

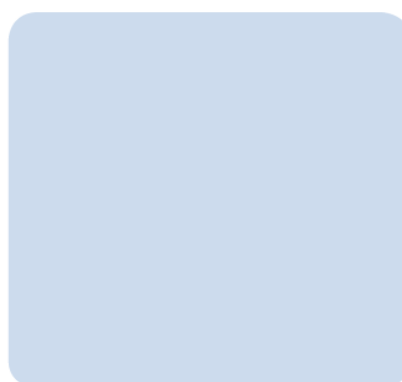
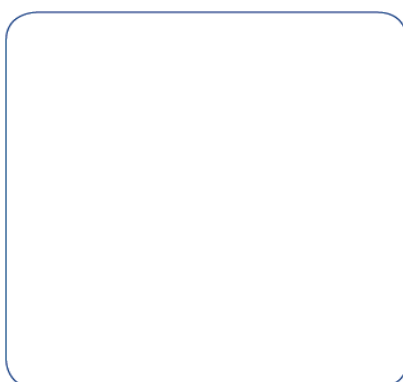
RPS

Porthmellon Waste Site, St Mary's

Isles of Scilly

On Behalf of

Isles of Scilly Council



Date: May 2015

Our Ref: JER6282

RPS

2420 The Quadrant
Aztec West
Almondsbury
Bristol, BS32 4AQ



Tel: (0)1454 853 000

Fax: (0)1454 205 820

Email: rpssw@rpsgroup.com




Quality Management

Prepared by:	Tim Oliver	
Authorised by:	Jason Tose	
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Amendment Record

Revision No.	Date	Reason for Change	Authors Initials

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Drawing JER6282-ECO-003	Japanese Knotweed Stands
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1 Introduction

1.1 Scope of Works

- 1.1.1 RPS has been commissioned by the Isles of Scilly Council to undertake an ecological review of the Porthmellon Waste Site and adjoining land with specific reference to compliance with wildlife legislation to inform the proposed redevelopment of part of the site as a Household Waste Recycling Centre (HWRC) and to inform actions that will need to be taken to ensure that the demolition of the disused incinerator complies with wildlife legislation.

1.2 Site Description

- 1.2.1 The site is an active municipal waste site with several workshop buildings and a weighbridge on the northern boundary and a disused incinerator building on the southern boundary. Two large mounds cover a substantial proportion of the site: the largest on the eastern side of the site comprising historic waste disposal placed on-site in past and a bund comprising garden waste with new material being added to the northern end of this bund. Both bunds are very steep-sided, approximately 10-15 m in height comprising material that would have been loosely tipped to create the bund. Both bunds are vegetated with a dense cover on the bund comprising garden waste materials.
- 1.2.2 A further area of land immediately to the south-east of the operational site but within the landholding had been used for the storage of materials in the past. A short track, bounded by low mounded ground with a cover of vegetation, leads to the southern boundary of the operational site close to the incinerator.
- 1.2.3 A land parcel owned by the Duchy of Cornwall can only be accessed through the northern part of the municipal site. This area is currently used as a storage area for crushed stone, other stone products and lobster pots. There is a strip of scrub / woodland on the northern and eastern boundary and partially vegetated areas of mounded ground indicating that some spoil material has been deposited in the past.
- 1.2.4 A ditch on the south-eastern boundary of the Duchy of Cornwall land adjoins the municipal site. A further ditch beyond the northern boundary separates the site from a building construction within the adjoining Porthmellon Industrial Estate. The municipal site lies on the edge of Hugh Town with Lower Moors SSSI located to the east.

2 Methodology

Japanese knotweed

- 2.1.1 The site and its surroundings were surveyed on 21st and 23rd April 2015 by Tim Oliver MCIEEM and Rebecca Steggles. During the walkovers, the operational areas were searched for evidence of Japanese knotweed including old dead stems from previous year's growth and this year's growth emerging from the ground including very young shoots. Where evidence of Japanese knotweed was found, notes were made on the type of growth. Judgments made on the age of different stands and likely cause of establishment.

Building Inspection

- 2.1.2 The incinerator building on the southern boundary of the site was surveyed externally from the ground to assess the potential to be used by nesting birds and/or roosting bats. Binoculars were used during the inspection to view aerial features in more detail.
- 2.1.3 Notes were made on the broad structure elements of the building and cavity features / enclosed spaces with the potential to support nesting birds and/or roosting bats. Aspect and building context were also considered in the assessment.
- 2.1.4 Bird activity around the building was recorded during the walkover survey on 21st and prior to the start of the dusk emergence survey on the same day. The survey methodology was consistent with the good practice survey guidelines published by the Bat Conservation Trust in 2012.

Bat Emergence Survey

- 2.1.5 A dusk emergence survey of the incinerator building was undertaken on the evening of 21st April. The surveyor positioned on the adjoining path on the south-eastern side of the building viewed the building from the closest adjoining line of vegetation and most likely bat flight line for any bats roosting in the building.
- 2.1.6 The survey started 15 minutes before dusk and continued for an hour after dusk. The survey was designed to detect whether any bats emerged from the structure at and after sunset. Other incidental bat activity in the areas immediately around the incinerator was also recorded during the survey. The weather during the survey was warm and dry with less than 10% cloud cover and an air temperature of 10 ° C at the start of the survey. During the survey all bat calls were recorded on a frequency division bat detector and analysed using the appropriate call analysis software (analog).

Constraints

- 2.1.7 A central access road divides the two bunds with vehicle access onto the top of the historic waste bund at the southern end. Surveyors viewed the large bunds from ground level. The

bunds are not disturbed by site operations and were not safe to access. Deadheads of plants were viewed from ground level to ascertain if they related to Japanese knotweed.

3 Results

Japanese knotweed

- 3.1.1 The distribution of Japanese knotweed within the site is mapped on *Drawing JER6282-ECO-003*. The majority of plants within the municipal site occur on the northern and north-eastern boundaries of the site. The Japanese knotweed growth within the site has been divided into three main areas of infestation Stand A to E. The presence of Japanese knotweed on the northern boundary of the municipal site is likely to relate to the spread of the plant from off-site locations. Outside the site boundary there are groups of Japanese knotweed plants on the banks of the wooded northern ditch directly (adjoining the site boundary) and is widely distributed on the adjoining Duchy of Cornwall landholding where is growing on at the main access gate, along the edges of the central access track, on the banks of the ditch, amongst stored materials and under vehicles as well as on perimeter mounds.
- 3.1.2 There was no evidence of Japanese knotweed being present across much of the operational site. No stands were identified on the large garden waste bund and only one small stand was present at the base of the historic waste stockpile which will have established during site activities in the relatively recent past.
- 3.1.3 An area of mounded ground with shrubs and trees close to the site entrance had ruderal vegetation establishing on the perimeter where there had been localised deposition of substrate and rubbish. No Japanese knotweed was seen during the inspection of this area from the base of mound indicating absence but the nature of the ground prevented it from being walked over.
- 3.1.4 The lack of Japanese knotweed from the large garden waste bund indicates that this plant will not be present in many residential gardens on St Mary's and may be completely absent away from the Porthmellon waste site.
- 3.1.5 Very small shoots were just visible emerging from the ground during the survey and further plants will be expected to become visible later in spring and early summer.

Stand A – North-eastern boundary adjacent to workshop

- 3.1.6 This is an established stand of Japanese knotweed on a low bund on the eastern boundary of the operational site growing between the workshop and the offsite ditch. (*Plate 3-1*).

Plate 3-1 **Northern part of Stand A**



- 3.1.7 Old growth with large crowns and wide diameter stems was evident on the bank at the southern end of the workshop indicating that the plant has been present in this location for a number of years. Infrequently used equipment on this boundary on the site boundary bund has young shoots of Japanese knotweed growing amongst them.
- 3.1.8 Several small young shoots are coming up into the operational site in and around the location where the JCB was being parked at the time of the survey (*Plate 3-2*). This part of the site will be expected to have Japanese knotweed roots below the surface of the working area. The roots would also be expected to extend beneath the workshop.

Plate 3-2 Stand A and site materials



- 3.1.9 Importantly there is not yet any evidence of spread onto the historic refuse mound in this location and only slow spread southwards along the length of the ditch.

Stand B - North-eastern boundary and access gate to Duchy of Cornwall land

- 3.1.10 Numerous small shoots are appearing on the edge of the track into the Duchy of Cornwall site. Some very young shoots are coming up through compacted soils in the trackway and with more likely to appear in the coming weeks (*Plate 3-3* and *Plate 3-4*). In comparison, there are only scattered plants on the north-eastern boundary adjoining the northern ditch with more substantial stands beyond the site boundary.

Plate 3-3 Stand B



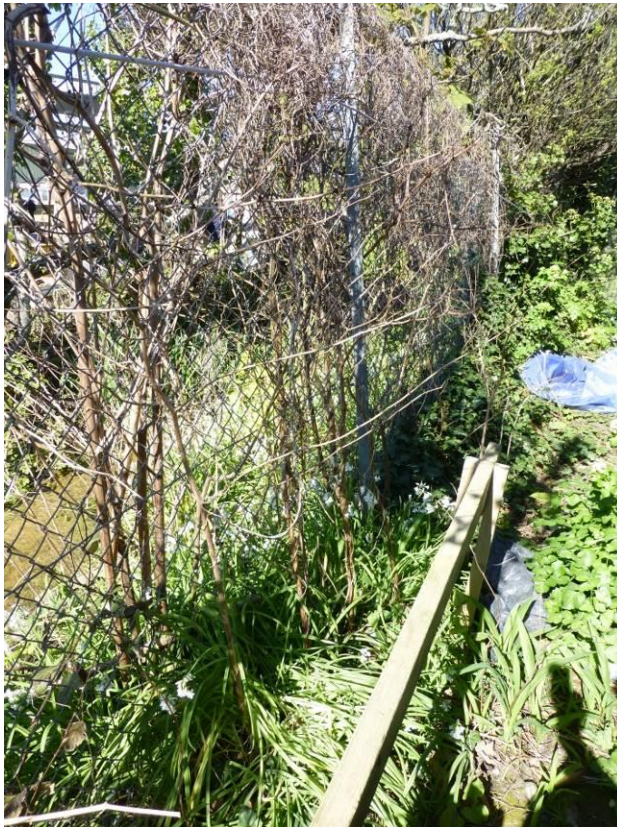
Plate 3-4 Stand B – Japanese knotweed growing in frequently used track



Stand C – Around the wooden welfare building

- 3.1.11 Japanese knotweed shoots are appearing in ground disturbed where a cable was installed by trenching in 2014 (*Plate 3-5*). The work undertaken by Western Power Distribution will have spread Japanese knotweed and machinery used in the works could have spread the plant to other locations on the Scilly Isles or on the UK mainland.

Plate 3-5 Stand C



- 3.1.12 Some Japanese knotweed shoots are growing amongst stored materials to the west of the welfare building, placed on ground that would have been disturbed during the trenching, now have Japanese knotweed growing around them.
- 3.1.13 A few young plants are growing in undisturbed soils at the back of the welfare building directly adjoining the bank of northern ditch. Just off-site, deadheads were present along the fence line. A few small dead stems from last year's growth were present on the southern side of the building along with a small number of new shoots. These are considered to be part of the same stand as the plants at the back of the building with a root mass connecting the two areas.

Stand D

- 3.1.14 There are also a few shoots of Japanese knotweed emerging in bare ground behind the site office portacabin. The growth to the north was associated with the roots present beneath the off-site workshop/garages. Off-site Japanese knotweed was also seen growing from the base of the eastern elevation of the garages with an adjacent long established stand on the bank of the ditch (*Plate 3-6*).

Plate 3-6 Stand D



Stand E – Base of historic waste bund at southern end of the site

- 3.1.15 A small stand of Japanese knotweed is growing on the edge of the working area for current site operations at the base of the historic waste bund. The stand is approximately 10m long is growing next to white hessian bags used to temporarily store black bag bin waste (*Plate 3-7*). Young shoots were growing up around the base of a few white bags but the extent of young growth was not fully assessed as there was not safe access to the stand. The small dense stand will have established from plant material inadvertently spread by people or machinery during site operations.

Plate 3-7 Stand E



Stand F – Site Entrance Road

- 3.1.16 The survey covered the section of public road that provides access to the site and the section that runs along the western boundary of the site. No established stands were found with plant material only found in one location: a small ornamental bed on top of a stone retaining wall on the side of the entrance into the site.
- 3.1.17 Two plants were visible: a single plant with vigorous growth and evidence of having been cut back last year and a deadhead. Both plants appear to have colonised this location within the last two growing seasons (after summer 2013). The raised bed is part of a residential garden and in the private ownership.

Incinerator Building

- 3.1.18 The disused incinerator building is located in the southern part of the site, adjoining the surface public path. It comprises the main waste reception and incinerator block, a fan and tower and two gas cleaning plants. The buildings are primarily constructed from sheet metal but the main incinerator block is partially constructed from concrete blocks (*Plate 3-8*). There are connecting metal flues supported by stanchions linking the built structures. The roofs are flat with the stack located on a central gas cleaning plant.

Plate 3-8 *Incinerator building viewed from adjoining road*



- 3.1.19 The concrete blockwork was tightly sealed with no significant deterioration in the structure. The metal sheeting was also in reasonable condition but the upper part overhangs the lower section of the building with the potential for there to be accessible internal cavities. However, roosting bats are rarely associated with metal materials due to the very wide temperature variations created by this material and in this context the likelihood of bats using of this part of the building is negligible.
- 3.1.20 Two areas of the building were identified as having some potential for use by roosting bats.

Louvred Vents

- 3.1.21 Externally, there are narrow connecting sections between the parts of the building that of concrete block and sheet metal construction (*Plate 3-9*). These are present on three sides of the incinerator block and have wooden louvred vents creating points of access into cavities on all three elevations.

Plate 3-9 *Louvred ventilation grilles*



Open sided Waste Reception of the Incinerator Block

- 3.1.22 The northern elevation of the building has a covered opening providing potential access for bats into to a large dark roof-height space. There is the potential for small enclosed spaces to be present in the upper part of this space.

Trees

- 3.1.23 The semi-mature elm tree is the only established tree within the municipal site. The tree was inspected from the ground with the aid of binoculars. The diameter of the trunk was narrow (less than 40cm). There is a thin cover of ivy over the trunk and larger branches partially obscuring views, but the structure appeared solid with no obvious decay or cavities. The potential value for roosting bats was low to negligible.

Nesting Bird Activity

- 3.1.24 During the walkover surveys, bird activity around the incinerator building was recorded. House sparrow *Passer domesticus* and starling *Sterna vulgaris* was observed around the buildings during both of the daytime walkover surveys and in the evening at the start of the bat activity survey.
- 3.1.25 Nesting material was visible in many of the louvred vents on the south-east and north-west elevations (Plate 3-10). Adult house sparrows were seen flying from and entering these areas

during the surveys and males were territorial calling from the structure during the daytime surveys. House sparrows nest semi-colonially and there will be a number of pairs using the louvred features on two sides of the building.

Plate 3-10 *Evidence of nesting birds using louvred grilles*



- 3.1.26 A flock of starlings was also present around the incinerator building with activity primarily observed around the metal sheeting building sections. Up to 10 adult birds were seen flying between the buildings and roosting on metal structures. Starlings were heard inside the eastern gas cleaning plant from the entrance into the COSHH room with a colonial nest site considered to be present in this building. Adult starlings were seen to enter and emerge from the upper part of this building in the period running up to dusk at the outset of the bat survey. During the daytime survey bird activity was also noted around the central second gas cleaning plant which was not visible to the surveyor at dusk with nesting likely.
- 3.1.27 No territorial breeding behaviour was observed in other areas of the site. A stand of non-native shrub (*Pittisporum*), a single semi-mature elm and young sycamore close to the site entrance had sufficient cover to be used by nesting birds. No territorial activity was observed and the operational nature of this area of the site close to the entrance creates a level of disturbance that would reduce the likelihood of use by nesting birds.
- 3.1.28 The large garden waste and historic waste bunds lacked any shrub cover. Although the bunds have a vegetation cover, the steepness of the banks and uncompacted nature of the surface make the ground largely unsuitable for ground nesting birds.

Bat Roosts and Activity

- 3.1.29 Common pipistrelle (including bats echolocating at 50 KHz) was the only bat species recorded during the survey. The earliest activity was a foraging pass detected in the dark corner of the small field/allotment to the west the incinerator at 20:34, 7 minutes after sunset. The bat flew from the west and was only briefly picked up on the detector.
- 3.1.30 The next bat pass was recorded at 20:43, 16 minutes after sunset with a single bat circling over the adjacent allotment before flying northwards over gardens and towards the mature roadside trees
- 3.1.31 Foraging activity was initially associated with the allotments and gardens west of the incinerator with no activity recorded around the incinerator buildings or over the municipal site. Three common pipistrelle bats were recorded flying together at 20:46 with a further single bat seen flying along the roof of the Tanglewood at this time.
- 3.1.32 The first bat recorded flying along the road in the vicinity of the incinerator was at 20:49 with three bats seen together at this location at 20:50. This location is shown on *Plate 3-11*. At this time foraging passes extended further up and down the road and were frequently over the adjacent field/allotment. The light level of the sky remained relatively high during the first half of the survey and there were regularly passes of two bats flying together.

Plate 3-11 *Road north-west of incinerator*



- 3.1.33 The first foraging pass extending into the municipal site around the incinerator was at 21:04 with a bat flying north-east from the road into the site and towards the mature roadside trees.

- 3.1.34 Continuous bat activity was recorded along the roadsides throughout the survey with foraging passes up and down the road over the surveyor. Multiple bats (two or more) were recorded at 21:05, 21:08 and twice at 21:11. On the basis of the location being a preferred feeding area the same individual bats would have been repeatedly recorded by the detector. At 21:13 a single bat repeatedly passed the surveyor feeding over the section of road adjacent to the incinerator.
- 3.1.35 At 21:15, after the end of the typical time for pipistrelles to emerge from roosts and when it was too dark to see bats against the sky, a slow transect was walked along Well Road to record levels of activity.
- 3.1.36 Multiple bat passes were associated with the large mature trees on both sides of the road close to the side entrance into the municipal site. In comparison only occasional passes of commuting bats were detected between the side entrance and main entrance. The last bat was recorded at 21:21 with no activity recorded on the entrance road or alongside the main road at Porthmellon. The survey ended an hour after sunset.

4 Conclusion

Japanese knotweed

- 4.1.1 The current distribution of Japanese knotweed around the Porthmellon Waste Site and immediate surrounds relates to a long established stands on the north-eastern boundary adjoining an open water ditch and alongside the off-site wooded ditch beyond the northern site boundary and more recent spread of the plant from these two locations.
- 4.1.2 The establishment of new areas of Japanese knotweed within the site relates to
- Natural spread from the north-eastern site boundary into the site (Stand A)
 - WPD trenching on the northern boundary (Stand C)
 - Natural spread from the northern bank of the ditch into the site (Stands C and D)
 - Spread as a result of vehicle movements through the site by the tenants of the Duchy of Cornwall landholding (Stand B)
 - Inadvertent movement of plant materials during site operations (Stand E and Stand F)
- 4.1.3 These factors (excluding the trenching) remain means through which the plant could be spread further within the site and to new areas on Scilly Isles.
- 4.1.4 In addition, the disposal of any living cut stems of Japanese knotweed from Stand F by the home owner could result in the establishment of Japanese knotweed in further locations. Live material included in the garden waste bund could establish a new stand that would be difficult to control / eradicate through herbicide applications.

Nesting Birds

- 4.1.5 All nesting birds are protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to intentionally kill, injure or take birds or their eggs, or to intentionally destroy or disturb a nest, when it is in use or being built.
- 4.1.6 Nest sites are protected at all times. Nesting is typically in spring and summer (generally taken as the beginning of March to the end of August) with species often having several broods in the same nest. Consequently birds nesting in the incinerator building are protected under this legislation and dismantling / demolition will need to be postponed until the young birds have fledged and the adult birds abandoned the nest sites.
- 4.1.7 The on-site vegetated habitats offer limited potential nesting habitat for birds due to the absence of dense cover, and this will limit the number of species that would use them but the larger trees along the boundary with the road may have cavities used by nesting birds.

Bats

- 4.1.8 All species of bats occurring in the UK receive full protection under The Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended). In

addition the following seven species are listed in Section 41 of the NERC act (2006) as species of principal importance for conservation in England: soprano pipistrelle, lesser horseshoe bat, greater horseshoe bat, barbastelle, Bechstein's bat, noctule, and brown long-eared bat. All the above species are also UK BAP priority species

- 4.1.9 Overall the incinerator building is considered to have low potential value for roosting bats but there are small enclosed cavity features in its structure with the potential to be used by roosting bats.
- 4.1.10 During the April dusk emergence survey, no bats were seen to emerge from the western side of the incinerator building and no bats were seen or detected flying from the municipal site into the wider area which could have emerged from the eastern side of the building.
- 4.1.11 Overall very little bat activity was recorded within the southern area of the municipal site, being limited to an occasional foraging pass by a bat feeding over the adjoining road. In comparison the road and allotments were a foraging resource continually used by individuals from the local population of common pipistrelle for 30 minutes after emergence. Foraging was ongoing when recording in this area was stopped. The timing of the first activity indicates the presence of a common pipistrelle roost or roosts in the vicinity of the site. Observations and recordings during the survey indicated that the activity related to individuals (5 – 10 bats) feeding along the lane over the adjoining habitats for extended periods over duration of the survey.
- 4.1.12 The semi-mature elm tree is the established tree within the municipal site. The ground inspection of the tree concluded that there were no visible cavity features and that its potential value for roosting bats was low to negligible.

4.2 Recommendations

Japanese knotweed

- 4.2.1 There is a high risk of further spread of Japanese knotweed around the site and the potential for Japanese knotweed to establish in new locations around the island in turn becoming a permanent feature of the landscape.

Emergency Action Plan

- Ensure that Japanese knotweed plant fragments are not transported within or outside the site
 - Implement herbicide control strategy on all stands (within and directly adjacent to the site)
 - Build control measures into the design of the new HWRC to eliminate the potential for Japanese knotweed to affect structures in the redeveloped site
- 4.2.2 There is a risk of new Japanese knotweed stands being established in the municipal site from plant fragments transported on the wheels of vehicles. The Duchy of Cornwall will also need to urgently implement JK controls and eradication on adjoining land alongside control measures in the municipal site. Importantly vehicle movements of the tenants using the Duchy of Cornwall land could bring new plant fragments into the municipal site and around the island. The extent

of material emerging this spring and their locations on track edges and amongst materials that are transported around the island means that there is currently a very high chance Japanese knotweed being spread. This would be unlawful and detrimental to the islands.

4.2.3 The following actions should be implemented at the site as an urgent priority in advance of the development of the HWRC.

- Establish a stand-off between where people are working and equipment is stored. This would ideally be 7m from the base of the established stand.
- Separate operational areas from visible Japanese knotweed with barrier fencing to visually define stands.
- Where Japanese knotweed is growing adjacent to equipment or stored materials do not disturb.
- Equipment that will be essential for site operation can only be moved following a controlled method to ensure that plant fragments are not disturbed, transported or buried within the site.

Nesting Birds

4.2.4 Programming the dismantling and demolition of the incinerator block and associated buildings in autumn (September onwards) would avoid the main nesting season. Given the mild weather conditions on the islands confirmation that nests are no longer active (i.e. an absence of birds flying in and out of the building) should be addressed prior to the start of demolition.

Bats - Roosts

4.2.5 It is recommended that local bat surveyors carry out two roost emergence surveys of the incinerator buildings in late June and late July in the middle of the main activity season. The survey will assess whether buildings subject to demolition are being used by bats. Although overall the potential value appears low, because there are cavity features in the structure, use by roosting bats cannot be ruled out after the daytime inspection. The level of foraging activity close to the building during the April emergence survey and its proximity to the Lower Moors wetlands would also increase the potential for features to be used by bats.

4.2.6 In the event that a roost feature is found in the building, demolition would have to be covered under a Natural England European Protected Species (EPS) mitigation licence. The licence application would include appropriate mitigation measures to ensure that the alternative roost features are provided at the site and ensure that individual bats will not be harmed or injured by works associated with demolition.

Drawings







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Notes

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Legend

-  Site Boundary
-  Areas of Highest Risk of Spread
-  Visible Above Ground Japanese Knotweed
- 

Rev	Description	Date	Initial	Checked



2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

T: +44(0)1454 853 000 E: rpsw@rpsgroup.com F: +44(0)1454 205 820

Client COUNCIL OF THE ISLES OF SCILLY

Project PORTHMELLON WASTE MANAGEMENT FACILITY

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