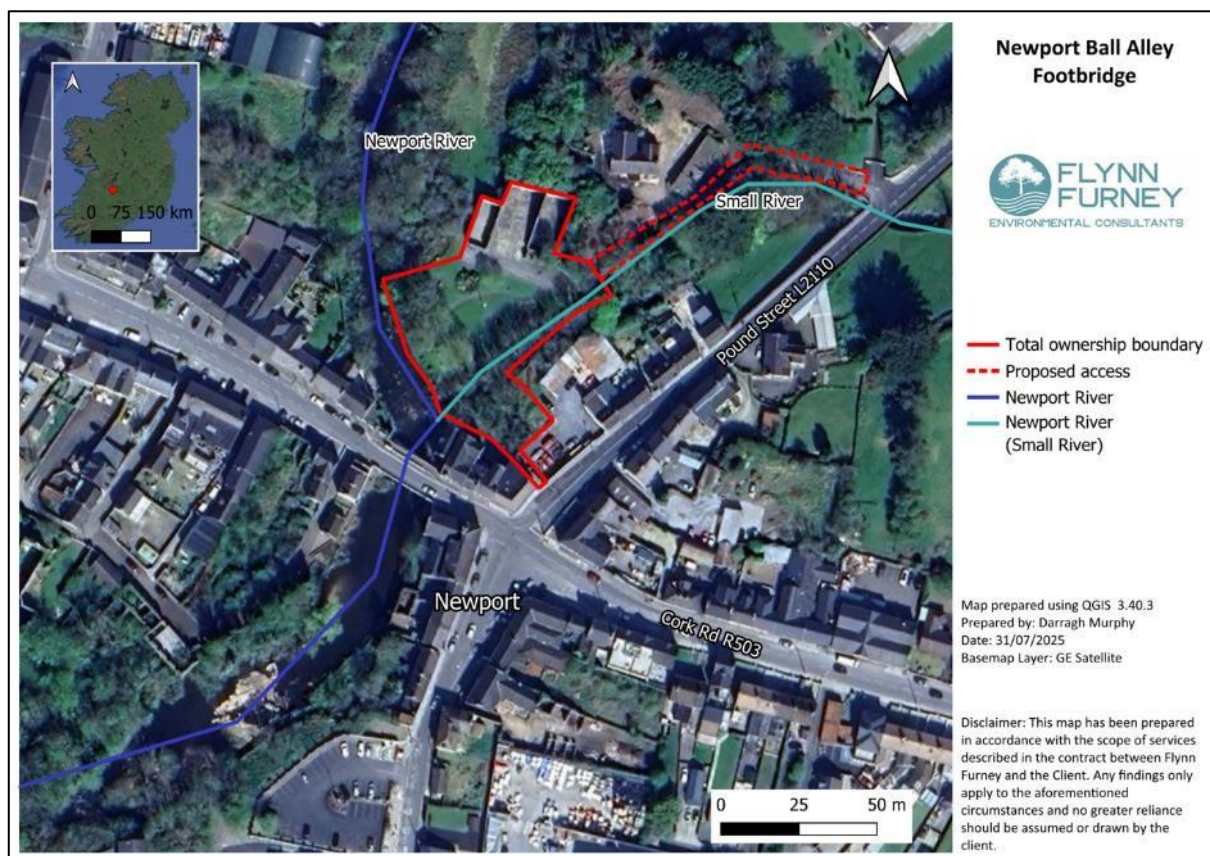


Figure 1. Project area for the proposed footbridge in Newport, Co. Tipperary.

2. Site Survey

2.1 Field Survey

The primary mode of survey was by direct search of the site under study following guidelines given by Smith et al, (2011), NRA (2010) & TII (2020). Surveys were carried out on the 14th and 15th of July 2025. The surveys were conducted by a team of ecologists with experience in ecological surveys, including in surveys of invasive species. Any IAPS, listed on the First Schedule of the European Communities (Birds and Natural Habitats) Regulations 2024 (S.I. 374) were noted and their approximate location/extent mapped. Where relevant, descriptions of the maturity and numbers of individual plants were noted.

Results from these surveys inform this Invasive Species Management Plan.

3. Results

3.1 Overview

First Schedule Species noted during surveys were Giant Hogweed (*Heracleum mantegazzianum*), Japanese Knotweed (*Fallopia japonica*), Himalayan Knotweed (*Persicaria wallichii*), and Rhododendron (*Rhododendron ponticum*). These are listed as invasive plants under the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374/2024), and previously covered under EC (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011). These regulations prohibit the introduction and dispersal of these species. Therefore, the works where first schedule invasive species are present must include appropriate measures to ensure their containment. The exact locations of these species are listed in Table 1-4 below.

Other invasives recorded along the proposed route of works were Montbretia (*Crocasmia x crocosmiiflora*) and Cherry Laurel (*Prunus laurocerasus*), which are not listed amongst the first schedule species listed in the current legislation, and as such their management is not required, albeit advised. For this reason, this Invasive Species Management Plan will inform treatment only with regard to the First Schedule invasive species.

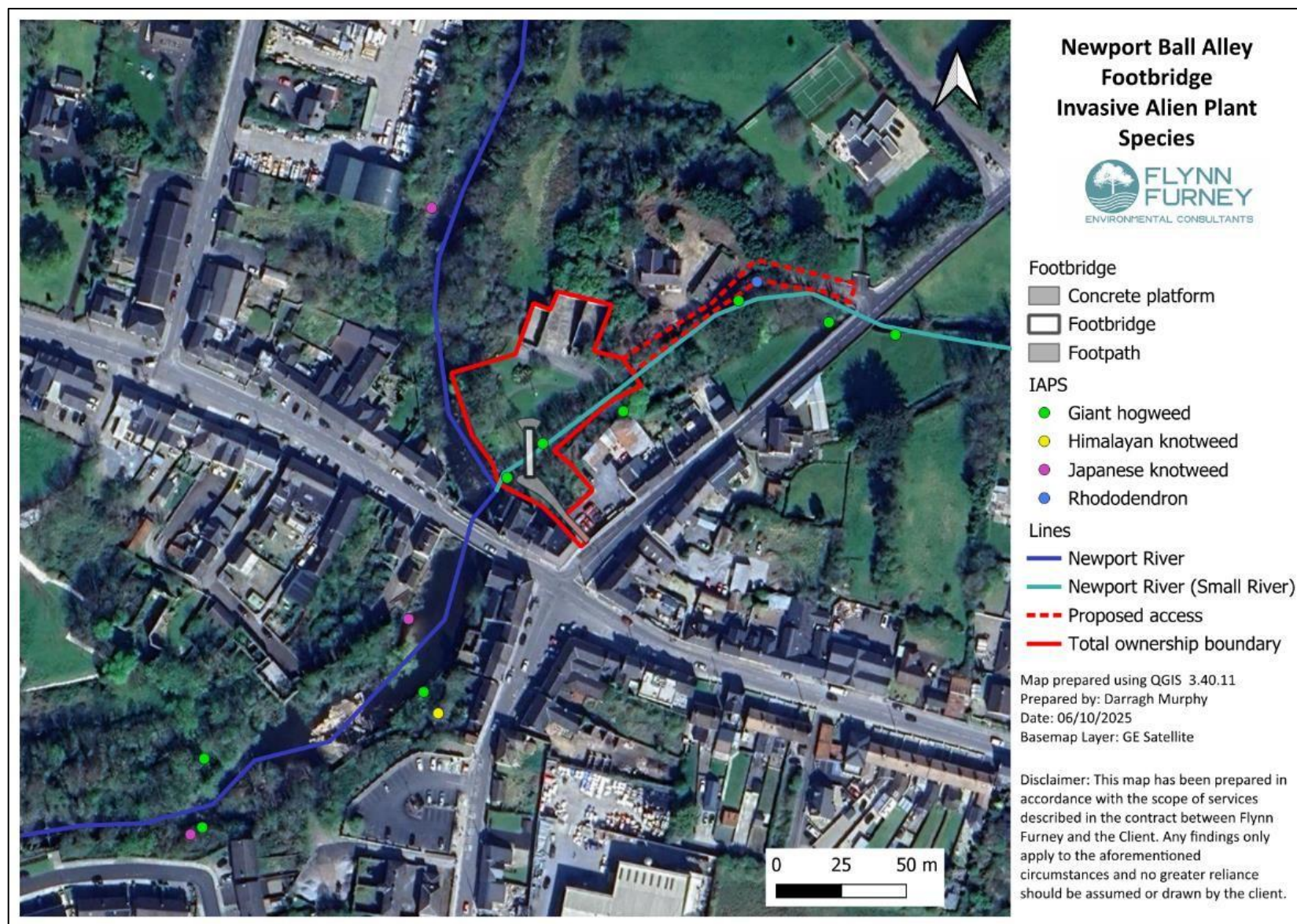


Figure 2. General overview of Invasive Species in Newport, Co. Tipperary.

3.2 Background Information on IAPS recorded onsite (First Schedule)

3.2.1 Giant Hogweed – *Heracleum mantegazzianum*

Table 1. Giant Hogweed – *Heracleum mantegazzianum*

Description	Location	Grid ref (EPSG 4326)
Giant Hogweed	Southern bank near footbridge	52.7112785, -8.4065665
Giant Hogweed	Northern bank near footbridge	52.71139910, -8.40636523
Giant Hogweed	Growing above opening in stone embankment; c. 40 m upstream of bridge	52.71150829, -8.40590690
Giant Hogweed	Immature leaves, c. 120 m upstream of bridge	52.7118942,-8.4052820
Giant Hogweed	Immature leaves, c. 125 m upstream of bridge	52.7118161,-8.4047427
Giant Hogweed	Large mature plant, c. 153 m upstream of bridge	52.7117576,-8.4043644
Giant Hogweed	Large mature plant, c. 91 m downstream of bridge	52.7105384,-8.4070449
Giant Hogweed	Large mature plant, c. 185 m downstream of bridge	52.7103141,-8.4083168
Giant Hogweed	Large mature plant, c. 178 m downstream of bridge	52.7100702,-8.4083088

Species identification and ecology: Giant hogweed is an impressive biennial plant characterised by large pinnately divided leaves that bear bristles on the underside. The plant itself can grow up to 500 cm in height, and it has hollow erect stems that can reach 10 cm in diameter. The stem presents characteristic red purple mottles throughout, while the pale flowers, which appear in June-July, are arranged in large umbels. The plant dies after flowering. Over 50,000 viable seeds are produced per year, which are wind dispersed. Seeds can remain viable in the soil for up to 15 years. It occurs in high moisture habitats, such as riparian zones, mires and fens, as well as damp woodland, grassland and disused wasteland. Here it can contribute to soil erosion, compromise bank stability and it can outcompete native species. Particularly, its sap contains a toxic compound that can cause severe blisters and acute skin reactions. This in turn can limit recreational activities in areas where Giant Hogweed is present.

3.2.2 Japanese Knotweed - *Fallopia japonica*

Table 2. Japanese Knotweed – *Fallopia japonica*

Description	Location	Grid ref (EPSG 4326)
Japanese Knotweed	Extensive stand (15 x 8 m) on western bank of Newport River c. 100 upstream of site	52.71221207, -8.40699915
Japanese Knotweed	Growing close to private garden/goose hutch on western bank of Newport River c. 80 m downstream of site	52.7107800, -8.4071351
Japanese Knotweed	Growing on southern bank of Newport River c. 180 m downstream of works	52.7100631, -8.4084030

Species identification and ecology: Japanese knotweed is a robust perennial plant that can grow up to 200-300 cm in height. It has distinctive hollow stems, which are speckled with red during summer and turn brown during winter. Its leaves are large (7-12 cm) and oval with pointed tip and a flat base. They emerge from the stem in a zigzag pattern. The flowers are cream coloured and small, arising in clusters from the joint of the stem and the leaf. Japanese knotweed flowers between August and October, and dies back in winter leaving behind only the brown stems. Common across different habitats, it can be found along road margins, waterways, waste ground, and disturbed areas. It tolerates high salinity, drought and it is light demanding, often outshading other native species. It can grow through concrete and asphalt, spreading quickly through its extensive rhizome system, and it can compromise structural integrity of manmade structures. It also increases soil erosion, especially along riverbanks. It is native to Japan, Taiwan, Korea and China, introduced in Ireland as a garden plant during the 19th century.

3.2.3 Himalayan Knotweed – *Persicaria wallichii*

Table 3. Himalayan Knotweed – *Persicaria wallichii*

Description	Location
Himalayan Knotweed	52.14218, -9.76068
Himalayan Knotweed	52.1407, -9.76246
Himalayan Knotweed	52.13703, -9.76645

Species identification and ecology: Himalayan knotweed is an herbaceous perennial plant that can be distinguished from other knotweeds thanks to its long lanceolate leaves (8-20 cm) and its light pink flowers which are arranged in loose inflorescences. Flowers emerge between August and September. Leaves can be hairless or sometimes densely pubescent. The plant can form dense thickets in the summer, reaching a height of 180 cm. The stems are robust and reddish brown in colour near the top. The plant dies back in the winter leaving brown stems. Commonly found in different habitats, it can colonize road margins, forests, grasslands, disturbed areas and riparian zones. It tolerates a range of light conditions, growing in both partial shade and full sunlight, and can thrive in most soil types. As it spreads vegetatively through rhizomes it can quickly displace native vegetation, promote soil erosion, and overall reduce the quality of the habitats it colonizes.

3.2.4 Rhododendron – *Rhododendron ponticum*

Table 4. *Rhododendron – Rhododendron ponticum*

Description	Location
Rhododendron	52.711926, -8.405082

Rhododendron - Species identification and ecology: One of the most infamous invasive species in Ireland, Rhododendron is a perennial evergreen characterized by leathery oblong leaves with a pale underside and a shiny upper surface. Leaves can grow up to 12 cm long and are arranged in whorls. The large clusters of mauve bell-shaped flowers appear in early summer from May to July. It is native to the Iberian and the Anatolian peninsulas. Introduced for ornamental purposes in the 18th century. Rhododendron is a woody species and can form dense thickets in the areas it colonises. It can grow to 300 cm tall. Seeds are wind-dispersed. It favours acid conditions, and it thrives in acid woodland, bogs, mires, fens, and heaths. Not only can it outcompete native vegetation for space and light, but it is also a vector for *Phytophthora ramorum*, a pathogen that affects Oak trees. Rhododendron is toxic to some grazers like cattle and sheep.

3.3 Background Information on IAPS recorded onsite (Non-First Schedule)

Cherry Laurel - Species identification and ecology: Cherry laurel is an introduced shrub to Ireland. It was originally introduced into gardens in Ireland, where it has escaped into the wild. It is an upright evergreen woody shrub that can grow up to 800 cm in height. It has large glossy leaves, oblong in shape and leathery to the touch. The leaves are toxic if consumed as they contain cyanide. The plant flowers between April and June. Its flowers are arranged in a raceme, and are small and white, with long stamens emerging from the centre. It is classed as an invasive species as it can outcompete native plants. It is capable of spreading through sexual reproduction, as well as vegetatively through layering and suckering (Reynolds, 2002).

Montbretia - Species identification and ecology: Montbretia is a perennial herb easily identifiable when in flower. The orange and crimson flowers appear from July to September, and they are arranged on one-sided panicles. Flowers have six petals and give rise to three-sided seed capsules, brown in colour. The leaves are stiff and long (up to 30 cm in height) and rise from the base of the flower. It was introduced for horticultural purposes. This species is capable of both a-sexual and sexual reproduction, it can produce seeds but typically they are not viable. More commonly, this plant is spread by vegetative reproduction through rhizomes and corms (bulb-like structures). This species is considered invasive as it can outcompete native vegetation, dense colonies can prevent regeneration of native vegetation as they smother seedlings, and it can increase erosion, where the plants may be located on a riverbank, as the rhizomes and corms may become very heavy and cause destabilization.

4. DISCUSSION

4.1 Invasive species and Legislation

The Wildlife Acts, 1976 and 2000, contain a number of provisions relating to invasive non-native species (INNS), covering several sections and subsections of the Acts. It is prohibited, without licence, to plant or otherwise cause to grow in a wild state, in any place in the State, any species of flora, or the flowers, roots, seeds or spores of invasive flora.

In July 2024, new regulations were enacted to address the shortcomings of previous legislation on Invasive Alien Species. The European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024) introduce significant measures aimed at tackling the issue of invasive species. These regulations establish a list of Invasive Alien Species of National Concern, referred to as First Schedule List. The regulations specify various offenses under section 17(1), which prohibit individuals from engaging in certain activities. These activities include the introduction of invasive species into the State, breeding, importing, exporting, or transporting these species within the State—except when such transportation is part of an eradication effort. Additionally, the regulations forbid placing these species on the market, using, exchanging, or offering them for exchange, allowing them to reproduce or cultivate, and releasing them into the environment.

Japanese Knotweed, Rhododendron and Spanish Bluebell are listed on the First Schedule, were found to be present along the proposed works area, and therefore their management is specified below.

4.2 Specific Management

This Invasive Species Management Plan has been drawn up by Flynn Furney Environmental Consultants and is based upon best practice methodologies for the treatment of this invasive species.

The management of IAPS on this site will be overseen by a suitably qualified ecologist or environmental scientist. This management plan, appendices and revisions will be kept for records of all contractor's team members (including the site operators). This management plan is a living document and is subject to revisions as designs or projects evolve.

Environmental Restrictions

Rivers, streams, and estuaries present specific challenges regarding the management of invasive species, particularly those listed in the First Schedule of the European Union Regulation 2024 (SI 374) such as Giant Hogweed and Japanese Knotweed. During excavation activities, even minor fragments of rhizome or stem that enter a watercourse can unintentionally propagate the plant downstream. Additionally, the application of certain herbicides is limited near water bodies. It is important to recognize that the proliferation of invasive species may adversely affect the Newport River, which is part of Lower River Shannon Special Area of Conservation (SAC), a designated Natura 2000 site that is particularly sensitive.

4.2.1 Options for Treatment of Giant Hogweed, Japanese Knotweed, Himalayan Knotweed and Rhododendron.

The proposed works will take place primarily along a discrete section of the River Small. Given the limited spatial extent and low-impact nature of the proposed works and their proximity to the Newport River and the River Small, the primary invasive species concern is Giant Hogweed.

Other species, including Japanese Knotweed, Himalayan Knotweed, and Rhododendron, have been recorded either downstream or at locations sufficiently distant that they are not expected to interact with the proposed works. Therefore, the management strategy for these species centres on avoidance and strict adherence to biosecurity protocols.

Given the proposed methodology, the overall risk of invasive species disturbance is considered low. Management will therefore prioritise prevention of inadvertent spread over direct control.

Taking all available information into account, the following measures are recommended:

Giant Hogweed

1. Carry out a pre-construction survey.
2. Clearly identify and mark out infested areas. Erect signs to inform Contractors of the risk.
3. Any Giant Hogweed which will be affected by the works will be treated under supervision. As of January 2025, no herbicide is currently approved for use near watercourses in Ireland. As a result, chemical control of *Giant Hogweed* in riparian areas is not currently feasible. In light of this, the following physical control methods may be considered where appropriate:
 - a. **Repeated mechanical cutting:** Where safe access is possible, stands of Giant Hogweed may be cut at the base using manual tools. Cutting should be undertaken before the plant flowers (typically in late spring or early summer) to prevent seed formation, and may need to be repeated later in the season if regrowth occurs. Plants should be cut as close to the ground as feasible. All cut material must be collected and removed from site to prevent vegetative spread or accidental contact. All site personnel handling cut plant material must wear appropriate PPE due to the risk of sap exposure.
 - b. **Digging:** Individual plants or small clusters may be manually controlled by severing the taproot approximately 10–15 cm below ground level with a sharp spade or root-cutting tool. This technique is most effective before flowering and works best on younger or isolated plants. It is labour intensive and may not be suitable for large infestations but can be a valuable tool where access is constrained or chemical treatment is prohibited.
 - c. **Covering (geotextile/root barrier):** In specific locations, particularly where regrowth is anticipated, geotextile sheeting may be applied after initial cutting to smother regrowth. C3 root barrier is recommended for this purpose. The covering must be securely anchored and left in place for an extended period. This method is most appropriate in areas where long-term site access is possible.
 - d. **Flower Head Removal:** In stands where full removal is not practical, a targeted approach may be used to remove the flowering heads before seeds begin to set (usually from late May to early July). This reduces the seed bank over time and prevents further dispersal. While this method does not kill the plant, it is particularly effective when used in combination with other approaches over several seasons. Care must be taken to prevent mature seed heads from detaching during handling.
4. For the particular context of the Newport Footbridge, a combination of repeated mechanical cutting and covering is recommended. Note that any plant material generated, along with any soil, must be considered as contaminated and treated as such.

5. Any contaminated soil or residual plant material generated as a result of the works shall be transported to a licensed waste facility. A Regulation 49(7) licence will be required for its movement. On-site landscaping is not recommended due to public access and the risk of disturbance.
6. Treatment of stands of Giant Hogweed must be carried out under ecological supervision.
7. It is crucial to wear full protective clothing when treating Giant Hogweed as its sap is toxic and represents a health hazard. Ensure all workers are privy to the risks
8. Access to the infested area by vehicles, machinery, or personnel should be prohibited until the stand has been treated and deemed to no longer pose a health risk. Any excavations within 4m of growth will be monitored by an ecologist.
9. Any Giant Hogweed stand that is not affected by the works should be carefully avoided. This refers to stands located at a minimum of 4m distance from the works. Any of these stands should be clearly demarcated by bunting tape and/or fencing and appropriate signage.
10. Tracking over areas where Giant Hogweed is already established should be avoided. If unavoidable, any machinery must remain within the contaminated zone until it has been thoroughly cleaned on a washstand placed on terram.
11. Terram should be used to avoid tracking directly on contaminated ground.
12. Ensure that everyone working on the site is aware of and adheres to good site hygiene. Biosecurity measures (as described in section 4.2.4) must be thoroughly followed.
13. Follow-up control work will be necessary to ensure that any regrowth and seedlings are not missed.

Japanese Knotweed

1. All areas of infestation can be easily avoided due to the stand being located at a considerable distance from the works (>100m).
2. Should any excavations take place within 4 meters of a Japanese Knotweed stand, these shall be supervised by a qualified ecologist. If any rhizomes are encountered, they must remain within the established area of infestation and shall not be relocated or dispersed.
3. Should any contaminated soil or residual plant material be generated as a result of the works, it must be transported to a licensed waste facility. A Regulation 49(7) licence will be required for its movement.

Rhododendron

1. All areas of infestation can be easily avoided due to the stand being located at a considerable distance from the works (>60m).
2. Any excavations works within 4 meters of Rhododendron growth shall be supervised by a qualified ecologist. All works in proximity to the infestation must avoid disturbance to root systems and surrounding soils where possible.
3. If any contaminated soil or residual plant material is generated, it shall be treated as controlled waste. A Regulation 49(7) licence will be required for transportation to a licensed facility.

4. If treatment is deemed unavoidable, stump treatment using an appropriate herbicide shall be carried out under the supervision of a licensed herbicide user, in accordance with best practice and manufacturer guidelines. All treated material, including cut stumps and any associated contaminated soil, shall be disposed of to a licensed facility.

Himalayan Knotweed

1. All areas of infestation can be easily avoided due to the stand being located at a considerable distance from the works (>60m).
2. Any excavations works within 4 meters of Himalayan growth shall be supervised by a qualified ecologist. All works in proximity to the infestation must avoid disturbance to root systems and surrounding soils where possible.
3. If any contaminated soil or residual plant material is generated, it shall be treated as controlled waste. A Regulation 49(7) licence will be required for transportation to a licensed facility.
4. If treatment is deemed unavoidable, stump treatment using an appropriate herbicide shall be carried out under the supervision of a licensed herbicide user, in accordance with best practice and manufacturer guidelines.

All site activities will be undertaken in accordance with strict biosecurity measures to avoid the unintentional spread of invasive plant material. These include pre-works toolbox talks, supervision by a qualified ecologist during all ground-breaking activities within proximity of invasive stands, and the restriction of vehicles and machinery to designated access routes and working areas. All vehicles will remain on-site for the duration of works where possible, and any machinery leaving site will be subject to thorough checks and wheel-wash procedures to ensure they are free of soil, vegetation, or debris. If invasive material is generated, it will be treated appropriately and only removed off-site once rendered non-viable and under the appropriate waste transportation licenses. A follow-up monitoring visit will be carried out post-works to confirm that no further spread of invasive species has occurred as a result of the operation.

Following treatment, it is recommended that a pre-commencement invasive species survey is carried out in advance of construction.

4.2.2 Training for Site Staff

All contractors and on-site staff are to be made aware of the invasive nature of these plants, how to identify them and site practices. Training shall be given on Day 1 of works to include the following:

- a) Site induction.
- b) Method statement briefing.
- c) Toolbox talk for Giant Hogweed, Japanese Knotweed, Himalayan Knotweed and Rhododendron (Toolbox Talk for Japanese Knotweed shown in Appendix 2).
- d) Risk assessment briefing.

The toolbox talk will include the following elements:

- 1. The invasive nature of the plants.
- 2. Health and safety around Giant Hogweed.
- 3. The need for exclusion zones around the plants.
- 4. All machinery, vehicles and site staff operating within areas of infestation to be thoroughly checked and if necessary, cleaned prior to leaving the area to protect against further spreading of IAPS.
- 5. Japanese Knotweed, Himalayan Knotweed and Rhododendron areas to remain untouched during works.

4.2.3 Containment

- 1. Areas of First Schedule IAPS infestation will be cordoned from other works areas by the Site Ecologist, in the presence of an engineer.
- 2. Site Staff to be aware of buffer zones when working within areas of infestation.
- 3. Excavation works will be undertaken under the supervision of a qualified ecologist.

4.2.4 Biosecurity Measures

- 1. The ecologist will supervise all excavations required. Areas requiring supervision are immediately adjacent to marked stands.
- 2. Care will be taken by the track machine operator if ground is broken during excavations to ensure material is not spilled. A layer of terram shall be laid on the road; Terram will aid the detection of any spilled material.
- 3. In the eventuality that contaminated material is generated, any excavated material which contains Giant Hogweed will be placed in a site dumper for relocation to a previously agreed temporary stockpile site, until the contaminated material can be disposed of to a licensed facility. The drop height from the excavator bucket to the dumper will be kept to a minimum to ensure that the contaminated soil is placed directly into the dumper and to prevent small particles of soil falling over the edges of the dumper. Machinery used will not track over a site of infestation. Once excavation works are complete, the bucket will be cleaned down over the knotweed stand.

4. Care will be taken to ensure the dumper is not over-filled to ensure small particles cannot fall from the dumper whilst the material is being transported. A speed limit of 10kph shall be always maintained. Tipping of contaminated materials should only occur in the receptor site and should be carried out so as not to drive over any contaminated soils. The tipping location should ensure that material does not fall back under the wheels once tipped, i.e. such as from a ramp.
5. The dumper bucket and excavator bucket will be brushed down after the final load of contaminated material has been removed from the road network.
6. Terram placed under the dumper receiving material shall be placed in the final dumper load and buried.
7. Please note that a license is required from the National Parks and Wildlife Service if contaminated soil needs to be transported off-site along the road network. This applies to material being transported for the purpose of temporary storage also. It is the responsibility of the Site Ecologist to apply for this license.

4.2.5 Post-construction monitoring

Ongoing monitoring for all invasive species described will be necessary, and follow-up spraying shall be undertaken as required. Post control monitoring will be carried on at least an annual basis, as seeds can remain viable in the soil between 10 and 15 years in the case of Giant Hogweed.

The ecologist (or similar) responsible for the supervision of the invasive species works will provide a report to include the following;

- Picture survey of works.
- Drawing identifying location of invasive species area(s).
- Defects period First Schedule IAPS Management for the site.

The contractor will be responsible for the management of these invasive species until handover.

5. Additional Information

All personnel will have the following:

- a) All personnel will be inducted prior to working on site.
- b) The ecologist recording the species will be a suitably competent person as defined in the works requirements.
- c) All personnel accessing site will hold a valid Safe Pass Card.
- d) All contractors and on-site staff are to be made aware of the invasive nature of plants, how to identify them and site practices.

6. Conclusions

Four First Schedule invasive plant species listed under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024) were identified within or in proximity to the proposed works area: Giant Hogweed (*Heracleum mantegazzianum*), Japanese Knotweed (*Fallopia japonica*), Himalayan Knotweed (*Persicaria wallichii*), and Rhododendron (*Rhododendron ponticum*). The works are primarily located within the River Small, a tributary of the Newport River, which forms part of the Lower River Shannon SAC (Site Code: 002165), and thus fall within a designated European site.

Giant Hogweed was recorded within the direct footprint of the works, and poses both a serious ecological threat and a public health hazard. Due to regulatory changes introduced in January 2025, no herbicide products are currently approved for use near watercourses in Ireland. As such, this Invasive Species Management Plan (ISMP) recommends mechanical control as the primary treatment strategy. This consists of cutting plants at ground level during early growth stages and covering the cut stems with c3 root barrier. This shall be carried under ecological supervision, with strict adherence to health and safety protocols, including full PPE to protect personnel against the plant's phototoxic sap. A programme of post-treatment monitoring will be required to assess regrowth and guide any follow-up actions.

The remaining three species, Japanese Knotweed, Himalayan Knotweed, and Rhododendron, were recorded either upstream or at considerable distances (>60 m) from the site and are not expected to interact with the works. For these species, a precautionary avoidance approach is recommended, with a strong emphasis on biosecurity measures.

Overall, the risk of invasive species spread as a result of the Newport Footbridge Scheme is considered low. With careful implementation of the proposed mechanical treatment, avoidance measures, and strict biosecurity protocols, the project can proceed in compliance with current legislation and with minimal ecological risk.

7. References

- Best Practice Management Guidelines: Japanese Knotweed (*Fallopia japonica*): Invasive Species Ireland. Published 2008
- European (Natural Habitats) Regulations 1997
- European Communities (Birds and Natural Habitats) Regulations 2011.
- Guidelines on the Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads: National Roads Authority. Published December 2010.
- Knotweed Code of Practice: UK Environment Agency. Published 16th January 2014.
- NRA (2010) Guidelines on the Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads: National Roads Authority. Published December 2010.
- O'Flynn, C., Kelly, J. and Lysaght, L. (2014). Ireland's invasive and non-native species – trends in introductions. National Biodiversity Data Centre Series No. 2. Ireland
- RAPID, n.d. Good Practice Management, Giant Hogweed (*Heracleum mantegazzianum*). Online, available at:
https://invasives.ie/app/uploads/2021/09/RAPID_Good_Practice_Management_Giant_hogweed_EN.pdf
- RAPID, n.d. Good Practice Management, Himalayan Balsam (*Impatiens glandulifera*). Online, available: https://www.wyevalleyaonb.org.uk/wp-content/uploads/Good_Practice_Management_-_Himalayan_balsam.pdf
- Safety Health and Welfare at Work (construction) regulations 2013
- Safety Health and Welfare at Work (general Application) Regulations 2007
- Safety Health and Welfare at Work Act 2005
- Smith, G.F., O'Donoghue, P., Hora, K. & Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council, Kilkenny.
- Stace, C.A., Preston, C.D., and Pearman, D.A., n.d. Common Michaelmas-daisy. *Symphyotrichum novi-belgii* × *lanceolatum* = *S.* × *salignum*. BSBI Atlas. Online, Available at: <https://plantatlas2020.org/atlas/2cd4p9h.vac7ky>
- Transport Infrastructure Ireland (2020). The Management of Invasive Alien Plant Species on National Roads – Technical Guidance.
- Travlos, I., 2016. *Symphyotrichum novi-belgii* (New York aster). Cabi Compendium. Online, Available at: <https://doi.org/10.1079/cabicompendium.755>.
- Verloove, F., 2019. *Symphyotrichum*, Manual of the Alien Plants of Belgium. Online, Available at: <https://alienplantsbelgium.myspecies.info/content/symphyotrichum>

8. Appendices

Appendix 1: Induction and Toolbox Talk

All Operatives to sign this section to verify understanding of the intended method of works and safety controls. put in place following a task talk by the supervisor in charge of works on the contents of this document:			
	Name Print	Sign	Date
01.			
02.			
03.			
04.			
05.			
06.			
07.			
08.			
09.			
10.			
Signed: (person supervising the works) For and on behalf of contractor			

Appendix 2: Toolbox Talk

Toolbox talks: nature conservation

NC8

Japanese Knotweed

What?

- Japanese Knotweed was originally introduced to the UK as an ornamental plant, but has spread extensively in the wild
- it grows rapidly more than 20 mm a day, it forms dense clumps over 3 m high, which crowd out and prevent the growth of native plants
- the rhizome root system, from which new plants grow, can extend several metres away from the original plant and be up to 2 m deep
- the plant spreads so rapidly not only through progression of its root system, but because any fragments of its stem or root will grow to form a new plant (a piece as small as 0.8 grams can regenerate) making it very difficult to eradicate
- grows in any type of soil no matter how poor and is often found along railways, river-banks, roads and particularly on derelict sites
- can grow through joints in tarmac and mortar and disrupt infrastructure.



Questions

- 1 Why is Japanese Knotweed a problem in the UK?
- 2 Where is Japanese Knotweed on this site?
- 3 What can be done to stop Japanese Knotweed spreading?

Identification

- forms dense clumps and grows up to 3 m tall
- the stem is hollow, it looks like bamboo and breaks easily
- in spring it is fleshy and red tinged and in summer it is green with purple speckles
- leaves in spring are pinky red and uncurl as the stem grows
- in summer leaves become large oval or heart shaped midgreen
- flowers are cream coloured and appear in drooping clusters towards the end of August
- the plant dies before November often leaving behind the upright brown, hollow, woody stems.

Why?

- **avoid environmental harm:** it shades out native plants by producing a dense canopy of leaves early in the growing season. Although not toxic to humans or animals, it offers a poor habitat for insects, birds and mammals
- **avoid prosecution:** it is illegal "to plant or otherwise encourage" the growth of Japanese Knotweed. This could include cutting the plant or roots and disturbing or moving surrounding soil that may contain root material unless as part of an eradication process
- **avoid structural damage:** the plant is strong enough to grow through foundations, walls, roads and drainage pipework.

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Do

- ✓ **IMMEDIATELY** stop all work within 7 m of the suspect plant and contact a line manager for instructions if it is thought Japanese Knotweed has been identified
- ✓ inform a line manager if you notice damage to the fencing enclosing Japanese Knotweed.

Don't

- ✗ enter an identified area of Japanese Knotweed during treatment
- ✗ excavate or move any soil from within 7 m of a Japanese Knotweed plant without instruction
- ✗ double handle material suspected on containing Japanese Knotweed, but if this is unavoidable do so on an impermeable surface
- ✗ stockpile material suspected to containing Japanese Knotweed within 10 m of watercourses, gullies or drains
- ✗ track plant through Japanese Knotweed – it will cause it to spread.



Appendix 3: Sign off Sheet for IAPS Areas

Location of IAPS (chainage):		
Date:		
Approximate Area Excavation: (m ²)	Time started:	Notes
	Time finished:	
Sketch map of area(s)		
Signed off by (site ecologist):		
Date:		

Appendix 5: Site Photos

Figure 3. Stand of Giant Hogweed upstream of the proposed works on River Small.



Figure 4. Mature stand of Japanese Knotweed on Newport River.



Figure 5. Mature stand of Rhododendron overhanging on River Small, upstream of the works.