

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			and tarmac would be of Less than local value if considered separately.			
Protected Species						
Fungi		County	There are several areas within and adjacent to the site, which support a high diversity of fungi species. This includes three areas which are considered to qualify as SINCH habitat, based on the number of different species, and	Suitable habitat for fungi will be retained and enhanced as part of the Nant Helen earthworks project particularly areas of acid grassland within the smaller track. In addition, the re-use of suitable substrate (i.e.	Acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration - Less than Local Value. Retained fungi rich habitats within the Nant Helen site - County Value.	As discussed above under 'Habitats' fungi rich habitats will take between 20 - 30 years to establish, and as such at the time of the Project commencing newly created areas for fungi habitat within the Nant Helen site are considered to provide limited value for fungi, and likely to be of

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			occurrence of rare species (in accordance with published guidance⁸). The best examples of fungi habitat, which were surveyed, occur in grassland on coal spoil. Due to the known presence of SINC habitats, and the presence of habitats likely to be of conservation importance for fungi, being present	coiley spoil) within the site will provide suitable conditions for the re-establishment of acid grassland and fungi communities, particularly on railway track slopes / embankments. The Washery comprises a number of areas which are rich in fungi, namely acid grassland habitats occurring in the eastern	Habitats within the Washery – County Value. Overall Value = County Value	Less than Local Value. Where habitats are retained within the Nant Helen Site, these will continue to support fungi rich habitats, and therefore be of County value. This includes areas of acid grassland such as extensive areas within the smaller track loop. Within the Washery are fungi rich, will be of County value.

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			within the Site boundary, the Site is considered to be of County value for fungi.	and southern parts of the site.		
Invertebrates	The Site supports notable invertebrates including species listed in the Red data book (identified as Nationally scarce including NT, Nb, N, NT49 categories), and	County	The Site supports species of conservation significance including S7 species and red data book. The Site is assessed as	Suitable habitat for invertebrates will be retained and enhanced as part of the Nant Helen earthworks project. Newly established	Acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – County value.	Retained habitats within the Nant Helen site will continue to support notable invertebrate species. Newly created habitats are likely to quickly establish with invertebrate

⁴⁹ **NT** - IUCN UK Red List, Near Threatened. A taxon is Near Threatened when it has been evaluated against the IUCN criteria and does not currently qualify for Critically Endangered, Endangered or Vulnerable status, but is close to qualifying, or is likely to do so soon; **Nb** – Nationally Scarce Category B. Taxa thought to occur in between 30 and 100 10 km squares of the National Grid; **NS** – Nationally Scarce. In more recent second status reviews, the Na and Nb sub-divisions have been subsumed into a single category covering species occurring in 16 to 100 10km squares of the National Grid. Unlike the previous ‘N’ category, which covered the same range, the amalgamation does not necessarily result from inadequate information on the British distribution; **pNS** – Provisional Nationally Scarce. The rove beetles *Hadrognathus longipalpis* and *Zyras collaris* will almost certainly be accorded Nationally Scarce status in the forthcoming Review of this group, but they have no formal conservation status currently.

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	as species of principal importance for conservation in Wales (i.e. Section 7 species) (S7). In accordance with published guidance. These include scarce blue-tailed damselfly (NT), a water beetle (<i>Helochares punctatus</i>) (NS), a rove beetle (<i>Hadrognathus longipalpis</i>) (pNs), weevils: <i>Anthonomus brunnipennis</i> (Nb), <i>Pelenomus waltoni</i> (Nb) and <i>Magdalis carbonaria</i> (Nb),		being of County Value, due to the presence of a high proportion of habitats which support a diverse invertebrate fauna including species of high conservation status.	habitats are likely to quickly be colonised by invertebrates within the Site, particularly wetland habitats and acid grassland. The Washery comprises habitats which are used by notable invertebrates including marshy grassland connecting to the Gorsllwyn SSSI and short species rich grassland	Retained habitats within the Nant Helen site – County Value. Habitats within the Washery – County Value. Overall value = County Value	species within the site, and would therefore provide a similar value as the existing baseline (i.e. County Value). It is possible, that in the long term the value of enhanced habitats within the Nant Helen site will be more favourable to invertebrates including those not currently present in the Site but which are known to be present in the wider area such as marsh fritillary.

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	dingy skipper (S7), double line moth (Nb), a money spider (<i>Walckenaeria kochi</i>), money spiders: <i>Erigonella ignobilis</i> (NS) and <i>Agyneta olivacea</i> (NS), triangle hammock-spider (S7/NS). The majority of these species were recorded in small numbers in one or a few of the sampling areas within the Site. Dingy skipper was recorded in higher numbers, and across the Site in open, ruderal			habitats. Species recorded included the small blue, grayling and small pearl bordered butterfly.		In the short term however, and at the time of GCRE commencing, these habitats are considered to be of similar value to invertebrates as the existing baseline and marsh fritillary are assumed to be absent. The Washery, which is unaffected by the Nant Helen earthworks, will have the same value as the existing baseline i.e. County Value.

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	vegetation and is considered to be an important population of this butterfly. The adjacent washery site supported a number of other notable invertebrates including the small blue, grayling and small pearl bordered butterfly.					
Amphibians	The site is known to support common toad, common frog, common and or smooth newt, which have been found in terrestrial	Local	Common toad are a Section 7 species. As such the Site is assessed as being of Local value to	Suitable habitat for amphibians will be retained and enhanced as part of the Nant Helen earthworks	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy	Retained habitats within the Nant Helen site will continue to support notable amphibian species. Newly created habitats are likely to

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	habitat during reptile surveys.		amphibian populations.	project. Newly established habitats are likely to quickly be colonised by amphibians within the Site. The Washery comprises habitats which are used by amphibians. All species recorded in the Nant Helen site were also recorded within the washery site: common frog. Common toad, palmate and smooth newt.	restoration – Less than Local value. Retained habitats within the Nant Helen site including marshy grassland and waterbodies – Local Value. Habitats within the Washery – Local Value. Overall Value = Local Value	quickly establish with amphibian species within the site, although it is noted that newly created acid grassland, which forms the largest proportion of newly created habitats, is likely to have limited value for amphibians. It is possible, that in the long term the value of enhanced habitats within the Nant Helen Site will be more favourable to amphibians due to the increase in the number of

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						wetland habitats, although at the time of GCRE commencing it is likely a similar population size would be present. Therefore, these habitats would be of local Value. The Washery, which is unaffected by the Nant Helen earthworks, will have the same value as the existing baseline i.e. Local Value.
Reptiles	Reptile presence / absence surveys recorded peak counts of 17	Local	These species are Section 7 species. All native reptiles are protected	Suitable habitat for reptiles will be retained and enhanced as	Newly planted woodland and acid grassland establishing on new	Retained habitats within the Nant Helen site will continue to support notable

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	common lizard and 2 slow worm.		under Schedule 5 of the Wildlife and Countryside Act 1981 with respect to killing, injury and sale only. As such, the Site is considered to be of Local Value to reptiles.	part of the Nant Helen earthworks project. In addition, newly established habitats are likely to quickly be colonised by reptiles within the Site. The Washery comprises habitats which are used by reptiles. A peak count of 10 common lizard was recorded within the Washery site.	earthworks and adjacent areas of Celtic energy restoration – Local value. Retained habitats within the Nant Helen site including marshy grassland and waterbodies – Local Value. Habitats within the Washery – Local Value. Overall Value = Local Value	reptile species. Newly created habitats are likely to quickly establish with reptile species within the site. It is possible, that in the long term the value of enhanced habitats within the Nant Helen Site will be more favourable to reptiles due management of habitats, although at the time of GCRE commencing it is likely a similar population size would be present. Therefore these

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						habitats would be of local Value. The Washery, which is unaffected by the Nant Helen earthworks, will have the same value as the existing baseline i.e. Local Value.
Breeding birds	Surveys recorded an assemblage of breeding birds typically associated with the habitat surveyed. Surveys recorded the following species: greater Canada goose (<i>Branta</i>	County	Of these species ten are included on the BoCCW 3 Red list, 12 on the BoCCW 3 Amber list with 14 being Section 7 species. One species (Common	Suitable habitat for breeding birds will be retained and enhanced as part of the Nant Helen earthworks project. In addition, newly established	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – County value.	Retained habitats within the Nant Helen site will continue to support notable breeding bird species. Newly created habitats are likely to quickly establish with breeding

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	<i>canadensis</i>), mallard, common buzzard, lapwing, curlew, woodpigeon (<i>Columba palumbus</i>), Eurasian collared dove (<i>Streptopelia decaocto</i>), cuckoo, nightjar, great spotted woodpecker (<i>Dendrocopos major</i>), jay (<i>Garrulus glandarius</i>), magpie (<i>Pica pica</i>), jackdaw (<i>Corvus monedula</i>), carrion crow (<i>Corvus corone</i>), goldcrest (<i>Regulus regulus</i>),		Crossbill) that is included on Schedule 1 of the Wildlife and Country 1981 (as amended) bred within the Site. In addition, three of these species are listed as 'Primary' species, and ten as 'Contributory' species in published guidance³⁴, and therefore the site would qualify as SINC based on the presence	habitats are likely to quickly be colonised by breeding birds within the Site. The Washery comprises habitats which are used by a range of breeding birds including skylark, linnet, grasshopper warbler, willow warbler, dunnock, lapwing, house sparrow, bullfinch and reed bunting.	Retained habitats within the Nant Helen site including marshy grassland and waterbodies – County Value. Habitats within the Washery – County Value. Overall Value = County Value	bird species within the site. It is possible, that in the long term the value of enhanced habitats within the Nant Helen Site will be more favourable to breeding birds due management of habitats, although at the time of GCRE commencing it is likely a similar population size, and variety of species, would be present. Therefore these habitats would be of County Value.

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	blue tit (<i>Cyanistes caeruleus</i>), great tit (<i>Parus major</i>), coal tit (<i>Periparus ater</i>), skylark, long-tailed tit (<i>Aegithalos caudatus</i>), chiffchaff (<i>Phylloscopus collybita</i>), willow warbler (<i>Phylloscopus trochilus</i>), blackcap, garden warbler (<i>Sylvia borin</i>), whitethroat (<i>Sylvia communis</i>), grasshopper warbler, sedge warbler (<i>Scrocephalus schoenobaenus</i>), wren (<i>Troglodytes</i>		of these species. One species, the nightjar (a BoCCW 3 Amber list, S7 and SINC 'Contributory' species) was recorded in cleared plantation woodland, south-west of the Site. On the current survey information to date, the site is assessed as being of County value for breeding birds.	All Section 7 and or red listed species.		The Washery, which is unaffected by the Nant Helen earthworks, will have the same value as the existing baseline i.e. County Value.

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	<i>trogodytes</i>), starling, blackbird, song thrush, mistle thrush (<i>Turdus viscivorus</i>), robin (<i>Erithacus rubecula</i>), redstart (<i>Phoenicurus phoenicurus</i>), stonechat, northern wheatear (<i>Oenanthe oenanthe</i>), dunnock, house sparrow, pied wagtail (<i>Motacilla alba</i>), grey wagtail, tree pipit, meadow pipit (<i>Anthus pratensis</i>), chaffinch, bullfinch, linnet,		All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Some rarer species (those listed under Schedule 1 of the Act) are			

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	lesser redpoll (<i>Carduelis cabaret</i>), goldfinch (<i>Carduelis carduelis</i>), siskin (<i>Spinus spinus</i>), yellowhammer (<i>Emberiza citrinella</i>) and reed bunting.		afforded additional protection from disturbance when breeding. Barn owl is included on Schedule 1.			
Wintering birds	Surveys recorded the following species: greater Canada goose, mallard, grey heron (<i>Ardea cinerea</i>), red kite, buzzard, snipe, woodpigeon, kestrel, magpie, jackdaw, rook (<i>Corvus frugilegus</i>),	County	Overall, the assemblage of birds recorded is typical of habitats in upland areas of this part of Wales. No particularly rare species or large aggregations of species of	Suitable habitat for wintering birds will be retained and enhanced as part of the Nant Helen earthworks project. In addition, newly established	Acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – County value . Retained habitats within the Nant	Retained habitats within the Nant Helen site will continue to support notable wintering bird species. Newly created habitats are likely to quickly establish with wintering bird species within the site.

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	carrion crow, raven, blue tit, great tit, skylark, wren, starling, blackbird, fieldfare, song thrush, redwing, mistle thrush, robin, stonechat, dunnock, house sparrow, pied wagtail, meadow pipit, chaffinch, linnet, goldfinch and reed bunting.		conservation concern were recorded. Of the total of 34 species was recorded, three are included on the Birds BoCCW3 Red list, 12 are included on the BoCCW3 Amber list with seven being included on S7 of the Environment (Wales) Act 2016. In addition, seven of these species are listed as 'contributory' species in	habitats are likely to quickly be colonised by wintering birds within the Site. The Washery comprises habitats which are used by wintering birds including starling, house sparrow and mistle thrush. All Section 7 and or red listed species.	Helen site including marshy grassland and waterbodies – County Value. Habitats within the Washery – County Value. Overall Value = County Value	It is possible, that in the long term the value of enhanced habitats within the Nant Helen Site will be more favourable to wintering birds due management of habitats, although at the time of GCRE commencing it is likely a similar population size, and variety of species, would be present. Therefore these habitats would be of County Value. The Washery, which is unaffected by the

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			published guidance³³, and therefore the site would qualify as SINC based on the presence of these species. On the current survey information to date, the site is assessed as being of County value for wintering birds.			Nant Helen earthworks, will have the same value as the existing baseline i.e. County Value.
Badger	Badger surveys recorded setts within the Site boundary. This included a three hole and five-hole	Less than Local	A number of badger setts have been recorded within / adjacent to	Suitable habitat for badger will be retained as part of the Nant Helen	Newly planted woodland and acid grassland establishing on new earthworks	Retained habitats within the Nant Helen site will continue to support badgers, limited to small

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	subsidiary sett. None of the sett entrances had any signs of currently being used by badger, but a latrine was recorded in close proximity. An outlier sett, badger latrine and signs of digging by badger were also recorded in woodland outside of the Site boundary, over 2 km to the south-west.		the Site boundary in addition to a number of setts within the wider area. The Site is considered to be of Less than Local value to badgers. Although not rare, badgers are protected under the Protection of Badgers Act 1992 for welfare reasons and therefore are a potential ecological	earthworks project. No badger setts will be disturbed by the Nant Helen earthworks. In addition, newly established habitats within the Site will be suitable for badger. The Washery comprises limited habitat for badger, and no evidence has been found to suggest they are using this	and adjacent areas of Celtic energy restoration – Less than Local value. Retained habitats within the Nant Helen site including marshy grassland and waterbodies – Less than Local Value. Habitats within the Washery – Less than Local Value.	numbers/infrequent use. Newly created habitats will also be suitable for badgers. These habitats will have a less than local value for badgers. The Washery, which is unaffected by the Nant Helen earthworks, will have the same value as the existing baseline i.e. Less than Local Value.

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			constraint within the site.	part of the site, although the occurrence of foraging badger at this location cannot be ruled out.	Overall Value = less than Local Value	
Otter	Riparian mammal surveys identified a number of otter spraints along the Afon Dulais, therefore outside of the Site boundary. No natal dens or couches were identified within the Site, although a potential couch was identified south-west of the Site, along the Afon Dulais. It is	Local	It is possible that they may occur within the Site, whilst commuting / foraging through the wider area but it is not considered to be used frequently by this species. Otter are a Section 7 species, and	Suitable habitat for otter will be retained as part of the Nant Helen earthworks project. In addition, newly established habitats, particularly wetland and connecting terrestrial habitats within	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – Local value. Retained habitats within the Nant Helen site including	Retained habitats within the Nant Helen site will continue to support otter. Newly created habitats are likely to be used by otter, particularly wetland habitats. These habitats would be of local Value. It is possible, that in the long term the value of

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	possible, due to the large territories of otter, that they may occur within the site whilst foraging or commuting, although due to the exposed nature of the site, current levels of disturbance, lack of well stocked fish ponds, this is considered likely to be infrequent.		they are also listed in Powy's LBAP. Otters are fully protected by UK law under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule 5. Otter is also included in Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.	the Site will be suitable for otter. The Washery comprises limited habitat for otter, and no evidence has been found to suggest they are using this part of the site, although evidence has been found along the Afon Dulais further west of the Washery site.	marshy grassland and waterbodies – Local Value . Habitats within the Washery – Local Value . Overall Value = Local Value	enhanced habitats within the Nant Helen Site will be more favourable to otter due to management of habitats, although at the time of GCRE commencing it is likely a similar population size, would be present. Therefore these habitats would be of local Value. The Washery, which is unaffected by the Nant Helen earthworks, will have the same value as the

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			The site is assessed as being of Local value for otter.			existing baseline i.e. Local Value.
Roosting bats	Various trees were identified during the field survey as having potential roosting features. Additionally, three trees with bat boxes were recorded in woodland in the west of the Site. A road bridge and railway bridge are present just outside of the Site boundary to the south-east of that Site that may also provide roosting	Local	The Site is considered to be of Local value for roosting bats, due to the potential for small numbers of common roosting bat species to occur within trees and buildings. It is acknowledged however that further surveys would be required for any trees affected, and	No evidence of roosting was recorded within the Nant Helen site, although trees with low suitability were present. Suitable habitat for roosting bats will be retained as part of the Nant Helen earthworks project. Some of the trees with bat potential (low)	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – Less than Local value . Retained habitats within the Nant Helen site including trees / woodland – Local Value .	Retained habitats within the Nant Helen site will continue to support roosting bats. Newly created woodland habitats are likely to take some time quickly utilised by roosting bats. It is possible, that in the long term the value of enhanced habitats within the Nant Helen Site will be more

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	opportunities for bats. Bat roost surveys undertaken in 2019 recorded no roosts within any trees / buildings within the Site; however, 12 trees retained low-moderate roost potential following the tree climbing assessment. A potential Pipistrellus sp. and Natterers bat roost was identified within an old tunnel during the bat roost surveys, as well as during the 2019 transect		if any rare or notable bat species and or significant numbers of any roosting bats are recorded within the site during these surveys, the Site's value for bats may increase.	will have been removed as part of the Earthworks, although newly established habitats (tree planting) within the Site will be suitable for roosting bats in the longer term. The Washery comprises suitable habitats for roosting bats. There were a number of trees and buildings with roosting suitability.	Habitats within the Washery -less than Local Value. Overall Value = Local Value	favourable to roosting bats due management of habitats, and natural development of features within trees/buildings for bats etc , although at the time of GCRE commencing it is likely likely that there would be less opportunities for roosting bats. Therefore these habitats would be of Less than Local value to roosting bats. The Washery, which is unaffected by the Nant Helen

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	surveys at NGR SN80138 09411.			Buildings were assessed as being either negligible (14), low (5) or moderate suitability (3), although no evidence of roosting during further surveys was found. One trees was assessed as being of low suitability (1).		earthworks, will have the same value as the existing baseline i.e. Local Value.
Commuting / foraging bats	During transect surveys soprano and common pipistrelle were by far the most abundantly logged species, with records from each transect, in	County	On the current survey information to date, the site is assessed as being of County value for foraging/com	Suitable habitat for foraging / commuting bats will be retained as part of the Nant Helen earthworks	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy	Retained habitats within the Nant Helen site will continue to support roosting bats. Newly created habitats are likely to

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	addition noctule and Myotis species were recorded. A minimum of eight bat species were recorded during static monitoring recorded, of these, common and soprano pipistrelle were by far the most commonly recorded, comprising 96.78% of all bat calls recorded. Myotis sp. and Noctule were the next most commonly recorded species/species		muting bats, largely due to the presence of serotine and greater horseshoe bats, although it is acknowledged that this species are present infrequently and in lower numbers. All bat species are protected through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and	project. In addition, newly established habitats within the Site will be suitable for foraging / commuting bats. The Washery comprises limited habitat for foraging bats. Bat activity indexes were relatively low compared to the adjacent Nant Helen site. Species recorded largely comprised	restoration – County value. Retained habitats within the Nant Helen site including woodland, marshy grassland and waterbodies – County Value. Habitats within the Washery – Local Value. Overall Value = County Value	quickly utilised by foraging bats. It is possible, that in the long term the value of enhanced habitats within the Nant Helen Site will be more favourable to roosting bats due management of habitats, although at the time of GCRE commencing it is likely a similar population size, range of species, would be present. Therefore these habitats would be of County Value. The Washery, which is

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	group. Of those species identified to species-level, serotine (two passes, static monitoring locations 1 and 8) and greater horseshoe bat (an Annex II species), (five passes, static monitoring locations 3, 7, 9 and 16) provided the fewest records. Bat activity levels (and activity by rarer species: greater horseshoe and serotine) were highest at lower elevations and/or when near to optimal		Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Eight of the UK's bat species are listed as Section 7 species.	common and soprano pipistrelle, although myotis and noctule bats were also recorded.		unaffected by the Nant Helen earthworks, will have a lower value than the existing baseline when considered separately i.e. Local, due to the low bat activity index and absence of rarer bat species.

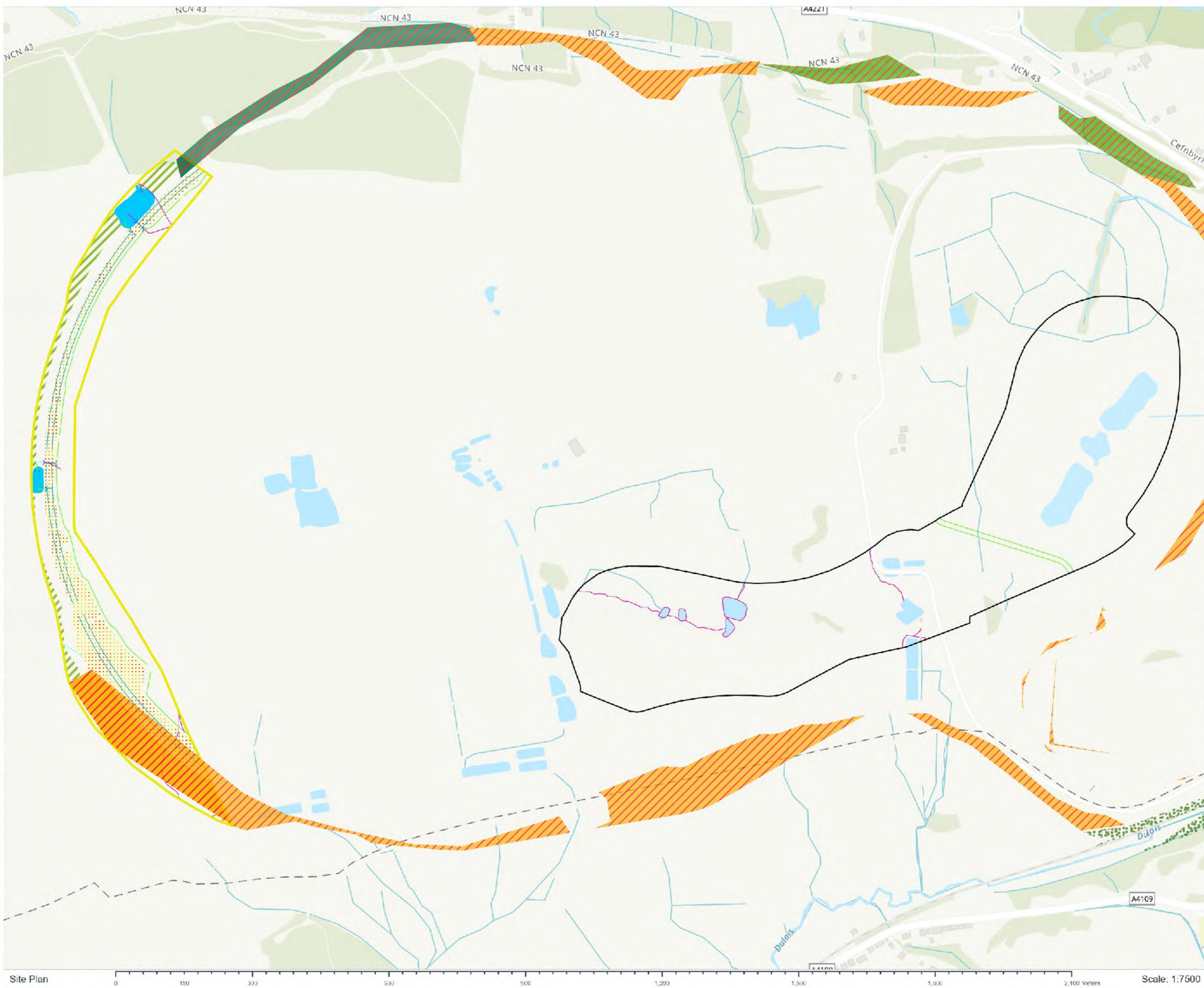
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	foraging habitat (e.g. woodland/water), and lowest at higher elevations and/or near to busier roads (as opposed to access tracks around the site).					
Notable mammals	Arboreal mammal surveys recorded polecat at one of the feeding stations (captured on video from trail camera deployed for this survey). Red squirrel and pine marten were found likely to be absent from the survey area. Numerous other native UK species	Local	The presence of polecat was confirmed during surveys at a feeding station outside of the Site boundary but is considered likely to occur throughout the site, in suitable habitats such as woodland including	Suitable habitat for notable mammals will be retained as part of the Nant Helen earthworks project. In addition, newly established habitats within the Site will be suitable for	Newly planted woodland and acid grassland establishing on new earthworks and adjacent areas of Celtic energy restoration – Local value. Retained habitats within the Nant Helen site	Retained habitats within the Nant Helen site will continue to support notable mammal species. Newly created habitats are likely to quickly utilised by notable mammals. It is possible, that in the long term the value of enhanced habitats within

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	were recorded during this suite of surveys, including red fox, rabbit, and mice.		plantations. Polecat is a UKBAP/S7 and Powys LBAP species. Brown hare has also been recorded within the Site, which is also UKBAP/S7 and Powys LBAP species. Species such as the West European hedgehog which are considered likely to occur within the Site, are also a S7 species. The above species, which are of	notable mammals. The Washery comprises limited habitat for notable mammals and is considered unlikely to support species such as brown hare.	including woodland, marshy grassland and waterbodies – Local Value. Habitats within the Washery – less than Local Value. Overall Value = Local Value	the Nant Helen Site will be more favourable to notable mammals due management of habitats, although at the time of GCRE commencing it is likely a similar population size, range of species, would be present. Therefore these habitats would be of local Value. The Washery, which is unaffected by the Nant Helen earthworks, will have a lower value than the existing baseline, when

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
			conservations significance, occur within the Site, however are likely to be present in small numbers due to the limited habitat available. It is therefore considered that the site is of Local value for notable mammal species.			considered separately due to supporting sub-optimal habitats for notable mammal species. i.e. Less than Local Value.
Invasive species	The site is known to support Japanese knotweed, montbretia, rhododendron,	Less than Local	Although not valued ecological receptor, as plants listed under Schedule 9	Any INNS previously present within the Nant Helen site will have been treated, and	Less than Local	Although not valued ecological receptor, as plants listed under Schedule 9 plants of the Wildlife and

Ecological Receptor	Existing baseline description	Existing Baseline Evaluation (used for the Nant Helen Earthworks)	Justification for Evaluation	Future Baseline description	Future Baseline Evaluation	Justification for Evaluation
	cotoneaster species.		plants of the Wildlife and Countryside Act 1981 (as amended), it is an offence to spread them from the site.	removed from the site as part of the earthworks. As such the only remaining INNS will be any in the Washery. Japanese knotweed has been recorded in the Washery.		Countryside Act 1981 (as amended), it is an offence to spread them from the site.

Appendix 11
Habitat Creation and Habitat / Species
Enhancements plans illustrated in Phases for Nant
Helen Earthworks and GCRE





**DM DALCOUR
MACLAREN**

Key

- Earthworks Phase 1
- Receptor Area 1 and 2
- Proposed Pond
- Acid Grassland Lichen Heath
- Landscape Mitigation
- Pond
- Retained Acid/Marshy Grassland
- Retained Coniferous Woodland
- Proposed Cut Off Ditch
- Proposed Carrier Drain
- Restoration Watercourse to be removed/discontinued
- Proposed Filter Drain
- Restoration Watercourse
- Pond
- Retained Acid/Marshy Grassland
- Retained Broadleaved Woodland
- Retained Coniferous Woodland
- Species-rich Grassland

Coordinate System: British National Grid
Datum: OSGB 1936
Projection: Transverse Mercator

Location:
Location

Coords: 282621, 211098

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE habitat creation and enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_27.1

Rev	Date	Description
-	28.10.2022	First Issue

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- Key
- Earthworks Phase 1a
 - Receptor Area 1a
 - Proposed Pond
 - Car Park
 - Landscape Mitigation
 - Acid Grassland Potential for Enhancement
 - Existing Washery Watercourse
 - Marshy Grassland Potential for Enhancement
 - Species-rich Grassland
 - Acid Grassland Potential for Enhancement
 - Existing Washery Watercourse
 - Marshy Grassland Potential for Enhancement
 - Mixed Woodland Potential for Enhancement
 - Pond
 - Retained Acid/Marshy Grassland
 - Species-rich Grassland

Coordinate System: British National Grid
Datum: OSG 1936
Projection: Transverse Mercator

Location:
Location

Coords: 284642, 210686

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE habitat creation and enhancement plan
with phasing

Drawing No: 21006904_PLN_INFO_28.1

Rev	Date	Description
-	28.10.2022	First Issue

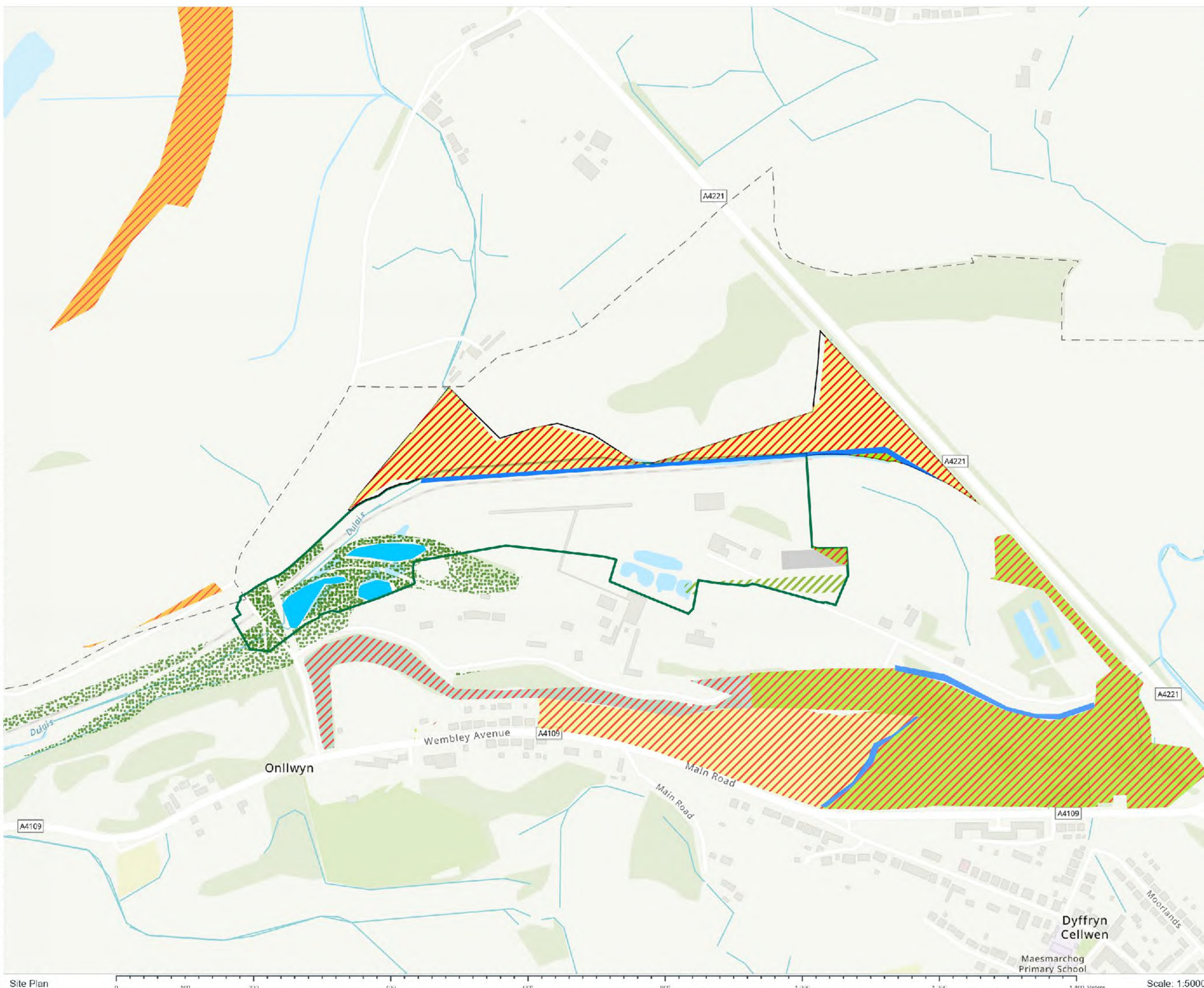
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Coordinate System: British National Grid
Datum: OSGB 1936
Projection: Transverse Mercator

Location:
Location

Coords:	283305, 211290
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Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE habitat creation and enhancement plan
with phasing

Drawing No: 21006904 PLN INFO 29.1

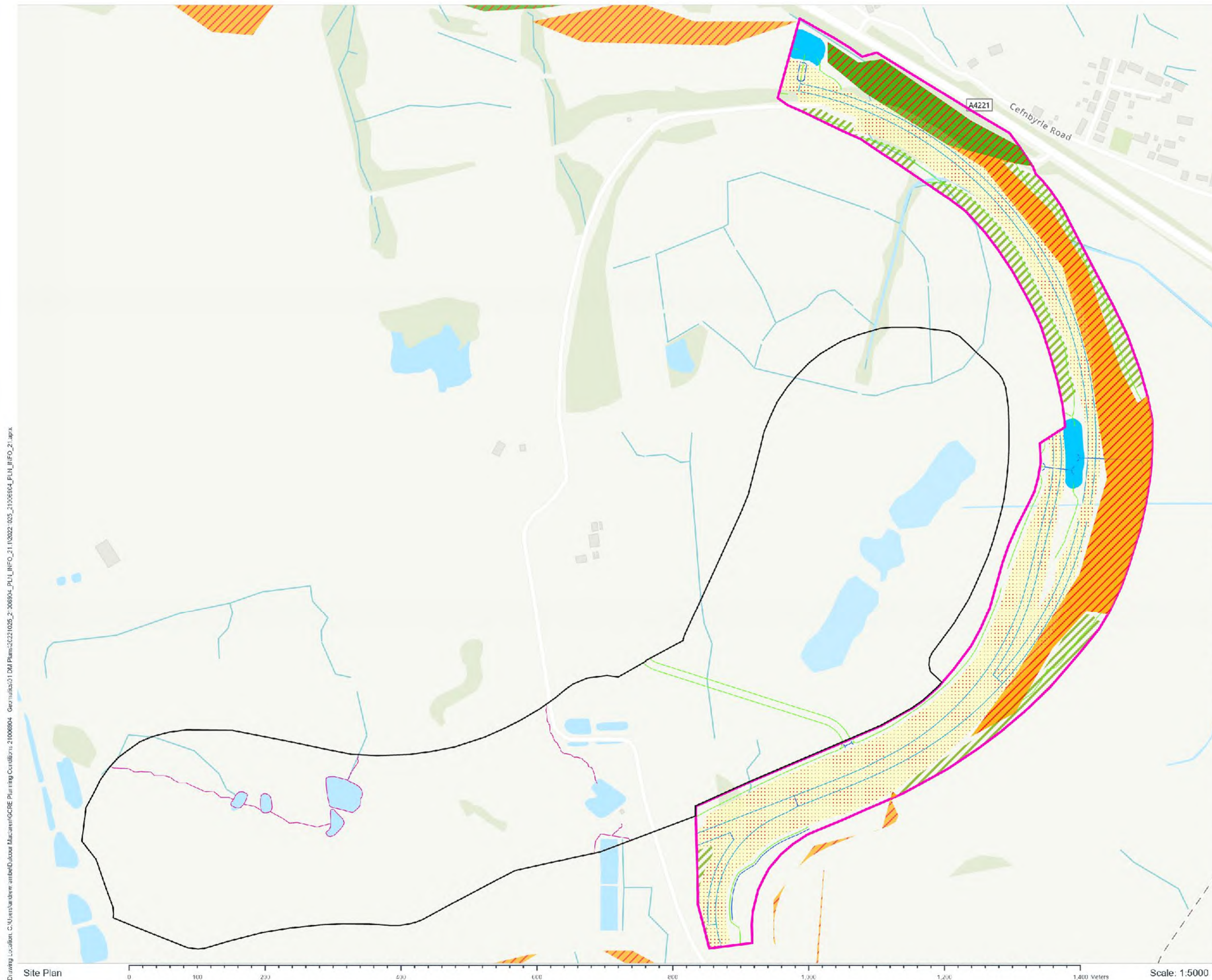
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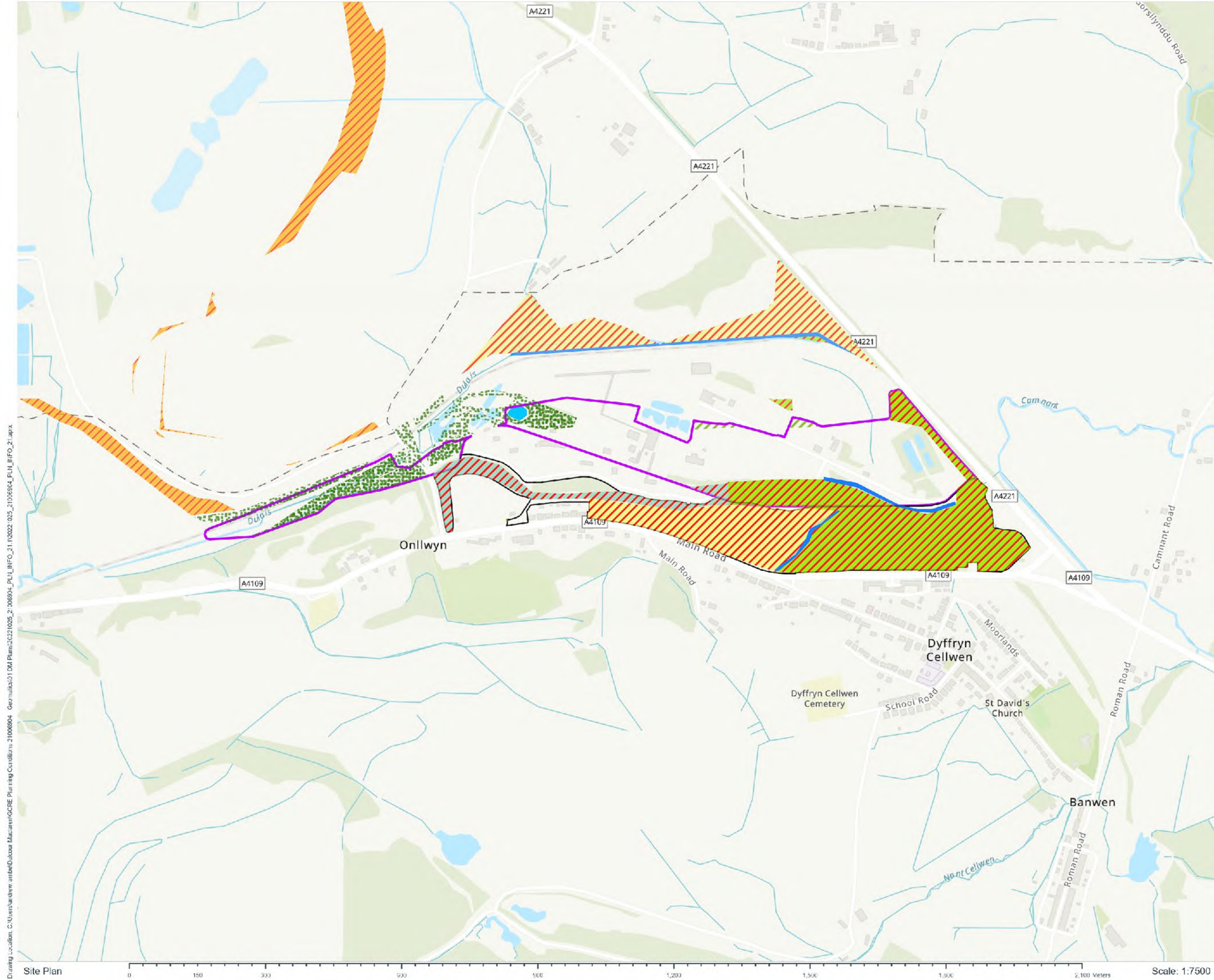
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Key

- Earthworks Phase 2a
- Receptor Area 2a
- Proposed Pond
- Landscape Mitigation
- Acid Grassland Potential for Enhancement
- Existing Washery Watercourse
- Marshy Grassland Potential for Enhancement
- Mixed Woodland Potential for Enhancement
- Species-rich Grassland
- Acid Grassland Potential for Enhancement
- Existing Washery Watercourse
- Marshy Grassland Potential for Enhancement
- Mixed Woodland Potential for Enhancement
- Pond
- Retained Acid/Marshy Grassland
- Species-rich Grassland

Coordinate System: British National Grid
Datum: OSG 1936
Projection: Transverse Mercator

Location:
Location

Coords: 284605, 210420

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE habitat creation and enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_30.1

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- Key
- Earthworks Phase 3
 - Receptor Area 3 and 4
 - Proposed Pond
 - Acid Grassland Lichen Heath
 - Landscape Mitigation
 - Retained Acid/Marshy Grassland
 - Species-rich Grassland
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Restoration Watercourse to be removed/discontinued
 - Proposed Filter Drain
 - Restoration Watercourse
 - Acid Grassland Potential for Enhancement
 - Marshy Grassland Potential for Enhancement
 - Mixed Woodland Potential for Enhancement
 - Pond
 - Retained Acid/Marshy Grassland
 - Species-rich Grassland

Coordinate System: British National Grid
Datum: OSGB 1936
Projection: Transverse Mercator

Location:
Location

Coords: 282949, 210563

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE habitat creation and enhancement plan
with phasing

Drawing No: 21006904_PLN_INFO_31.1

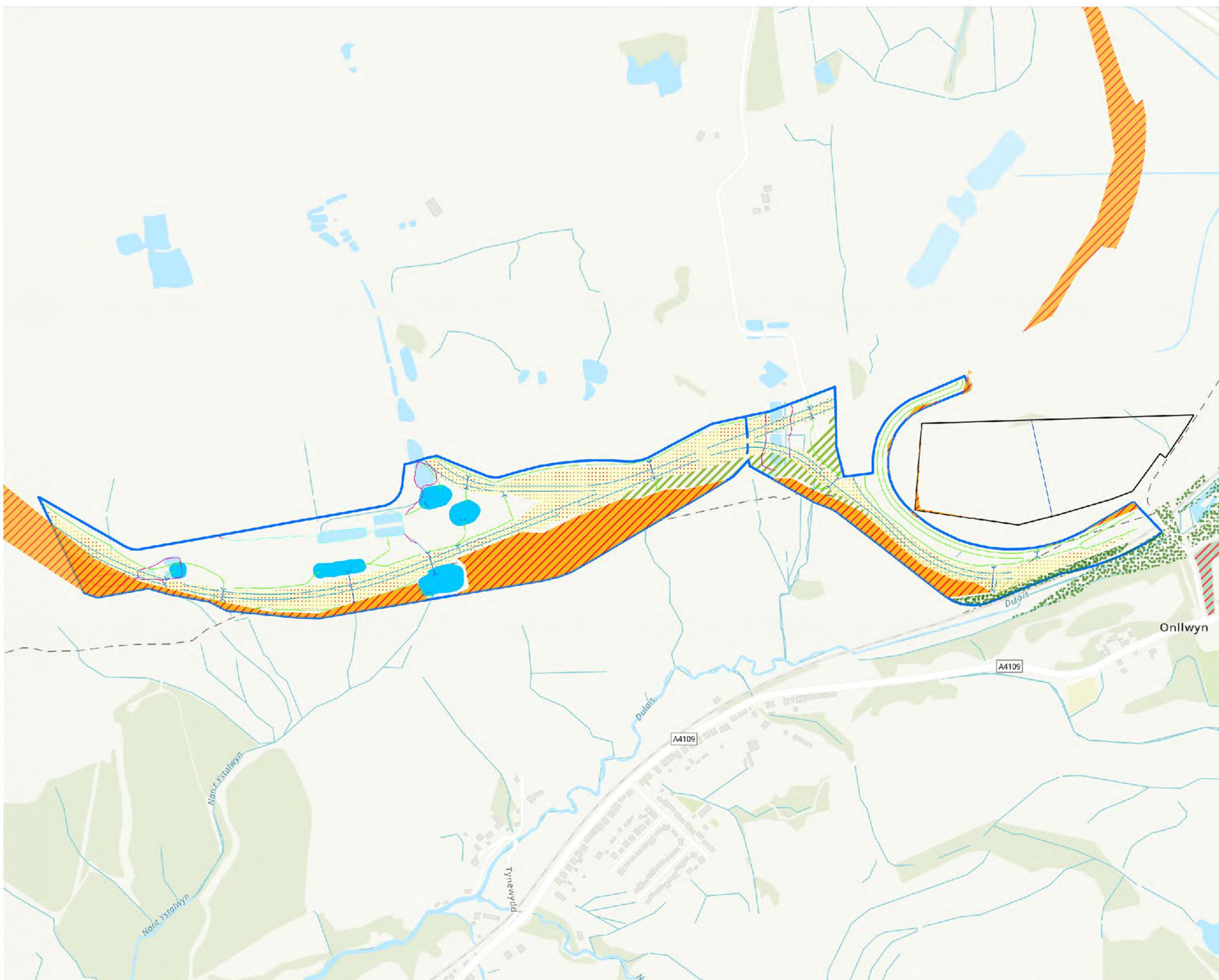
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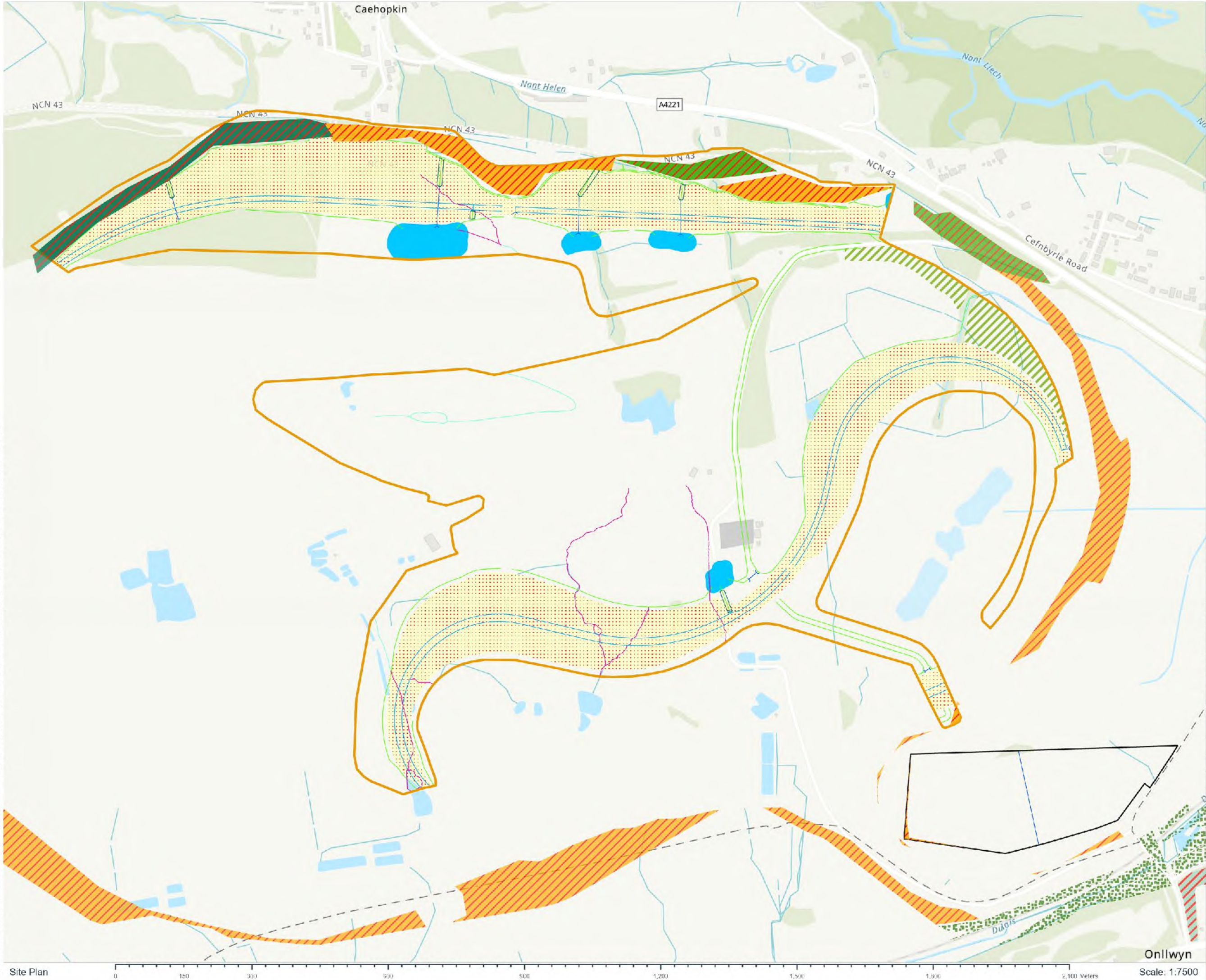


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**DALCOUR
MACLAREN**

Key

- Earthworks Phase 4
- Receptor Area 3 and 4
- Proposed Pond
- Car Park
- Acid Grassland Lichen Heath
- Landscape Mitigation
- Retained Acid/Marshy Grassland
- Retained Broadleaved Woodland
- Retained Coniferous Woodland
- Proposed Cut Off Ditch
- Proposed Carrier Drain
- Restoration Watercourse to be removed/discontinued
- Proposed Culvert
- Proposed Filter Drain
- Restoration Watercourse
- Acid Grassland Potential for Enhancement
- Mixed Woodland Potential for Enhancement
- Pond
- Retained Acid/Marshy Grassland
- Retained Broadleaved Woodland
- Retained Coniferous Woodland
- Species-rich Grassland

Coordinate System: British National Grid
Datum: OSGE 1936
Projection: Transverse Mercator

Location:
Location

Coords: 282936, 211320

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE habitat creation and enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_32.1

Rev	Date	Description
-	28.10.2022	First Issue

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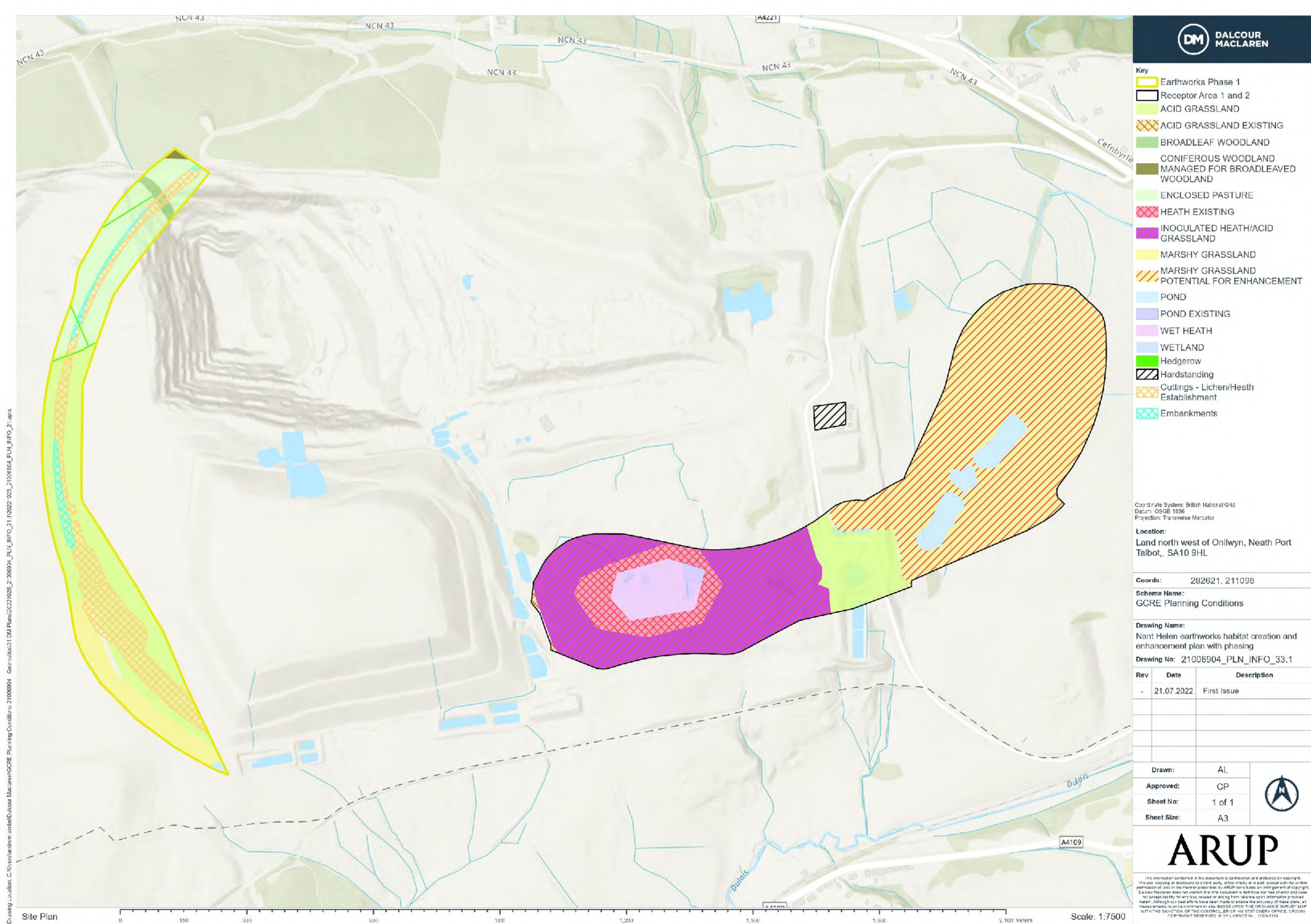
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Onllwyn
Scale: 1:7500



- Key
- Earthworks Phase 1a
 - Receptor Area 1a
 - ACID GRASSLAND
 - MARSHY GRASSLAND
POTENTIAL FOR ENHANCEMENT
 - POND
 - Hardstanding

Coordinate System: British National Grid
Datum: OSG 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 284642, 210686

Scheme Name:
GCRE Planning Conditions

Drawing Name:
Nant Helen earthworks habitat creation and
enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_34.1

Rev	Date	Description
-	21.07.2022	First Issue

Drawn: AL

Approved: CP

Sheet No: 1 of 1

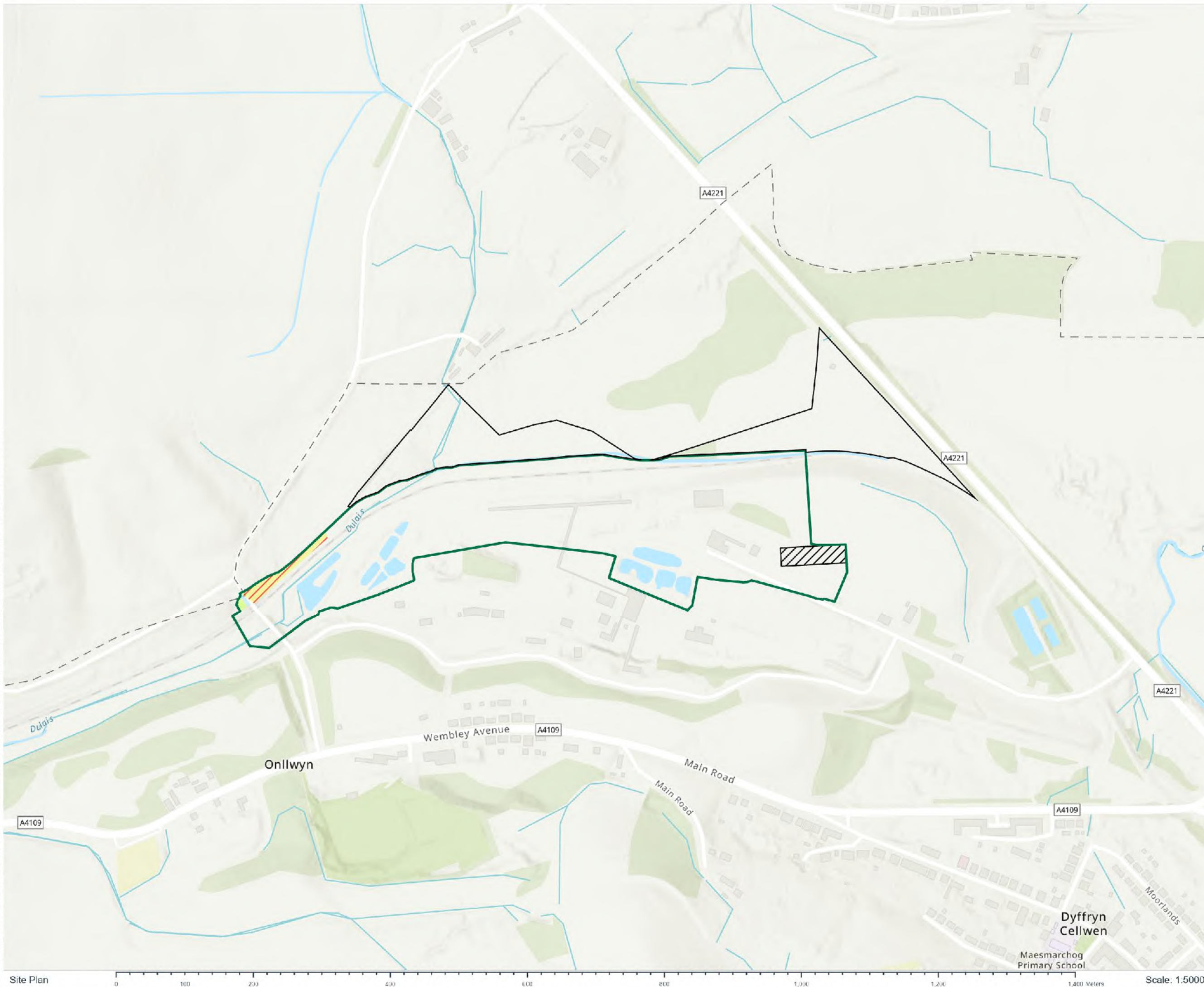
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Site Plan

Scale: 1:5000

- Key
- Earthworks Phase 2
 - Receptor Area 1 and 2
 - ACID GRASSLAND
 - ACID GRASSLAND EXISTING
 - BROADLEAF WOODLAND
 - BROADLEAF WOODLAND EXISTING
 - HEATH EXISTING
 - INOCULATED HEATH/ACID GRASSLAND
 - MARSHY GRASSLAND POTENTIAL FOR ENHANCEMENT
 - POND
 - POND EXISTING
 - WET HEATH
 - Hardstanding
 - Cuttings - Lichen/Heath Establishment
 - Embankments

Coordinate System: British National Grid
Datum: OSGE 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port Talbot, SA10 9HL

Coords: 283305, 211290

Scheme Name:
GCRE Planning Conditions

Drawing Name:
Nant Helen earthworks habitat creation and enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_35.1

Rev	Date	Description
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- Key
- Earthworks Phase 2a
 - Receptor Area 2a
 - MARSHY GRASSLAND
POTENTIAL FOR ENHANCEMENT
 - Hardstanding

Coordinate System: British National Grid
Datum: OSGB 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 284605, 210420

Scheme Name:
GCRE Planning Conditions

Drawing Name:
Nant Helen earthworks habitat creation and
enhancement plan with phasing

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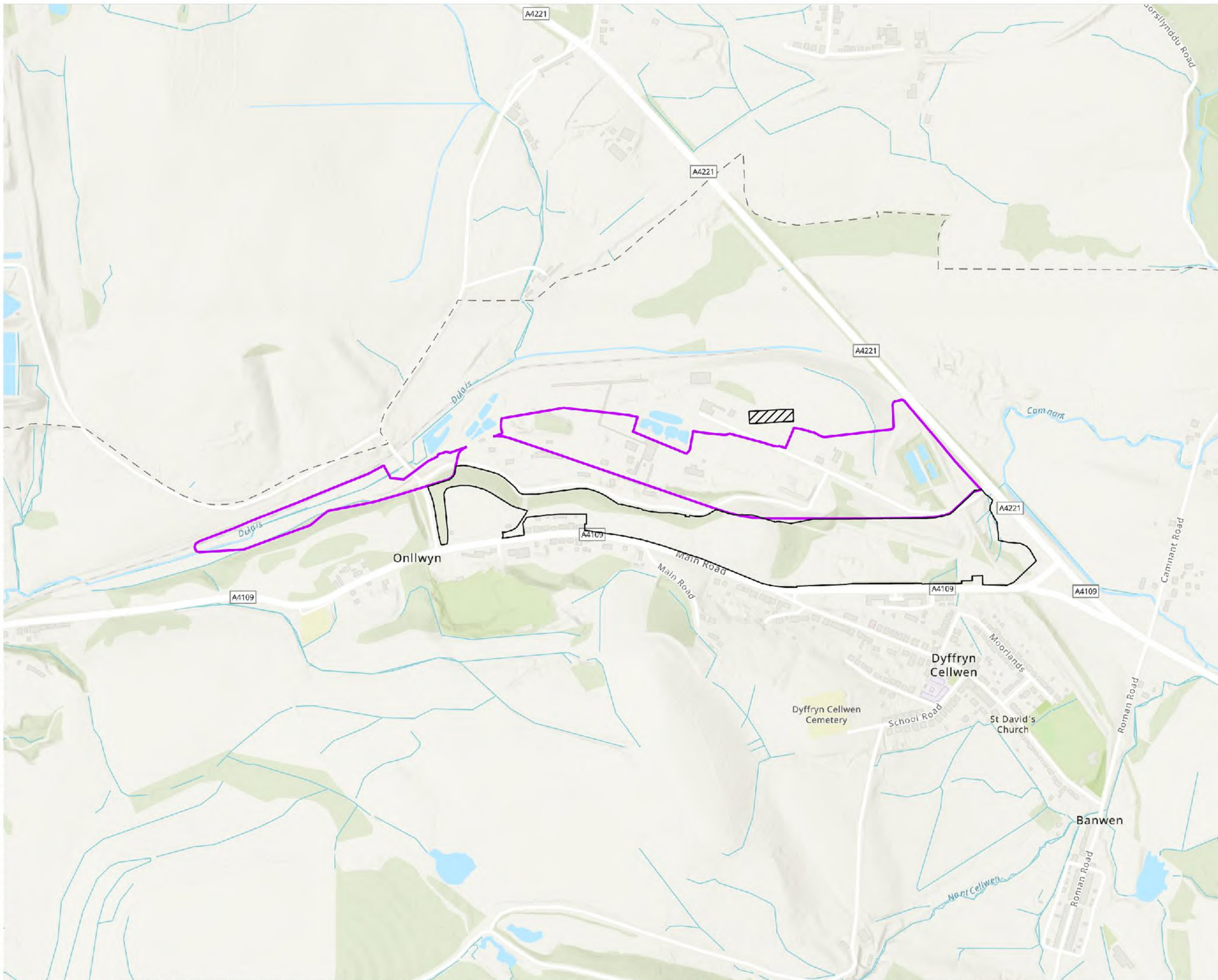
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- Key
- Earthworks Phase 3
 - Receptor Area 3 and 4
 - ACID GRASSLAND
 - ACID GRASSLAND EXISTING
 - HEATH/ACID GRASSLAND EXISTING
 - INOCULATED HEATH/ACID GRASSLAND
 - MARSHY GRASSLAND
 - MARSHY GRASSLAND POTENTIAL FOR ENHANCEMENT
 - POND
 - Hardstanding
 - Cuttings - Lichen/Heath Establishment
 - Embankments

Coordinate System: British National Grid
Datum: OSG 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port Talbot, SA10 9HL

Coords: 282949, 210563

Scheme Name:
GCRE Planning Conditions

Drawing Name:
Nant Helen earthworks habitat creation and enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_37.1

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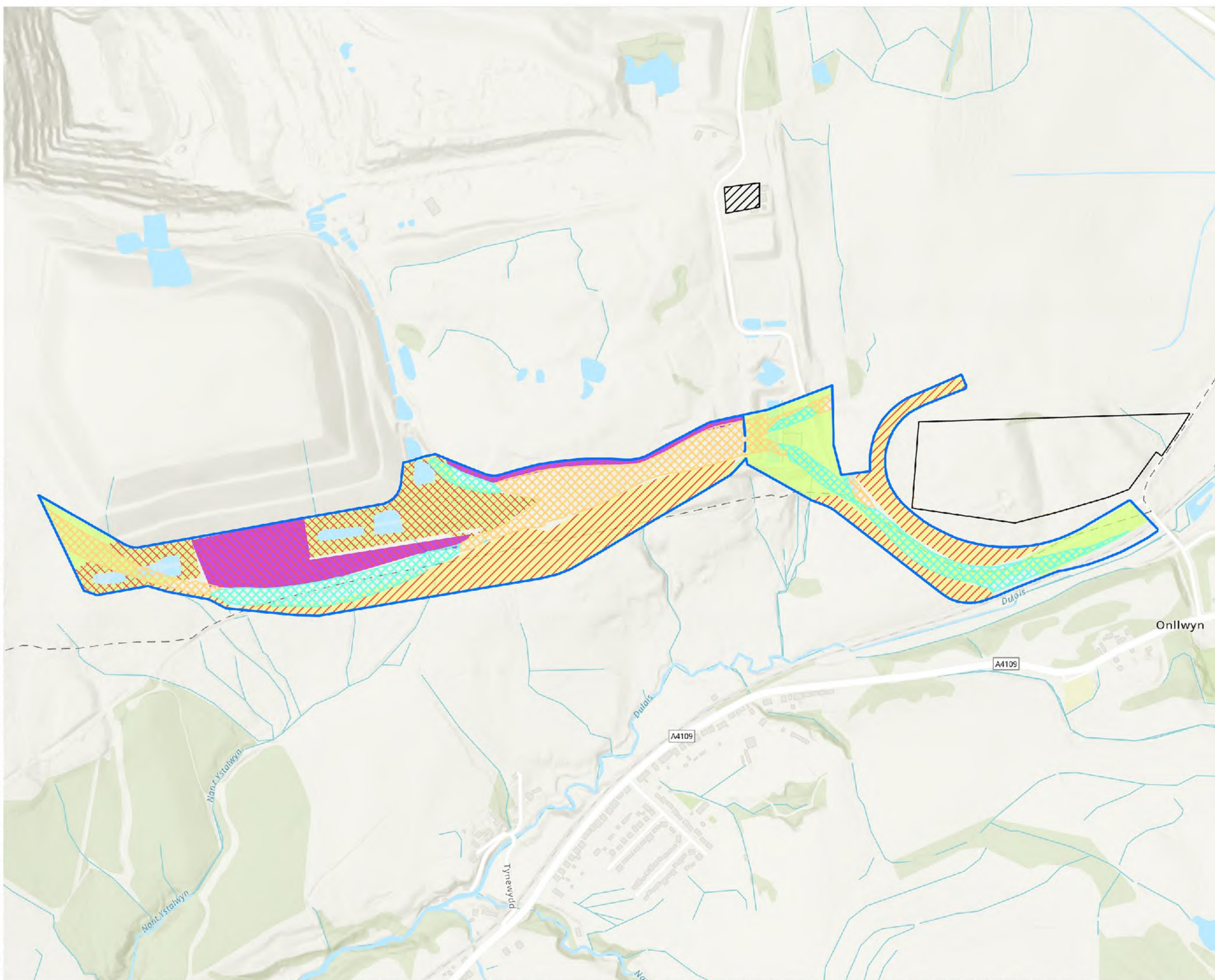
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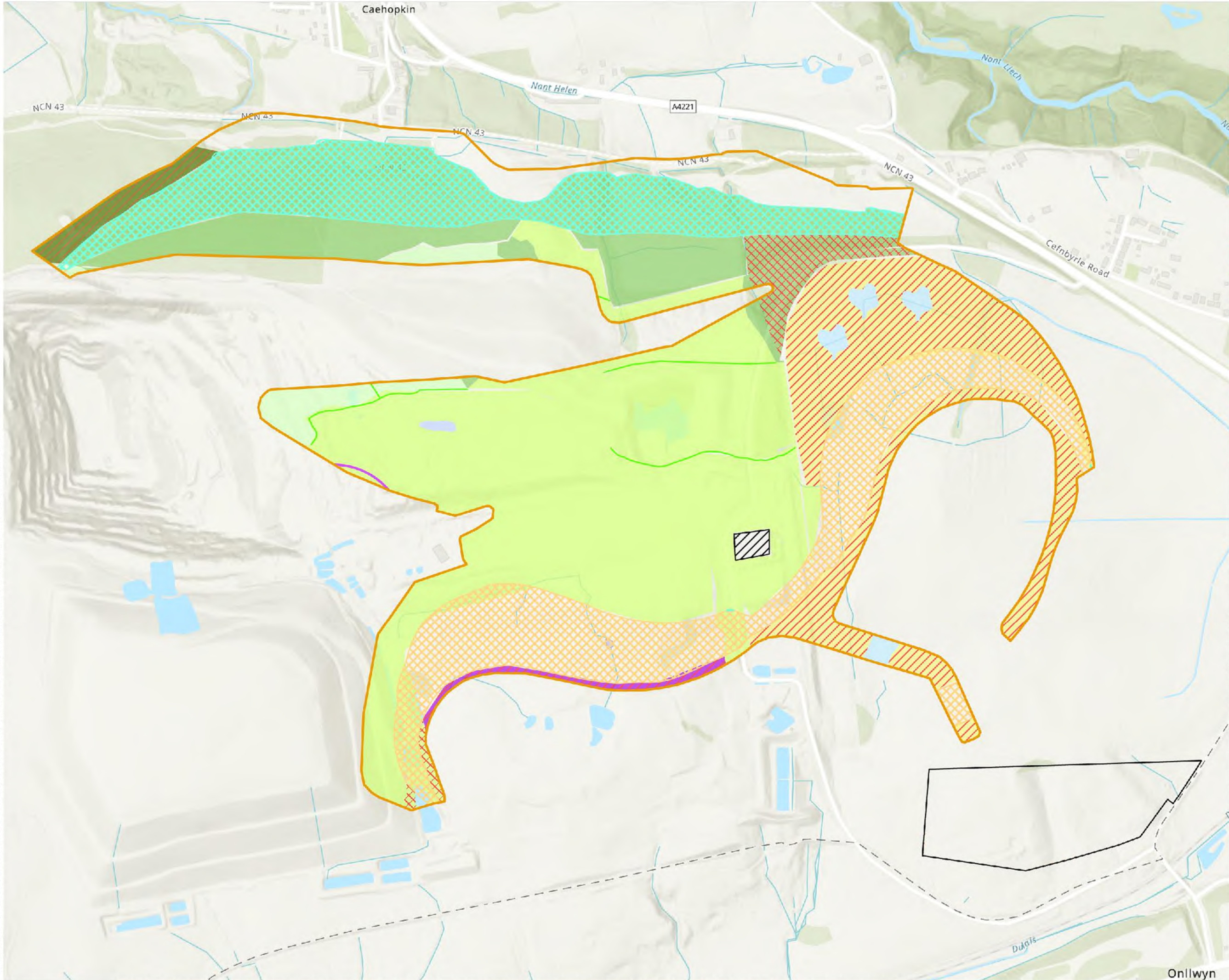


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Key

- Earthworks Phase 4
- Receptor Area 3 and 4
- ACID GRASSLAND
- ACID GRASSLAND EXISTING
- BROADLEAF WOODLAND
- BROADLEAF WOODLAND EXISTING
- CONIFEROUS WOODLAND
MANAGED FOR BROADLEAVED
WOODLAND
- ENCLOSED PASTURE
- HEATH EXISTING
- INOCULATED HEATH/ACID
GRASSLAND
- MARSHY GRASSLAND
POTENTIAL FOR ENHANCEMENT
- POND
- POND EXISTING
- POTENTIAL SPHAGNUM-RICH /
FEN-MIRE
- WETLAND
- Hedgerow
- Hardstanding
- Cuttings - Lichen/Heath
Establishment
- Embankments

Coordinate System: British National Grid
Datum: OSGE 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 282936, 211320

Scheme Name:
GCRE Planning Conditions

Drawing Name:
Nant Helen earthworks habitat creation and
enhancement plan with phasing

Drawing No: 21006904_PLN_INFO_38.1

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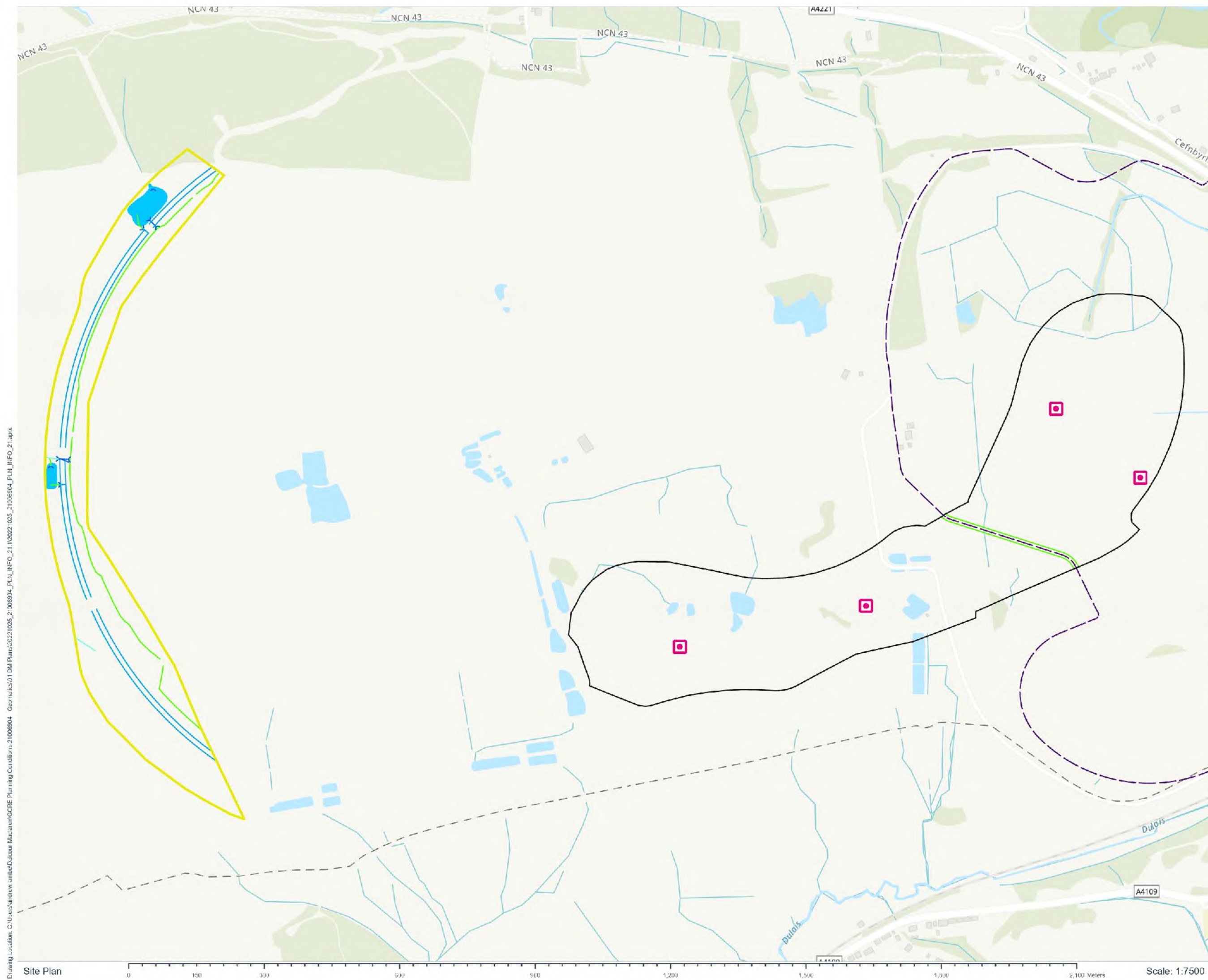
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Onllwyn

Scale: 1:7500

Site Plan

0 150 300 600 900 1,200 1,500 1,800 2,100 Meters



- Key**
- Earthworks Phase 1
 - Receptor Area 1 and 2
 - Proposed Pond
 - Access Road
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Proposed Filter Drain
 - Restoration Watercourse
 - Indicative Reptile Refugia Location

Coordinate System: British National Grid
Datum: OSGE 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 282621, 211098

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE species enhancement plan with
phasing

Drawing No: 21006904_PLN_INFO_21.1

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- Key
- Earthworks Phase 1a
 - Receptor Area 1a
 - Car Park
 - Proposed Pond
 - Access Road

Coordinate System: British National Grid
Datum: OSG 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 284642, 210686

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE species enhancement plan with
phasing

Drawing No: 21006904_PLN_INFO_22.1

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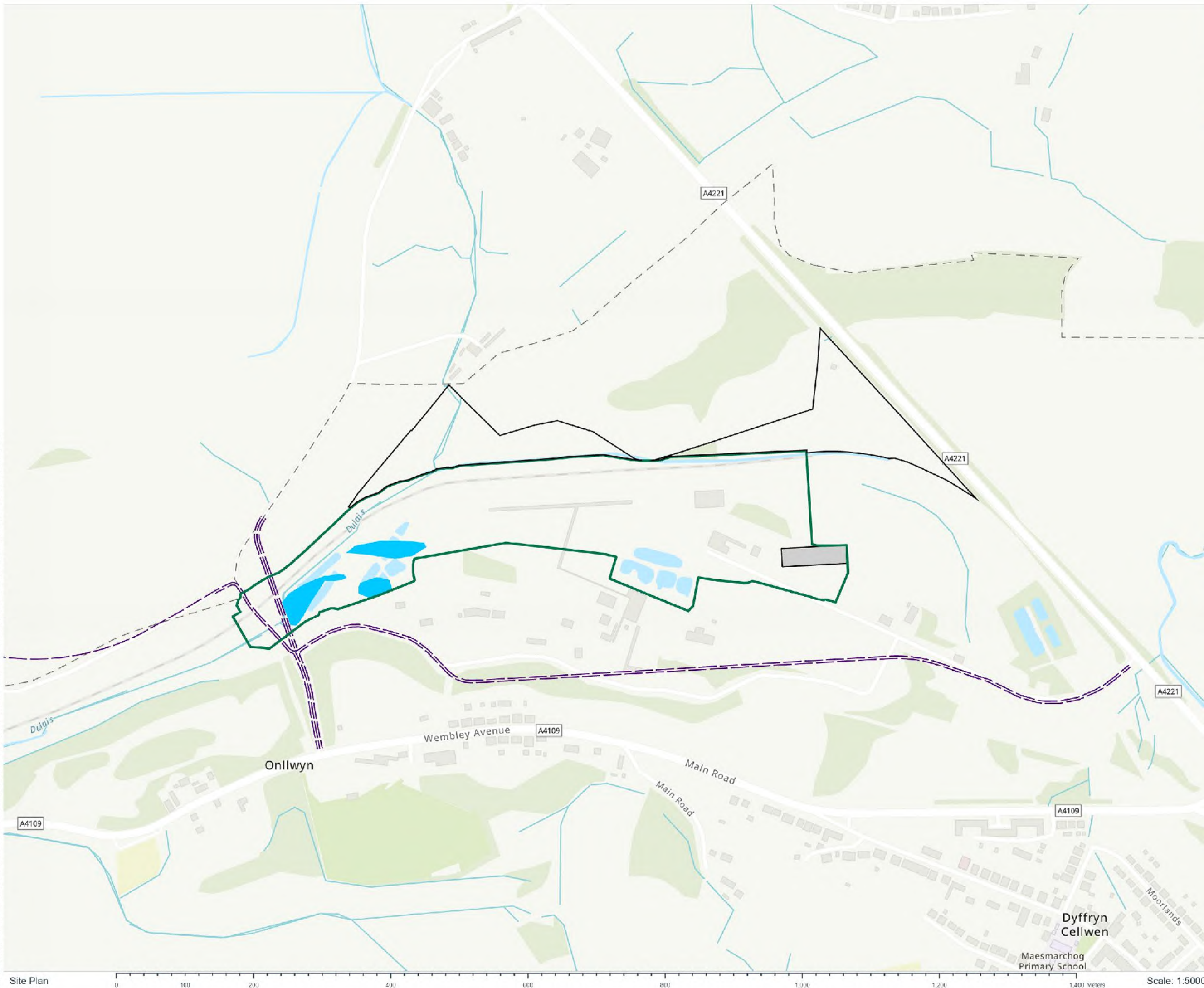
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Site Plan

Scale: 1:5000

- Key
- Earthworks Phase 2
 - Receptor Area 1 and 2
 - Proposed Pond
 - Access Road
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Proposed Filter Drain
 - Indicative Reptile Refugia Location

Coordinate System: British National Grid
Datum: OSGE 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 283305, 211290

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE species enhancement plan with
phasing

Drawing No: 21006904_PLN_INFO_23.1

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- Key
- Earthworks Phase 2a
 - Receptor Area 2a
 - Proposed Pond
 - Access Road
 - Indicative Area for 5 Bird Boxes
 - Indicative Area for 5 Bat Boxes
 - Indicative Reptile Refugia Location

Coordinate System: British National Grid
Datum: OSGB 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 284605, 210420

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE species enhancement plan with
phasing

Drawing No: 21006904_PLN_INFO_24.1

Rev	Date	Description
-	28.10.2022	First Issue

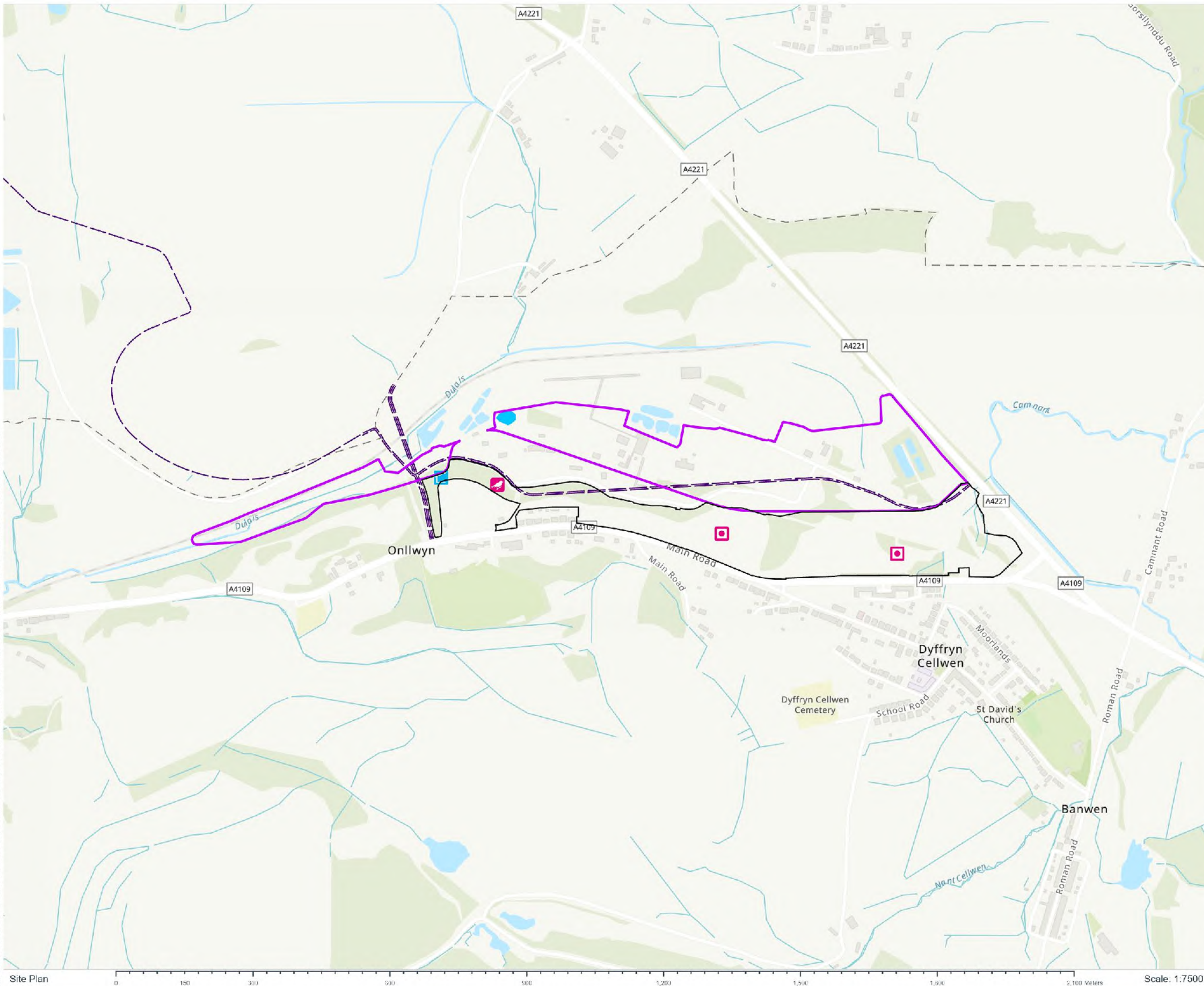
Drawn:	AL
Approved:	CP
Sheet No:	1 of 1
Sheet Size:	A3



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Drawing Location: C:\Users\andrew.sambel\OneDrive\Documents\21006904_GCRE Planning Conditions\21006904_PLN_INFO_24.1.aprx
Drawing Location: C:\Users\andrew.sambel\OneDrive\Documents\21006904_GCRE Planning Conditions\21006904_PLN_INFO_24.1.aprx



Site Plan

Scale: 1:7500

- Key
- Earthworks Phase 3
 - Receptor Area 3 and 4
 - Proposed Pond
 - Access Road
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Proposed Filter Drain
 - Restoration Watercourse
 - Indicative Reptile Refugia Location

Coordinate System: British National Grid
Datum: OSGB 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 282949, 210563

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE species enhancement plan with
phasing

Drawing No: 21006904_PLN_INFO_25.1

Rev	Date	Description
-	28.10.2022	First Issue

Drawn: AL

Approved: CP

Sheet No: 1 of 1

Sheet Size: A3



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Drawing Location: C:\Users\andrew_arup\Documents\21006904_GCRE Planning Conditions\21006904_PLN_INFO_25.1.aprx
Geographical: 21006904

Site Plan

0 150 300 600 900 1,200 1,500 1,800 2,100 Meters

Scale: 1:7500

- Key
- Earthworks Phase 4
 - Receptor Area 3 and 4
 - Car Park
 - Proposed Pond
 - Access Road
 - Proposed Cut Off Ditch
 - Proposed Carrier Drain
 - Proposed Culvert
 - Proposed Filter Drain
 - Restoration Watercourse
 - Indicative Area for 5 Bird Boxes
 - Indicative Reptile Refugia Location
 - Indicative Wildlife Corridor Location

Coordinate System: British National Grid
Datum: OSGE 1936
Projection: Transverse Mercator

Location:
Land north west of Onllwyn, Neath Port
Talbot, SA10 9HL

Coords: 282936, 211320

Scheme Name:
GCRE Planning Conditions

Drawing Name:
GCRE species enhancement plan with
phasing

Drawing No: 21006904_PLN_INFO_26.1

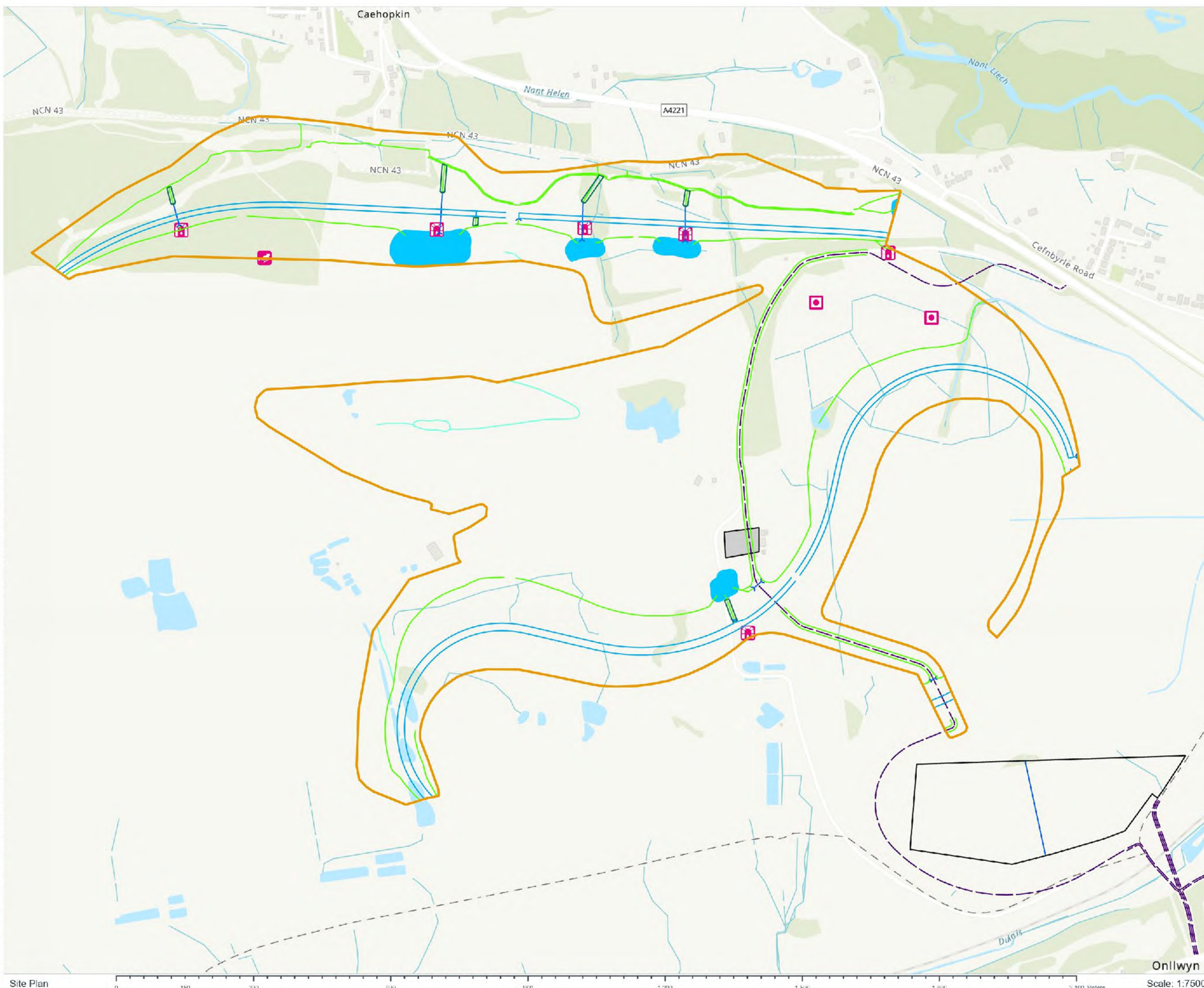
Rev	Date	Description
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Appendix 12

Habitat Creation / Enhancement Method Statements (including species list for planting)

Habitat creation and enhancement Method Statements

Enhancement of Existing Peatland Feature – R N Humphries, Blakemere Consultants, 21st October 2020

Introduction

A peatland-heathland complex was established in the early 1990s on land restored after the surface mining of coal. Concern had been raised that the Inner Loop of the GCRE rail test track would separate the complex from its wider grassland catchment. In response, it was proposed that the peatland component would be removed to another area as shown on Figure 7.9 within the Environmental Statement (Celtic Energy, 2020). Subsequently, because of its component habitats of Principal Importance in Wales and their good condition it has been decided to keep the peatland-heathland intact with a view of enhancing its value as part of the GCRE Strategic Biodiversity Plan.

Existing Habitat Information

The peatland- heathland complex was surveyed in detail in 2012 (Smith, 2012), 2019 (Sturgess, 2020) and recently resurveyed in 2022 (Benyon & Humphries). The feature comprises a peatland basin supporting bog pool communities (NVC M2/M3) and purple moor grass – tormentil communities (NVC M25) with heather-bilberry heath on the upper slopes, and two dystrophic ponds. These features are listed as habitats of Principal Importance for the conservation of biodiversity within Section 7 of the Environment (Wales) Act, 2016.

Currently the complex is assessed overall to be in a ‘Good’ condition but its future is under threat because of the conisation by trees and scrub.

Habitat Enhancement

The aim is to maintain the ‘Good’ condition of the peatland-heathland complex by the removal of the trees within the peatland and heathland, and reduce the amount of scrub around the margins of the large ponds.

Method

The trees are to be felled in early Autumn and removed from within the fenced complex and to a point where they can be ‘chipped’ and left as refugia for reptiles. The cut stumps are to be bored and treated with herbicide to inhibit regrowth.

Future management

A quinquennial tree removal programme is to be adopted.

Monitoring

Water level boards (self-recording type preferred) are to be installed in the two upper ponds and the small lower bog pool and levels to be recorded monthly prior to and following the earthworks for a period of 5 years.