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Technical Document

Ecological Baseline Report

Snowdonia Visual Impact Provision Project

Hochtief UK Ltd

January 2023

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1 Introduction

1.1 Terms of Reference

Atmos Consulting Ltd (Atmos) were commissioned by Hochtief Ltd in March 2022 to undertake various pre-construction surveys to support the Snowdonia Impact Provision Project (VIPP) which spans over two sites, referred to as 'Garth' and 'Cilfor'.

Previous surveys were completed across both sites and therefore Atmos were commissioned to 'ground truth' the existing survey results and complete any outstanding surveys required. Initially an extended Phase I habitat survey, along with a Preliminary Bat Roost Assessment (PBRA) was undertaken of the Cilfor and Garth sites, with further bat emergence and re-entry surveys completed on the Cilfor site.

Two Non-Native Invasive Survey (INNS) were also undertaken.

The results of all these surveys are included in this report. This report is to act as a working document and extra surveys completed in the future can be added in revised versions.

1.2 Site Location and Description

The Site is split over two locations, either side of the Dwyryd Estuary, located in Gwynedd, Wales. The first site is the Cilfor site, which is located just outside of Llandecwyn, within Snowdonia National Park. The second site is the Garth site and this is located just outside of Minffordd, within the jurisdiction of Gwynedd County Council. The works involve undergrounding an existing overhead line, and the two tunnel head houses are located in each of the sites above.

1.3 Objectives

The objectives of this study were to:

- Update existing surveys to ensure the baseline ecological results for both sites were correct and accurate for the initial works;
- undertake an extended Phase 1 habitat survey to describe the baseline ecological status of the Site, including an appropriate buffer;
- to determine the potential of the Site and the buffer area to support protected species;
- undertake a PBRA of the Site, focusing on the proposed development area;
- to assess the likely effects that the proposed development of the Site could have on protected species;
- Carry out the required bat activity surveys as per the BCT guidance; and
- To put forward recommendations for further ecological survey work/mitigation that may be required.

2 Relevant Legislation

Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, (the Habitats Regulations) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations provide for the designation and protection of 'European Sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites ('Natura 2000 Sites termed Special Areas of Conservation SACs or Special Protection Areas (SPAs). The Regulations designate these Sites as being important for either habitats or species (listed in Annexes I and II of the Habitats Directive respectively).

Wildlife and Countryside Act 1981

National legislation for the special protection of selected species is provided in the Wildlife and Countryside Act 1981, as amended (WCA) and the Habitats Regulations.

Under Section 1(1) and 1(2) of the WCA, all British bird species, their nests and eggs (excluding some pest and game species) are protected from intentional killing, injury or damage. Under Sections 1(4) and 1(5), special penalties are applied to bird species included in Schedule 1 of the WCA and protection is extended for these species to disturbance to birds whilst building, in or near a nest and disturbance to dependant young. Schedule 5 provides special protection to selected animal species other than birds, through Section 9(4) of the WCA, against damage to "any structure or place which any [wild animal included in the schedule] uses for shelter and protection" and against disturbance whilst in such places.

Non-native invasive plants are listed in Schedule 9 of the WCA which makes it an offence to spread or enable them to be spread in the wild. The list includes species such as Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera*.

A number of animals, known as European protected species (EPS), are provided full protection through inclusion in Schedule 2 of The Habitats Regulations. The Habitats Regulations provide protection against deliberate disturbance to those animals wherever they are present and provides tests against which the permission for a development (that may have an effect on a Schedule 2 protected species) must be assessed before permission can be given.

In addition to species protection, the WCA and Habitats Regulations also set out requirements/procedures for the notification, designation and protection of a range of statutory Site designations in order to preserve important nature conservation resources.

All public authorities have a requirement to pay due regard to the conservation and enhancement of habitats and species through Section 42 of the Natural Environment and Rural Communities Act 2006 (NERC). Section 42 states, "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper

exercise of those functions, to the purpose of conserving biodiversity". To this end, Section 42 of the NERC provides for the establishment of a list of habitat and species that are considered to be of "principal importance for the conservation of biological diversity in Wales".

Bats

All bat species in the England and Wales are protected through the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act, 2000; the Natural Environment and Rural Communities Act (NERC, 2006); and by the Conservation of Habitats and Species Regulations (2017). Bats are commonly referred to as European Protected Species (EPS).

It is an offence to deliberately or recklessly:

- capture, injure or kill a bat;
- harass an individual or group of bats;
- disturb a bat while it is occupying a structure or place used for shelter or protection;
- disturb a bat while it is rearing or otherwise caring for its young;
- obstruct access to a breeding Site or resting place, or otherwise deny the animal use of the breeding Site or resting place;
- disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs;
- disturb a bat in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young;
- disturb a bat while it is migrating or hibernating;

It is also an offence of strict liability to:

- Damage or destroy a breeding Site or resting place of a bat even if they are not in use at the time (i.e. a summer roost during the winter period).

Great Crested Newt

Great crested newt *Triturus cristatus* are afforded full statutory protection as a European protected species listed on Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 2017 (1994, as amended), which transpose into British law the European Community's Habitats Directive (92/43/EEC).

Under the terms of Regulation 39(1), with certain exceptions, a person commits an offence if he/she:

"*(a) deliberately captures, injures or kills any [a great crested newt];*

(b) deliberately disturbs wild [great crested newts].

(1A) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely —

(a) to impair their ability –

(i) to survive, to breed or reproduce, or rear or nurture their young; or

(ii) in the case of animals of a hibernating or migratory species, to hibernate of migrate; or

(b) to affect significantly the local distribution or abundance of [great crested newts];

(c) deliberately takes or destroys the eggs of [a great crested newt]; or

(d) damages or destroys a breeding site or resting place of [a great crested newt]."

It is also an offence under Regulation 39 to keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild Great crested newt, or any part of, or anything derived from one.

All of the above protections apply regardless of the stage of the life of the animal in question.

Protection of great crested newts' is also provided for in the Wildlife and Countryside Act 1981, as amended. The great crested newt is listed on Schedule 5 of the Act, and is afforded partial protection under the terms of section 9(4)(b) and (c) and (5). This makes it an offence if any person:

9(4) "*… intentionally or recklessly … (b) … disturbs any [great crested newt] while it is occupying a structure or place which it uses for shelter or protection; or (c) … obstructs access to any structure or place which any [great crested newt] uses for shelter or protection.*"

9(5) "*… (a) sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead [great crested newt], or any part of, or anything derived from, such an animal; or (b) publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things*".

There are provisions in the above legislation for the licensing of activities to facilitate development that would otherwise constitute an offence. However, the statutory agency Natural Resources Wales (NRW) advises that the requirement for licensing should be carefully considered by developers, on a site/activity-specific basis, and recommends consideration of non-licensed mitigation such as reasonable avoidance measures relating to timing of works and sensitive site clearance to minimise potential for adverse impacts to this species where this can be achieved.

Badgers

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended) and by Section 11 (Schedule 6) of the Wildlife and Countryside Act 1981 (as amended). It is illegal to kill, injure, take, possess or cruelly ill-treat a badger or attempt to do so. Badger setts are protected from interference and it is an offence to obstruct access to, or any entrance of, a badger sett. In addition it is illegal to disturb a badger when it is occupying a sett.

3 Methodology

3.1 Extended Phase 1 Survey

An extended Phase 1 habitat survey was undertaken by RSK in 2019 and 2021 (ref 660952 Ecological Baseline Report). Experienced Atmos Ecologists revisited site on 6th April and completed an update to this survey to ensure the habitats and their conditions remained the same. It included land within the Site boundary and a 100 m buffer, where access permitted. A Phase 1 habitat survey is a standardised method of recording habitat types and characteristic vegetation, as set out in the *Handbook for Phase 1 Habitat Survey – a technique for Environmental Audit* (JNCC, 2010). The Phase 1 survey method is 'extended' through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance.

In addition to mapping out habitats, a series of target notes were produced to highlight features of ecological interest, or any other features that may present a potential constraint to the proposed development. Whilst not a full protected species or botanical survey, the extended Phase 1 method enables a suitably experienced ecologist to undertake a baseline ecological appraisal of the Site that:

- Provides a preliminary evaluation of the nature conservation significance of the Site and assesses the potential for impacts on habitats/species likely to represent a material consideration in planning terms; and
- Determines the scope of further specialized surveys that may be required to inform an ecological impact assessment.

3.2 Non-Native Invasive Survey

A NNIS survey was undertaken in the daytime of 16th June 2022. The survey focused on the areas of invasive species identified in the 2021 RSK report (Ref: Ecological Baseline Report Botanical, 663077, 2021). This was 24 areas in total across the working areas. The survey was undertaken by an individual experienced in invasive species identification and mitigation.

A further NNIS survey was undertaken on 12th December 2022 of the area adjacent to the estuary which was not covered in the June survey.

3.3 Preliminary Bat Roost Assessment

A daytime survey of the trees in proximity to the working areas was undertaken by two experienced ecologists on the 6th April 2022. The trees were subject to a preliminary roost assessment as detailed in the Bat Conservation Trust (BCT) survey guidelines (Collins, 2016). This involved a detailed external inspection to look for entry/exit points for bats and any potential roosting features, such as rot holes, cracks, lifted bark or ivy cover.

A search was also conducted for any evidence of roosting bat presence; including bat droppings, and urine/fur oil staining.

The potential of the trees to host roosting bats was then categorised as per the criteria within the BCT survey guidelines, as summarised in Table 1.

Table 1: BCT Bat Roost Categories

Potential suitability	Key features
Negligible	Negligible habitat features not likely to be used by roosting bats
Low	A structure or tree with one or more potential roost Sites that could be used by individual bats opportunistically. However, these potential roost Sites do not provide enough space, shelter, protection and or suitable foraging/ commuting habitat to be used on a regular basis or by large numbers of bats
Medium	A structure or tree with one or more potential roost Sites that could be used by bats due to their size and surrounding habitat but which are unlikely to support a roost of high conservation importance
High	A structure or tree with one or more potential roost Sites that are obviously suitable for use by large numbers of bats on a regular basis and potentially for longer periods of time owing to their size and surrounding habitat
Confirmed roost	A structure or tree supporting evidence of bat presence, such as droppings and feeding remains.

3.4 Bat Emergence/re-entry Survey

As a result of the bat assessment, it was deemed necessary to undertake further bat emergence and re-entry surveys of one tree to the rear of the Cilfor site.

Three surveys were undertaken on the tree as per the BCT survey guidelines in line with a tree of high potential (Collins, 2016). Further information on these surveys is included in table 2, below.

Bat activity was recorded using a combination of visual observation and aural frequency division bat detectors (Anabat SD2 and Walkabout), which enable the bats' ultrasonic calls to be heard and recorded for later analysis. The dusk emergence surveys started around 15 minutes before dusk and finished between 1.5 and 2 hours after dusk. The dawn survey commenced 1.5 hours before dawn and continued for around 15 minutes after sunrise. The dates, times, and weather conditions during each of the surveys is provided in Table 2 (below).

Table 2: Bat survey timing and weather conditions

Visit	Survey type	Date	Time	Surveyors	Sunrise/ sunset	Temp (C °)	Wind speed (Beaufort Scale)	Rain
1	Dusk	23.05.22	21:05 – 23:20	NR CJ	21:20	16	0	None
2	Dusk	09.08.22	20:40 – 22:25	NR CJ	20:55	22	0	None
3	Dawn	14.09.22	05:15 – 07:05	JH PG	06:49	12	0	None

3.5 Limitations

The Extended Phase One survey was undertaken by two experienced ecologists with the entirety of both sites accessible, therefore no limitations are considered relating to this survey.

During the INNS survey, 2 out of 24 survey areas were not accessible due to land access issues. For survey area 16 this was not considered a limitation as the invasives were

identifiable from the roadside, however area 15 could not be surveyed and should be revisited prior to any works in the area. The area adjacent to the survey was surveyed as part of the updated December 2022 survey.

No significant constraints were identified to the bat dusk emergence and dawn re-entry survey, with the weather conditions at the time of each survey being optimal and all areas of the tree surveyed that could act as potential roost space or entry/exit points visible.

4 Results

4.1 Extended Phase 1 Survey

The survey completed in April 2022 found that the broad habitats identified in the RSK report were the same, with little to no change in the habitat areas.

The main findings for each site are included below.

4.1.1 Cilfor Site

Habitats

The Cilfor site is characterised for its area of mire, which is included in the phase 1 figures at the end of this report. The mire is located in the valley bottom and is largely peaty and comprised of mosses as the dominant ground cover. There are large tussocks of purple moor grass *Molinia caerulea* throughout the mire cover, with some of these being dense. The mire was generally considered to be in moderate condtion, as the scrub on site had not yet encroached onto this habitat.

Other habitats present on Cilfor were the deep ditches, scrub, ruderal herbs, and bracken. All of these habitats were recorded by RSK, aside from some ditches within the mire area, which were deep and overgrown and these are included in the phase 1 figure.

Protected Species

Cilfor is considered to support a medium population of reptiles, with adder *Vipera berus,* slow worm *Anguis fragilis*, grass snake *Natrix Helvetica* and common lizard *Zootoca vivipara* recorded on site. All four of these species have been recorded during the clearance works in September 2022.

The scrub and trees on site were dense at the time of the survey and were considered as suitable to support a range of nesting birds. During the survey, numerous birds were recorded including chiff chaff *Phylloscopus collybita* and wren *Troglodytes troglodytes*. The site is considered unsuitable for ground nesting species due to the mire and ditches making the site extremely wet and frequently inundated by water.

The survey did not record any sign of badger *Meles meles* on the Cilfor side, and the site is generally considered unsuitable for the species due to the wet ground and lack of suitable slopes for sett creation.

The ditches on site are deep and overgrown and would generally be considered suitable for otter *Lutra lutra* and water vole *Arvicola amphibius*, as both are known to be present in the wider area and there is good connectivity to watercourses via the ditch system.

The site is generally unsuitable for great crested newt *Triturus cristatus* due to the fast flowing nature of the watercourses and lack of connectivity to breeding waterbodies in the wider area.

There were numerous trees on site which exhibited bat roosting potential and this is covered in full below in Section 4.3.

4.1.2 Garth Site

Habitats

The Garth site is mainly comprised of improved and rough grassland, used for grazing. This grassland was dominated by perennial ryegrass *Lolium perenne* with very little species diversity. The Atmos updated survey found that the improved grassland at Garth had reduced in condition, with signs of overgrazing and thistle encroachment.

There were also areas of thick scrub running alongside the ditch to the edge of the site. This scrub was largely bramble *Rubus fruticosus* with occasional buddleia *Buddleja davidii,* blackthorn *Prunus spinosa* and willow *Salix spp*.

The field boundaries were largely dry-stone walls and wire fences, however there were some hedgerows present on the Garth end which were largely willow with some hawthorn *Crataegus monogyna*.

Protected Species

Garth is also considered to support a population of reptiles; however this is thought to be smaller than the population at Cilfor. On this site slow worm, grass snake and common lizard have been recorded. The scrub present on site would present a suitable habitat for all of these species. The small area of scrub along the cable route has previously had reptiles recorded.

The scrub and trees on site were dense at the time of the survey and were considered as suitable to support a range of nesting birds. The fields themselves were unsuitable for ground nesting birds due to the grazing and lack of ground cover.

The survey recorded numerous signs of badger foraging, with signs across the agricultural fields. An active badger sett with an estimated five entrances was recorded in the Network Rail land immediately east of the Garth sealing end compound (SEC). Access to this area has not been achieved yet, but a further survey will be required to assess the usage of this sett and if it is a main sett. There were signs of well-worn mammal paths and bedding throughout this area. The other sett entrance reported by RSK on the eastern railway embankment was considered inactive at the time of the update survey.

The ditch is largely rocky in nature so unsuitable for water vole, however an otter platform and spraint was recorded at Garth (SH 59575 38720). It is therefore considered that otter may be present on site and range throughout the area. Otter are known to be present in the wider area and there is good connectivity to watercourses via the ditch and platform.

The site is generally unsuitable for great crested newt due to the flowing nature of the ditch and lack of connectivity to breeding waterbodies in the wider area. The improved grassland is of a short sward length and this would limit GCN in their terrestrial phases.

There were numerous trees on site which exhibited bat roosting potential and this is covered in full below in Section 4.3.

4.2 NNIS Survey

23 out of 24 surveys sites were completed and invasives were found at all of these points, as was found in the RSK 2021 report.

Numerous stands of invasive species were recorded including Japanese Knotweed *Fallopia japonica,* Montbretia *Crocosmia crocosmiiflora*, crassula *Crassula helmsii* and Virginia Creeper *Parthenocissus quinquefolia*. The full results from this NNIS survey is included in Appendix 1, with grid references and photos of each location, and figure 1 and 2 also presents these locations.

4.3 Preliminary Bat Roost Assessment

The PBRA focused on the trees near to the proposed working areas, and the assessment took place externally from the ground. There were numerous trees which exhibited bat potential over both sites, however these were generally far enough away from the working areas to ensure they would not be impacted by the works. There was one dead alder tree to the rear of the Cilfor site (SH 62566 37948), which had numerous rot holes and ivy cover on the rear. Therefore this tree was considered to offer high roosting potential for bats due to the number of potential roosting features. As this tree is adjacent to the proposed Tunnel Head House (THH), emergence and re-entry surveys were undertaken.

If further tree removal is required at a later stage, then the trees at Garth and Cilfor will require a pre-construction check for any signs of roosting bats.

4.4 Bat Emergence/ re-entry Surveys

No bats were found to be emerging or re-entering the tree during any of the activity surveys. However, there was a high level of bat activity, with numerous bats present foraging in the area on both surveys. It is also possible that bats could be using some of the trees within the woodland off Site or houses nearby as a roost.

The surrounding area offers an attractive foraging and commuting habitat, with a large, wooded area present on Site. The majority of the bats recorded were feeding or commuting, likely using the aforementioned linear features as a commuting route.

Common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle were the most commonly recorded species across both surveys, with numerous individuals recorded throughout the surveys. There were also multiple noctules *Nyctalus noctula* recorded, with multiple bats seen flying over the site towards the estuary and agricultural fields.

5 Recommendations and further work

5.1 Cilfor Site

At the Cilfor site, reptile clearance has begun along with the sealing of the reptile fence, signalling the start of the 30 day trapping period. It is recommended this continues as per the reptile method statement, and no works are undertaken inside this area prior to it being declared reptile free.

No bats were found using the high potential tree at Cilfor and therefore this can be removed and works can continue. As per scope for secondary consents, 1.B.1 no bat licence is required at this stage, due to no bat roosts being identified.

Checks of ditches will continue during the works to ensure no otters or water vole are present. No burrows or holts have been identified on site and it is considered unlikely they are present but may range in the area. It is recommended that any excavations are covered and mammal planks are inserted to enable a means of escape should an otter range onto site.

As above, no further protected species licences are required (Scope Ref 1.B.3) at the Cilfor Site due to the absence of these species.

5.2 Garth Site

A further badger survey is required of the sett on Network Rail land. This is being organised and will be undertaken over the next few months.

As reptiles are potentially present in the scrub on site, any clearance should be done under ecological supervision in a two stage cut. This should be done with a first cut down to 150mm then once checked and any reptiles moved, it can be cut down to ground level. This related to the small area along the cable route, west of the SEC, but any other scrub clearance on site should be done under ecological supervision.

Any vegetation removal undertaken during bird nesting season (March-August, inclusive) should be subject to a check by an ecologist first to check for any active nests. If nesting birds are found, a buffer will be put in place and remain there until any nests have fledged.

A pre-construction check for otter and water vole will be completed immediately prior to any works.

The Japanese Knotweed present on the Garth site will be managed as per the Biosecurity Method Statement (reference: C0233_HUK-GES-XX-PL-W-001), along with the other invasive species present on Site.

6 Figures

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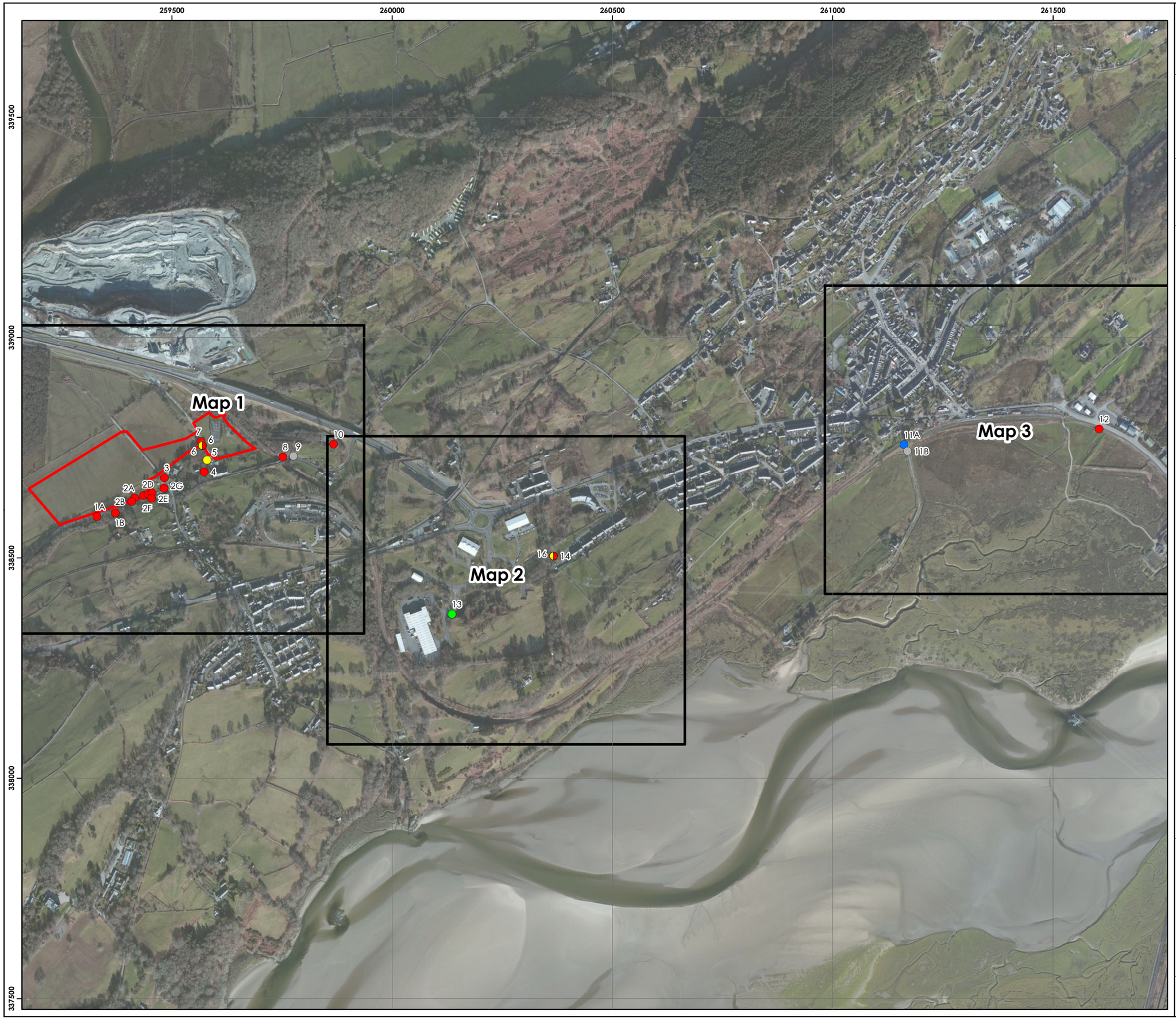
Snowdonia Visual Impact Tunnels

HOCHTIEF

Locations of invasive species Overview



Key

- Extent of works area

Invasive species records

- Japanese Knotweed
- Montbretia
- Crassula
- Virginia Creeper
- None

atmos CONSULTING

0 100 200 400

Metres

N

Scale @ A3:

1:8,000

11/10/2022 64050/EC/016a

Drawn by: KM Checked by: TH Approved by: JH

259500

339000

338500

1A
1B
2A
2B
2C
2D
2E
2F
2G
3
4
5
6
6
7
8
9
10

Snowdonia Visual Impact Tunnels

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Locations of invasive species
Map 1

Key

Extent of works area

Invasive species records

- Japanese Knotweed
- Montbretia
- Crassula
- Virginia Creeper
- None

atmos CONSULTING

0 30 60 120

Metres

N

Scale @ A3:

1:2,500

11/10/2022 64050/EC/016a

Drawn by: KM Checked by: TH Approved by: JH

260000

260500

338500

10

16

14

13

Snowdonia Visual Impact Tunnels

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Locations of invasive species
Map 2

Key

Invasive species records

- Japanese Knotweed
- Montbretia
- Crassula
- Virginia Creeper
- None

atmos CONSULTING

0 30 60 120

Metres

N

Scale @ A3:

1:2,500

11/10/2022 64050/EC/016a

Drawn by: KM Checked by: TH Approved by: JH

Snowdonia
Visual Impact Tunnels

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Locations of invasive species
Map 3

Key

Invasive species records

- Japanese Knotweed
- Montbretia
- Crassula
- Virginia Creeper
- None

atmos CONSULTING

0 30 60 120

Metres

N

Scale @ A3:

1:2,500

11/10/2022 64050/EC/016a

Drawn by: KM Checked by: TH Approved by: JH

Snowdonia
Visual Impact Tunnels

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Locations of Invasive Species

Key

Survey area

Invasive species records

- Himalayan Balsam
- Japanese Knotweed

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0 50 100 200

Meters

N

Scale @ A3:

1:4,000

04/01/2023 64050/HB/023a

Drawn by: JT Checked by: KM Approved by: FM

7 Appendices

7.1 Results from NNIS survey

Table 3: NNIS Survey Results

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
1A	52.926275, -4.094052	Japanese Knot Weed	30 with additional 10 stems slightly to east	 Additional Block 
1B	52.926356, -4.093426	JKW	100+ Block approx. 10m x 15m	Block may be considerably larger once able to gain access to site 
2A	52.926679, -4.092799	JKW	10	Measures need to be taken to prevent plant being cut during hedge management operations e.g.,

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				fencing/signage 
2B	52.926598, -4.092888	JKW	3	One stem snapped and fallen into road 
2C	52.926733, -4.092486	JKW	no stems – all stems dead, no evidence of regrowth	Been foliar sprayed by highways management contractor 
2D	52.92676, -	JKW	20	Although not growing on highway verge,

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
	4.092351			has been partially treated by highways contractor 
2E	52.926787, -4.092217	JKW	100+ Approx 10 x 3m in area	Roadside face been treated by highways contractor, but large stand remains in garden combined with dense bramble thicket. Ditch present behind roadside wall. Area will need treating and then cutting to ground over winter 
2F	52.926679, -4.092217	JKW	15	Total of 3 small stands in close proximity to each other, one of which been foliar sprayed 
2G	52.926895, -4.091814	JKW	100+	Multiple blocks along boundary, in garden/parking area, growing out of walls etc. Appears to have been mown/cut in places

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				 Additional Pictures Below  
3	52.92711, -4.091814	JKW	30	Location in the Invasive Species Survey report is incorrect. Use Grid Reference. Plants around power pole, entrance to house and along stock fence.  Additional picture below.

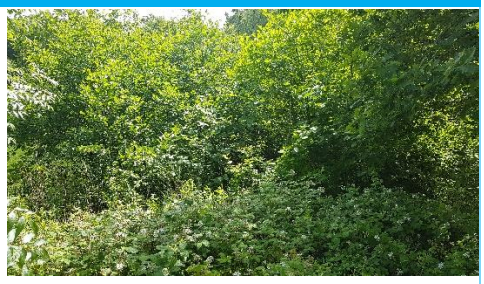
Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				
4	52.927245, -4.090472	JKW	30	Multiple small stands throughout the area, some of which been foliar sprayed, others not. Area needs treating, plants marking and then vegetation cut over winter.  Additional pictures below

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				 
5	52.927488, -4.090382	Montbretia	4 plants in tipped pile of garden waste, just behind garden wall, where wall collapsed.	No sign of JKW, but a lot of other vegetation for small stems to hide in. Picture below shows location to access collapsed wall. 
6	52.927784, -4.090561	JKW & Montbretia	1 stem JKW and small Montbretia	Single stem beside trailer and small Montbretia under large sycamore.  Additional pictures below.

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				 
7	52.927865, -4.090606	JKW	3	2 of the 3 stems have been foliar sprayed. Invasive Species Survey has incorrect location marked, use Grid Reference. 
8	52.927595, -4.087831	JKW	100+	Large block on NWR land.  Additional picture below.

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				
9	52.927622, -4.087473	None	0	No evidence of any INNS in this area
10	52.927892, -4.086131	JKW	50	 Multiple tiny stems, as per pictures below, throughout grassland area under power lines. Some treatment done by landowner, but created stunted growth as done at wrong time of year.  
11A	52.928215, -4.066886	Virginia Creeper	On railway boundary Fence	Growing on posts above ditch, will need spray licence to treat.

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				
11B	52.928081, -4.066752	None	0	No evidence of any INNS.  No evidence of any INNS, however evidence of recent works undertaken to access track, as per picture above.
12	52.928647, -4.060307	JKW	50+	Multiple stands along railway embankment furthest from road, with signs of historic treatment. 
13	52.924496, -4.081968	Crassula	Crassula identified in pond in at least 2 locations	Picture below shows area where Crassula present under saplings in wetland area. Understorey from saplings needs to be removed to allow access but leave saplings to create shade and thereby restrict Crassula growth. Repeated treatment of Crassula required. Draining down of pond would be beneficial. Lots of fish present with evidence of angling.

Invasive Species Report Reference	Grid Reference (GPS)	Type Of Invasive Species	Approximate No of stems	Other Info
				 Crassula present in margins of picture below. 
14	52.925736, -4.078612	Montbretia	Clump	Patch of Montbretia 
15	-	-	-	Access to site not permitted, no inspection undertaken.
16	52.925736, -4.078612	JKW	50	Access to site not possible for survey, but plants seen from roadside.