



Awel y Môr Offshore Wind Farm

Environmental Statement

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AWEL Y MÔR OFFSHORE WINDFARM

Breeding Birds Survey (Onshore)

Prepared for: Awel y Môr Offshore Wind Ltd

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CONTENTS

1.0	INTRODUCTION	1
1.1	Background	1
1.2	Survey Areas	2
1.2.1	Breeding Bird Survey (General)	2
1.2.2	Barn Owl Survey.....	2
1.2.3	Kingfisher Survey	3
1.3	Purpose of this Report	3
1.4	Evidence of Technical Competence and Experience	3
2.0	METHODOLOGY	4
2.1	Desk Study	4
2.2	Field Survey.....	4
2.2.1	Breeding Bird Survey (General)	4
2.2.2	Barn Owl Survey.....	5
2.2.3	Kingfisher survey.....	7
2.2.4	Incidental Records	7
2.3	Limitations	7
3.0	RESULTS	8
3.1	Desk Study	8
3.1.1	Cofnod Data Search and Clwyd Bird Recording Group Atlas	8
3.1.2	North East Wales Bird Reports 2014-2018	8
3.2	Breeding Bird Surveys (General)	9
3.2.1	Breeding status.....	9
3.2.2	Landfall Area	9
3.2.3	River Clwyd.....	12
3.2.4	Substation Area	17
3.3	Barn Owl Surveys	19
3.4	Kingfisher Survey.....	22
3.5	Incidental Records	22
4.0	DISCUSSION AND CONCLUSIONS.....	23
4.1	Breeding Bird Survey.....	23
4.1.1	Landfall Survey Area	23
4.1.2	River Clwyd Survey Area.....	23
4.1.3	Substation Survey Area	24

4.2	Barn Owl Survey.....	24
4.3	Kingfisher Survey.....	24

DOCUMENT REFERENCES

TABLES

Table 2-1 Classification of Foraging Habitats (based on Shawyer, 2011)	6
Table 3-1 Number of priority species and breeding status recorded at each survey area	9
Table 3-2 Priority species recorded within the Landfall survey area, their conservation status, number recorded during each survey, and their breeding status (and number of confirmed territories/pairs, where relevant)	10
Table 3-3 Priority species recorded within the River Clwyd survey area, their conservation status, number recorded during each survey, and their breeding status (and number of confirmed territories/pairs, where relevant)	13
Table 3-4 Priority species recorded within the Substation survey area, their conservation status, number recorded during each survey, and their breeding status.....	17
Table 3-5 Buildings and trees with suitability for nesting barn owls	19

FIGURES

- Figure 1.1-1.13: Breeding Bird Survey Areas
Figure 2.1-2.6: Breeding Bird Survey Results – Priority Species
Figure 3.1-3.2: Barn Owl Survey Results (included in Confidential Appendix 04)

APPENDICES

- Appendix 01: Breeding Bird Survey Times, Dates and Weather Conditions
Appendix 02: Full List of Species Observed During the Breeding Bird Surveys (General), their Breeding Status and Locations
Appendix 03: Desk Study Results – Species of Conservation Importance Recorded within 2km of the Preferred Cable Corridor and Substation Zone

CONFIDENTIAL APPENDIX

- Confidential Appendix 04: Barn Owl Survey Results

1.0 Introduction

Awel y Môr Offshore Wind Farm (AyM) is a Nationally Significant Infrastructure Project (NSIP). An Environmental Impact Assessment (EIA) is being undertaken and an Environmental Statement (ES) will be provided as part of a Development Consent Order (DCO) application under the Planning Act 2008.

SLR Consulting (SLR) was commissioned by GoBe Consultants, on behalf of Awel y Môr Offshore Wind Ltd (The Applicant), in May 2020 to undertake the onshore ecological work necessary to inform the EIA. This report presents the results of breeding bird surveys, including specific surveys for barn owl *Tyto alba* and kingfisher *Alcedo atthis*, carried out between April and July 2021.

As AyM progresses, the emerging scheme design will continue to be refined and so the precise locations and final extent of the proposed scheme are subject to change. Therefore, the scheme details presented in this report may vary from those that are ultimately presented within the ES, but the survey area includes all areas currently under consideration at the time of survey.

1.1 Background

An EIA Scoping Report¹ was prepared in accordance with Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and Regulation 6 of the Marine Works (Environmental Impact Assessment) Regulations 2007. The EIA Scoping Report was submitted to the Planning Inspectorate (PINS) in June 2020.

The EIA Scoping Report (Table 76 of the EIA Scoping Report) stated that breeding bird surveys would be targeted at areas in which desk-based study, and the surveys undertaken to inform the Preliminary Ecological Appraisal (PEA)², indicated that significant effects on protected or notable bird species are possible. This approach followed initial discussions with the Onshore Biodiversity Expert Topic Group (ETG) on 10th December 2019 and no objections to this approach were received either within the scoping opinion or in the responses to the scoping report from relevant stakeholders. More detailed survey proposals were presented in the PEA report and discussed with the Onshore Biodiversity ETG on 26th February 2021 and no comments on the detailed survey proposals were received from relevant stakeholders.

Given the nature of the project, with much of the proposed infrastructure places underground with land then reinstated, most effects on breeding bird species will be temporary in nature (e.g., disturbance or temporary habitat loss). Significant effects are therefore only likely in respect of: species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) and/or Annex 1 of the EU Birds Directive; and breeding waders or notable wildfowl species, for which even temporary effects could be significant. Surveys were therefore primarily targeted at these species.

Based on the desk study data included in the PEA report², three species included on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) and/or Annex 1 of the EU Birds Directive may breed within the PEA study area: barn owl, kingfisher, and peregrine *Falco peregrinus*. Suitable habitat for barn owl (foraging and nesting habitat) is present throughout the PEA study area. Suitable habitat for kingfisher within the PEA study area is limited to larger waterbodies and watercourses. No suitable habitat for breeding peregrine (e.g., quarries, rock faces, tall buildings, etc) was noted within the PEA study area during field survey to inform the PEA. Potentially suitable habitat for breeding waders and wildfowl is limited to the parts of the coastal strip within the PEA study area that are not built up, larger water bodies and to the low-lying agricultural land with a network of drainage ditches north of the A55, much of which represents the priority habitat 'Coastal and Floodplain Grazing Marsh'.

¹ Innogy. 2020. AyM Offshore Wind Farm: Environmental Impact Assessment Scoping Report. Revision A, March 2020.

² SLR Consulting. 2021. AyM Offshore Wind Farm Preliminary Ecological Appraisal (Onshore).

Assuming that standard mitigation measures are employed during construction and habitats are quickly reinstated following construction, temporary effects on farmland and woodland species, even those species which are regarded as notable, are not likely to be significant. Detailed surveys for these species were therefore not considered necessary along much of the preferred cable route. Permanent loss of habitat and disturbance could give rise to significant effects for the full range of protected or otherwise notable species and surveys at the preferred substation location and were therefore included in the detailed survey proposals.

1.2 Survey Areas

1.2.1 Breeding Bird Survey (General)

Areas that could potentially be used by protected or notable breeding birds that are potentially susceptible to significant effects were identified through a combination of desk study and field survey (as part of habitat survey work to inform the PEA²). The desk study included consideration of the following primary sources:

- information on statutory and non-statutory designated sites (non-statutory site information provided by Cofnod);
- the Clwyd Bird Recording Group Atlas³; and
- North East Wales Bird Reports for 2014-2018.

Based on the habitat survey and desk study data included in the PEA report⁴, the following survey areas were surveyed for breeding birds (survey areas are shown in Figures 1.1-1.13):

- 'Landfall' – the survey covered areas within the proposed landfall zone and associated haul roads/construction areas under consideration at the time of survey, plus a 250m buffer (excluding built-up areas)⁵. This survey area encompassed parts of Rhyl golf course, Y Ffrith Local Wildlife Site (LWS), and Ffrith Beach;
- 'River Clwyd' - the survey covered all areas that lie within the preferred cable corridor under consideration at the time of survey, plus a 250m buffer, where these lie within the Clwyd Estuary and Adjacent Fields LWS and/or areas mapped as 'coastal floodplain grazing marsh', between the A525 north of Rhuddlan and Sarn Lane, Bodelwyddan.
- 'Substation' - the survey covered all areas that lie within the preferred substation zone under consideration at the time of survey, plus a 100m buffer. A 100m buffer was considered sufficient here due to the lack of suitable habitat for breeding waders or wildfowl. This survey area included woodland along the eastern edge of the Bodelwyddan Estate and the majority of Glascoed Nature Reserve.

1.2.2 Barn Owl Survey

All potentially suitable trees and potentially suitable structures (where accessible) along the preferred cable route corridor, at the preferred substation zone, and associated construction areas under consideration at the time of survey, plus a 100m buffer⁶, were identified and inspected for the presence or likely absence of roosting and/or nesting barn owl. The survey area for barn owl is shown on Figures 1.1-1.13.

³ <https://cbrg-atlas.cofnod.org.uk/> [Accessed 4th June 2021]

⁴ AyM Offshore Wind Preliminary Ecological Appraisal (Onshore), SLR Consulting Ltd, February 2021

⁵ A 250m buffer was included to allow for possible disturbance effects to breeding waders or wildfowl during construction.

⁶ The maximum disturbance distance for barn owl is 50-100m (Ruddock, M & Whitfield, D.P. (2007) A Review of Disturbance Distances in Selected Bird Species.)

1.2.3 Kingfisher Survey

Where not covered by other breeding bird surveys, a search for suitable nesting habitat for kingfisher was undertaken in conjunction with surveys for water vole *Arvicola amphibius* and otter *Lutra lutra* (the results of water vole and otter surveys are reported separately). These surveys were carried out at all potentially suitable watercourses crossing the preferred cable route corridor, preferred substation zone and associated construction areas under consideration at the time of survey, plus 200m up and downstream. The survey area for kingfisher is shown on Figures 1.1-1.13.

1.3 Purpose of this Report

This report provides details of the survey methodologies (Section 2) and presents the results of the surveys (Section 3). It also includes a brief discussion regarding the importance of the bird populations recorded (Section 4). The assessment of impacts resulting from the onshore elements of AyM are covered in the Onshore Biodiversity and Nature Conservation chapter of the ES.

1.4 Evidence of Technical Competence and Experience

General breeding bird surveys and kingfisher surveys were carried out by Liz Probert MSc, a Senior Ecologist at SLR Consulting with over nine years' experience in undertaking bird surveys.

Barn owl surveys were carried out by Liz Probert and James Grundy of BiOME Consulting (working as a sub-consultant to SLR) who has seven years' professional experience in carrying out ornithological surveys. James Grundy carried out the barn owl surveys under Martyn Owen's NRW Licence to disturb wild birds included on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (Licence number S088888/1). Martyn Owen is a highly experienced ornithologist and the co-founder of BiOME Consulting.

This report has been authored by Liz Probert. The scoping and consultation process was undertaken by Duncan Watson who has provided technical support throughout and a Quality Assurance review of this report. Duncan is a Technical Director at SLR Consulting with over 23 years' professional ecological experience. He is also a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

2.0 Methodology

2.1 Desk Study

The following sources were used to identify relevant existing information regarding breeding birds within a 2km buffer of the preferred cable route and substation zone:

- Cofnod – North Wales Environmental Information Service;
- The Clwyd Bird Recording Group Atlas; and
- North East Wales Bird Reports for 2014-2018.

2.2 Field Survey

2.2.1 Breeding Bird Survey (General)

The breeding bird survey was undertaken following an adapted form of the British Trust for Ornithology (BTO) Common Bird Census (CBC) methodology (Marchant, 1983⁷), using a reduced number of visits (three). A transect covering all habitats within each Survey Area was walked slowly, with the surveyor stopping regularly to scan with binoculars and listen for bird calls or song. All visual and auditory contact with birds was recorded on a field map using BTO species and activity codes. In attempt to minimise disturbance, no specific effort was made to locate nests.

Surveys were carried out over three visits evenly spaced between April and June (inclusive) so as to cover the main activity period of resident breeding birds and the arrival of migrant breeding birds. Each survey began at least half an hour after dawn but no later than 09:00 and concluded before 11:00. Due to its size, the River Clwyd survey area was surveyed over two days per visit. The River Clwyd and fields to the east, up to Cwybyr Uchaf were surveyed on one day, and fields to the west of the river and south towards Sarn Lane were surveyed on the second day.

Weather conditions during each survey were recorded, including wind speed, cloud cover, rain, and temperature at the start and end of the visit. Weather conditions are listed in Appendix 01.

Breeding Bird Survey Data Analysis

On completion of the field surveys bird survey data were digitised in ArcGIS (version 10.5.1) and the attribute data captured. The location and behaviour of each record was mapped.

All species were mapped during the field surveys but only species categorised as priority species were digitised and analysed. These included:

- species listed on Annex 1 of the Birds Directive;
- species specially protected under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended);
- species of principal importance in Wales under Section 7 of the Environment (Wales) Act 2016;
- species on the Red and Amber List of Birds of Conservation Concern in the UK (Eaton *et al.*, 2015⁸); and

⁷ Marchant, J.H. (1983). Common Birds Census instructions. British Trust for Ornithology (BTO), Tring

⁸ Eaton, M.A., Aebischer N.J., Brown A.F., Hearn R.D., Lock L., Musgrove A.J., Noble D.G., and Gregory R.D. (2015) Birds Of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands, and Isle of Man. *British Birds* 108, 708-746

- species on the Red and Amber List of Birds of Conservation Concern (BoCC) in Wales (Johnstone and Bladwell, 2016⁹).

The locations of confirmed, probable, and possible territories were mapped, as shown in in Figures 2.1-2.6.

A territory-mapping approach was used to estimate the number and positions of territories for the majority of species recorded during the breeding season. According to the field signs observed, except where stated otherwise, the breeding status of each species was classified as follows:

- Confirmed breeding – single birds or pairs exhibiting behaviour characteristic of confirmed breeding (including nest building or excavation, adult(s) carrying food, the presence of nestlings or newly fledged young or adult(s) removing faecal matter); single birds or pairs exhibiting territorial behaviour (e.g. song and territorial display) or other behaviour indicative of breeding in the same area on multiple visits;
- Probable breeding – presence of single birds or pairs in suitable breeding habitat and exhibiting territorial behaviour or other behaviour indicative of breeding on one occasion;
- Possible breeding – birds observed in suitable breeding habitat but not exhibiting territorial behaviour or other behaviour indicative of breeding;
- Unlikely to be breeding – birds recorded foraging, roosting, commuting, or flying, but which (a) are unlikely to breed within the site due to sub-optimal habitat, and/or (b) did not show signs of attachment to the site; and
- Non-breeding – birds recorded on the site, but which are extremely unlikely to breed within the site due to the absence of suitable habitat.

The territory mapping approach does not apply to semi-colonial species such as house sparrow *Passer domesticus* and linnet *Linaria cannabina* or to wildfowl and waders. Semi-colonial species were only considered likely to be breeding where activity was recorded around a potential nest site or sites. The number of breeding pairs was then estimated, where possible, either by recording the maximum number of males or dividing the maximum number of adults by two. Breeding status of wildfowl and waders was determined using the methodologies detailed in Gilbert *et al.* (1998)¹⁰. For wildfowl, birds were only considered likely to be breeding where suitable breeding habitat was present. The number of breeding pairs was then estimated by recording the maximum number of males or dividing the maximum number of adults by two (excluding large flocks). For waders, birds were only considered likely to be breeding where suitable breeding habitat was present and where behaviour indicative of breeding (e.g. display, repeated alarm calling, attending a nest or the presence of young) was recorded.

2.2.2 Barn Owl Survey

Preliminary Search

The Barn Owl Survey Area was searched for potential or active barn owl nesting and roosting sites. Suitable locations searched for included:

- Structures - including used and disused agricultural, domestic, industrial buildings;
- Mature trees – located within hedgerows, on the edges of woodlands or isolated within fields of at least 0.5m in width containing a hole of approximately 80mm leading to a large, dark cavity;
- Stacks of hay bales; and
- Barn owl nest boxes installed on trees, poles or buildings.

⁹ Johnstone, I. & Bladwell, S. 2016. Birds of conservation concern 3: the population status of birds in Wales. *Birds in Wales* **13**: 3–31.

¹⁰ Gilbert, G., Gibbons, D.W., & Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. RSPB, Sandy.

The preliminary search was undertaken from ground level using binoculars to assess suitability and, where possible, search for field signs. The following field signs indicate the presence of nesting or roosting barn owl:

- Adult barn owls;
- Young or juvenile barn owls;
- Nesting material;
- Eggs and eggshells;
- Pellets;
- Feathers of young or adult barn owls; and
- White splashes caused by droppings.

Potential nesting and roosting sites were categorised as high, medium, low or negligible depending on the size and quality of the suitable features and their proximity to roads and suitable foraging areas.

Habitats surrounding potential nesting and roosting sites were assessed for their suitability to be used by foraging barn owls as detailed in Table 2-1. These assessments were taken into consideration in the assessment of potential nesting and roosting sites.

Table 2-1 Classification of Foraging Habitats (based on Shawyer, 2011¹¹)

Habitat Type	Description
Type 1	Type 1 Habitats are those which provide optimum habitat to field voles <i>Microtus agrestis</i> (for breeding, foraging and shelter) and are of the highest value to barn owls. This habitat type is usually permanent, unimproved or semi-improved grassland, rank and heterogeneous in appearance, often of mixed height, with fully or partly collapsed dead grass stems (straw) often dominating the leaf sward. This grassland possesses a high abundance of raised tussocks per unit area (typically 4-40/m ²) coupled with a basal litter layer or 'thatch' of straw, at least 30 mm deep. Type 1 Habitats usually receive no real management or anything other than periodic light grazing by farm animals. Long-term set-aside grassland and unmanaged fields, wasteland, ditches, riverbanks, field margins and road verges are the most common examples of this habitat type. When viewed in the wider landscape, Type 1 Habitats can usually be recognised, particularly in the autumn, winter and early spring, by their golden or green/brown appearance, and are sometimes described as 'white grassland'.
Type 2	Type 2 Habitats are sub-optimal to field voles and are of intermediate and often transient value to barn owls. This type of improved or semi-improved grassland is characterised by having a homogeneous, more even-height sward, sometimes displaying some lush and emerging tussock structure but little sign of a litter layer or 'thatch'. It can sometimes constitute a mature clover/grass ley and usually receives some level of farm management such as occasional fertilization, annual topping or light grazing. When seen in the wider landscape, Type 2 Habitats normally have a more uniform, dark green appearance, than Type 1 Habitats.

¹¹ Shawyer, C.R. (2011). Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting.

Habitat Type	Description
Type 3	Type 3 Habitats offer very poor habitat for field voles and most other small mammals and as such are of low value to barn owls. These improved grasslands are characterised by having a homogeneous sward, which is often kept short throughout much of the year, no tussock structure and are devoid of any litter layer at their base. They are usually mown closely for hay or silage, heavily grazed by sheep, horses or cattle or used for public amenity. They normally display a uniform bright green appearance when viewed in the wider landscape. Acid grasslands and those grasslands overgrown with scrub which can restrict barn owls from hunting, also fall into this habitat category. Type 3 Habitat is not normally illustrated on the final survey map because of its poor suitability to barn owls.

This initial survey was carried out on 20th-21st April 2021.

Follow-Up Inspection of Potential Roosting and Nesting Sites

Potential nesting and roosting sites identified during the preliminary search were subsequently searched under licence using a 3m ladder and torch. The presence or likely absence of roosting and nesting barn owl from the sites previously identified could then be confirmed. This survey was carried out on 6th-7th July 2021.

2.2.3 Kingfisher survey

Kingfisher surveys were carried out in conjunction with otter and water vole surveys undertaken between 14th-18th June 2021. All ditches within the kingfisher survey area were surveyed for the presence of kingfisher, including sightings of adults and the presence of potential nest holes.

2.2.4 Incidental Records

While carrying out surveys of other (non-avian) protected species or species groups, surveyors were asked to keep a record of any notable bird species observed during the breeding season, noting date, location, and any breeding behaviour displayed at the time of recording. It is noted however that many of these surveys were undertaken by non-ornithologists and were not specifically targeted at identifying protected or notable bird species.

Incidental records of other protected or notable bird species were also made during the specific barn owl and kingfisher surveys.

2.3 Limitations

There were no access limitations to any of the three general breeding bird survey areas, the barn owl survey area, or the kingfisher survey area.

Lack of evidence of a species does not necessarily preclude it from being present at a later date. Due to the nature of the subjects of ecological surveys it is feasible that species that use the site may not have been recorded by virtue of their seasonality, cryptic behaviour, habit, or random chance. Despite these (limited) limitations the survey results and data are considered adequate for the purposes of EIA

3.0 Results

3.1 Desk Study

3.1.1 Cofnod Data Search and Clwyd Bird Recording Group Atlas

Breeding Bird Records

The data search returned 3,564 records of 161 bird species recorded between the months of April and August between 1991 and 2020 within 2km of the preferred cable corridor and substation zone. Of the 161 species (some species are cited in multiple lists):

- 30 species are listed on Annex 1 of the Birds Directive;
- 42 species are specially protected under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended)¹²;
- 36 species are of principal importance in Wales under Section 7 of the Environment (Wales) Act 2016;
- 44 species are Red List Birds of Conservation Concern in the UK (Eaton *et al.*, 2015⁸);
- 35 species are on the Red List Birds of Conservation Concern (BoCC) in Wales (Johnstone and Bladwell, 2016⁹);
- 65 species are Amber List Birds of Conservation Concern in the UK (Eaton *et al.*, 2015); and
- 15 species are Amber List Birds of Conservation Concern in Wales (Johnstone and Bladwell, 2016⁹)

A full list of bird species listed on Annex 1, Schedule 1, Section 7, and the Red and Amber Lists of BoCC in Wales and the UK recorded within 2km of the preferred cable corridor and substation zone during the relevant period is provided in Appendix 03. This list also includes records taken from other desk study sources listed in Section 2.1. Note that the Clwyd Bird Recording Group Atlas uses records from Cofnod to display the distribution of species.

Barn Owl Records

The data search returned 14 records of barn owl between the months April and August between 2003 and 2018, including one record of breeding barn owl within close proximity to the preferred cable corridor, close to Rhuddlan, in 2011.

Kingfisher Records

The data search returned 19 records of kingfisher between the months of April and August dating between 2004 and 2019. Locations include the River Clwyd, St Asaph, and Rhuddlan, although none of the records specifically referred to breeding locations.

3.1.2 North East Wales Bird Reports 2014-2018

Relevant records noted within the 2014-2018 bird reports are listed below:

- 2016 – Six barn owl nestlings ringed within 1km of the preferred substation location; and
- 2018 – Breeding barn owl recorded in six locations within Denbighshire (exact locations not given).

¹² Note that protection through inclusion on Schedule 1 only applies to birds while they are breeding.

There are no records of notable breeding species such as ringed plover *Charadrius hiaticula*, little ringed plover *Charadrius dubius*, kingfisher or peregrine within the relevant survey areas listed in the bird reports dating between 2014-2018.

3.2 Breeding Bird Surveys (General)

The surveys recorded a total of 69 species (some species are cited in multiple lists) of which:

- One species is listed on Annex 1 of the Birds Directive (kingfisher);
- Three species are specially protected under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended)¹²; (little ringed plover, barn owl and kingfisher);
- 13 species are of principal importance in Wales (Section 7 of the Environment (Wales) Act 2016);
- Eight species are Red List Birds of Conservation Concern in the UK (Eaton *et al.*, 2015⁸);
- 12 species are Red List Birds of Conservation Concern in Wales (Johnstone and Bladwell, 2016⁹);
- 22 species are Amber List Birds of Conservation Concern in the UK (Eaton *et al.*, 2015⁸); and
- 22 species are Amber List Birds of Conservation Concern in Wales (Johnstone and Bladwell, 2016⁹).

3.2.1 Breeding status

The full list of species recorded during the breeding bird surveys within each survey area, their conservation status, and whether they were recorded as a confirmed territory, probable territory, possible territory, unlikely to be breeding or non-breeding is listed in Appendix 02 and their locations are shown on Figures 2.1-2.6.

Table 3-1 lists the number of priority species recorded within each survey area per breeding status category.

Table 3-1 Number of priority species and breeding status recorded at each survey area

Site	Confirmed Breeding	Probable Breeding	Possible Breeding	Unlikely to be Breeding	Non-Breeding	Total No. Priority Species
Landfall	4	2	3	2	4	15
River Clwyd	7	5	6	3	9	30
Substation	8	2	0	1	2	13

3.2.2 Landfall Area

Twenty-eight species were recorded within the Landfall survey area of which 15 are priority species - seven species are listed on Section 7, six on the Red List of birds of conservation concern in Wales, and nine species on the Amber list of birds of conservation concern in Wales.

No species included on Annex 1 of the EU Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) were recorded within the Landfall survey area.

The priority species recorded within this area are listed in Table 3-2, along with their breeding status and any relevant notes. Their locations are shown on Figures 2.1-2.2.

Table 3-2 Priority species recorded within the Landfall survey area, their conservation status, number recorded during each survey, and their breeding status (and number of confirmed territories/pairs, where relevant)

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Mallard <i>Anas platyrhynchos</i>	Amber – Wales & UK	May – 2	Possible breeding	A pair of mallard were seen on a pond in the northwest of the golf course which appears to have been created relatively recently.
Herring gull <i>Larus argentatus</i>	Section 7 Red – Wales & UK	May – 2	Non-breeding	Two individuals were observed foraging on the golf course during the May survey.
Swift <i>Apus apus</i>	Amber – Wales & UK	May - 3	Non-breeding	Three individuals were observed foraging around the dunes to the north of the North Wales Bowling Centre as part of a mixed flock of hirundines during the May survey. There are no features within the survey area suitable for use as nesting sites.
Skylark <i>Alauda arvensis</i>	Section 7 Red – Wales & UK	April – 4 May – 3 June - 4	Confirmed breeding (5)	Five territories were confirmed based on the locations of singing males during all three surveys. All territories were located on the golf course and the majority of singing adults were observed in this area, though one was also recorded in the dunes to the north of Ffrith Park.
Swallow <i>Hirundo rustica</i>	Amber – Wales Green - UK	May – 34 June -2	Non-breeding	Individuals were observed foraging throughout the survey area and as part of the mixed hirundine flock during the May survey, and during the June survey. There are no features suitable to be used as nest sites within the survey area but features may be present in the buildings to the south.

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
House martin <i>Delichon urbicum</i>	Amber – Wales & UK	May-12	Non-breeding	A flock of 12 were observed foraging around the dunes to the north of the North Wales Bowling Centre as part of a mixed flock of hirundines during the May survey. There are no features suitable to be used as nest sites within the survey area but features may be present in the buildings to the south.
Long-tailed tit <i>Aegithalos caudatus</i>	Amber – Wales Green - UK	May – one adult alarm calling	Possible breeding	One adult was recorded alarm calling in the scrub north of Green Lanes.
Grasshopper Warbler <i>Locustella naevia</i>	Section 7 Red – Wales & UK	May – one adult singing	Probable breeding	One male recorded singing in the scrub area to the north of Green Lanes at the start of the May survey.
Song thrush <i>Turdus philomelos</i>	Section 7 Red – Wales & UK	April – one adult singing May – one adult June – one adult calling, one adult singing	Confirmed breeding (2)	Two territories were confirmed to the southwest and north of Ffrith Park, based on the presence of singing males on two occasions.
Wheatear <i>Oenanthe oenanthe</i>	Amber – Wales Green - UK	May – four adults	Possible breeding	Four wheatears were observed during the May survey in grassland to the west of Ffrith Park. They did not appear to be exhibiting breeding behaviour and may have been on passage.
Dunnock <i>Prunella modularis</i>	Section 7 Amber – Wales & UK	April – 11 May – 18 June - 11	Confirmed breeding (12)	Two territories were located along the southern periphery of the golf course and the remainder were located within the scrub area of Y Ffrith.
House sparrow <i>Passer domesticus</i>	Section 7 Red – Wales & UK	April – 78 May – 96 June - 196	Unlikely to be breeding	Several flocks recorded but suitable breeding habitat lacking within the survey area and birds likely to be breeding in nearby houses, outside the survey area.

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Pied wagtail <i>Motacilla alba ssp. yarellii</i>	Amber – Wales & UK	April – one adult	Unlikely to be breeding	Observed on the sea wall to the north of the golf club. Only one adult seen, breeding status could not be confirmed.
Meadow pipit <i>Anthus pratensis</i>	Amber – Wales & UK	April – six adults singing June – one adult singing	Probable breeding	Adults were observed singing on the golf course and in grassland to the north of Ffrith Park. None were recorded during the May survey and only one was recorded during the June survey (on the golf course).
Linnet <i>Linaria cannabina</i>	Section 7 Red – Wales & UK	April – 14 singing and calling May – 7 (1 calling) June – 13 (1 juvenile, 7 calling)	Confirmed breeding (7)	Present in the scrub area to the north of Green Lanes and west of Ffrith Park.

Great tit *Parus major*, jackdaw *Corvus monedula*, wood pigeon *Columba palumbus*, stonechat *Saxicola rubicola*, chiffchaff *Phylloscopus collybita*, robin *Erithacus rubecula*, wren *Troglodytes troglodytes*, greenfinch *Chloris chloris*, blackbird *Turdus merula*, goldfinch *Carduelis carduelis*, whitethroat *Sylvia communis*, sedge warbler *Acrocephalus schoenobaenus* and reed warbler *Acrocephalus scirpaceus* were also recorded within the Landfall survey area.

3.2.3 River Clwyd

Fifty-five species were recorded within the River Clwyd survey area, including one species listed on Schedule 1, 10 listed on Section 7, nine on the Red List of birds of conservation concern in Wales, and 18 species on the Amber List of birds of conservation concern in Wales. No species included on Annex 1 of the EU Birds Directive were recorded within the River Clwyd survey area.

The priority species recorded within this area are listed in Table 3-3 along with their breeding status and any relevant notes. Their locations are shown on Figures 2.3-2.5.

Table 3-3 Priority species recorded within the River Clwyd survey area, their conservation status, number recorded during each survey, and their breeding status (and number of confirmed territories/pairs, where relevant)

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Mute swan <i>Cygnus olor</i>	Amber – Wales & UK	May – 1 pair June -11	Possible breeding	Pairs were observed on the River Clwyd during the May and June surveys, though no nests were recorded.
Shelduck <i>Tadorna tadorna</i>	Amber – Wales & UK	April – 26 May – 45 June - 11	Unlikely to be breeding	Large flocks were observed along the River Clwyd and in fields to the west of the river during all three surveys. Due to the size of the flocks these were considered most likely to be non-breeding adults.
Teal <i>Anas crecca</i>	Amber – Wales & UK	April -6	Non-breeding	Six teal were observed within a watercourse south of Abergele Road. They were flushed by the surveyor and flew southeast. They were not present during the subsequent two surveys or during the kingfisher survey. It is therefore considered likely that these were non-breeding / passage individuals.
Mallard	Amber – Wales & UK	April – 14 May – 15 June – 32	Confirmed breeding (3)	Three territories were confirmed along the River Clwyd and in a watercourse east of Fferm. Birds were also observed on a number of ditches within the survey area, though they were not recorded in the same areas on subsequent surveys.
Tufted duck <i>Aythya fuligula</i>	Amber – Wales	May – 2	Non-breeding	One pair was seen on the left bank of the River Clwyd during the May survey. The habitat here is not suitable for breeding tufted duck.
Goosander <i>Mergus merganser</i>	Amber – Wales Green - UK	May - 2	Non-breeding	A pair was seen on the River Clwyd close to the A525 flyover, though none were seen on subsequent surveys. The tidal section of the river within the survey area is not suitable for breeding goosander, although it is possible that they breed further upstream, outside the survey area.
Cormorant <i>Phalacrocorax carbo</i>	Amber – Wales Green - UK	June – 3	Non-breeding	Three individuals were observed on the saltmarsh to the northwest of the River Clwyd, though no suitable breeding habitat is present. These were likely to be non-breeding adults.
Oystercatcher <i>Haematopus ostralegus</i>	Amber – Wales & UK	April – 4 June – 4	Unlikely to be breeding	Individuals were observed along the River Clwyd and in fields to the west of the river, though none exhibited breeding behaviour.

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Little ringed plover	Schedule 1 Green – Wales & UK	April - 2	Non-breeding	Two individuals were seen on the River Clwyd at low tide during the April survey but were not seen during subsequent surveys. It is considered that these were passage migrants as the intertidal habitat in which they were observed is not suitable for breeding.
Curlew <i>Numenius arquata</i>	Section 7 Red – Wales & UK	April – 3	Non-breeding	Three individuals were seen on the River Clwyd at low tide and in a field to the southwest of the river. None exhibited breeding behaviour.
Redshank <i>Tringa totanus</i>	Amber – Wales & UK	April – 1 June -5	Unlikely to be breeding	Individuals were seen in suitable habitat though none were seen exhibiting breeding behaviour.
Snipe <i>Gallinago gallinago</i>	Amber – Wales & UK	April – 13	Non-breeding	13 adults were observed in salt marsh to the west of the River Clwyd during the April survey, though none exhibited breeding behaviour, the habitat is unsuitable for breeding and no snipe were recorded on subsequent survey visits. These birds are therefore considered likely to be passage migrants.
Lesser black-backed gull <i>Larus fuscus</i>	Green – Wales Amber – UK	May – 11 June - 6	Non-breeding	This species was observed as part of a mixed species gull flock on the shingle banks in the river close to the water treatment plant. Flocks were also present in this location during the wintering bird surveys. Individuals were observed preening and washing, none exhibited breeding behaviour and the intertidal habitat is not suitable for breeding.
Herring gull	Section 7 Red – Wales & UK	May – 87 June - 31	Non-breeding	Large flocks were observed on the shingle banks in the river close to the water treatment plant. Flocks were also present in this location during the wintering bird surveys. Individuals were observed preening and washing, none exhibited breeding behaviour and the intertidal habitat is not suitable for breeding.
Stock dove <i>Columba oenas</i>	Amber – Wales & UK	April – 3 May – 7 June - 16	Probable breeding	This species is likely to be breeding within the site, though no signs of breeding behaviour were observed. Individuals were primarily observed in fields close to Cwybyr Uchaf.

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Kingfisher	Annex 1 Green – Wales Amber -UK	May – 1	Possible breeding	An individual was seen calling and flying southwest along a ditch to the north of Clwyd View Touring Park.
Kestrel <i>Falco tinnunculus</i>	Section 7 Red – Wales Amber -UK	June – 1	Possible breeding	One individual was observed foraging along the track to the west of the River Clwyd. Suitable breeding habitat is present within the survey area.
Skylark	Section 7 Red – Wales & UK	April – 22 May – 21 June - 19	Confirmed breeding (20)	The majority of the confirmed territories were located within the fields to the east of the River Clwyd and north of Abergele Road. These fields were not being grazed at the time of the survey. One adult was seen occupying a nest during the May survey and one juvenile was seen during the June survey.
Swallow	Amber – Wales Green - UK	May – 19 June- 21	Confirmed breeding (2)	Two territories were confirmed in stable buildings at Cwybr Uchaf and at Fferm. Individuals were also observed foraging around the fields during the surveys, though no nest sites were observed in any other buildings within the survey area.
Long-tailed Tit	Amber – Wales Green - UK	May-2 June-8	Probable breeding	Calling individuals were recorded in suitable breeding habitat during the May and June surveys, though they were not located within the same areas during both surveys.
Willow warbler <i>Phylloscopus trochilus</i>	Red – Wales Amber - UK	April – 3 May - 1	Probable breeding	Individuals were recorded in woodland along Gypsy Lane and in trees to the north of Fferm, though they were not recorded in the same location on more than one occasions. Singing males were recorded during the April and May surveys.
Starling <i>Sturnus vulgaris</i>	Section 7 Red – Wales & UK	May – 14 June – 32 (including 5 juveniles)	Probable breeding	No territories could be confirmed, though the presence of juveniles during the June survey indicates this species is likely to breed within or close to the survey area. Individuals were primarily observed in fields close to Cwybyr Uchaf.
Song thrush	Section 7 Red – Wales & UK	April – 2 May – 6 June - 1	Confirmed breeding (2)	Two territories were confirmed within gardens near Cwybyr Uchaf.

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Redstart <i>Phoenicurus phoenicurus</i>	Amber – Wales & UK	April - 1	Possible breeding	One individual was observed in a hedgerow northwest of Fferm, though it was not exhibiting any breeding behaviour.
Wheatear	Amber – Wales Green - UK	April – 4 May – 7	Probable breeding	Wheatears were observed calling and singing in suitable habitat, though they were not recorded within the same area on more than one occasion, therefore no territories could be confirmed.
Dunnock	Section 7 Amber – Wales	April – 12 May – 6 June - 19	Confirmed breeding (8)	Seven territories were recorded within hedgerows around the fields to the east of the River Clwyd. One male was seen sitting on a nest during the May survey and three juveniles were seen during the June survey. One territory was located in woodland close to the helicopter station.
House Sparrow	Section 7 Red – Wales & UK	April – 36 May – 42 June - 51	Confirmed breeding (?)	The exact number of individuals is likely to be greater than the number recorded as some non-calling individuals could not be observed within the hedgerows. Suitable breeding habitat was present in multiple locations within the survey area.
Meadow pipit	Amber – Wales & UK	April - 19	Possible breeding	The 19 individuals seen during the April survey did not display breeding behaviour and were not seen during subsequent surveys. These are likely to have been passage individuals.
Linnet	Section 7 Red – Wales & UK	April - 10	Possible breeding	10 individuals were seen during the April survey. Suitable habitat is present though none were observed displaying breeding behaviour, and none were seen during subsequent surveys.
Reed bunting <i>Emberiza schoeniclus</i>	Section 7 Amber – Wales & UK	April – 1 May – 1 June - 3	Confirmed breeding (2)	A territory was confirmed close to the salt marsh northeast of the River Clwyd and along a ditch to the west of the river. A male was observed calling during the April and June surveys and a pair was observed during the May survey.

Canada goose *Branta canadensis*, grey heron *Ardea cinerea*, buzzard *Buteo buteo*, woodpigeon *Columba palumbus*, collared dove *Streptopelia decaocto*, great spotted woodpecker *Dendrocopos major*, magpie *Pica pica*, jackdaw, carrion crow *Corvus corone*, raven *Corvus corax*, blue tit *Cyanistes caeruleus*, great tit, chiffchaff, blackcap *Sylvia atricapilla*, lesser whitethroat *Sylvia curruca*, whitethroat, sedge warbler, treecreeper *Certhia*

familiaris, wren, blackbird, robin, stonechat, chaffinch *Fringilla coelebs*, greenfinch, and goldfinch were also recorded within the survey area.

3.2.4 Substation Area

Thirty-six species were recorded within the Substation survey area, including five listed on Section 7, five on the Red List of birds of conservation concern in Wales, and eight on the Amber List of birds of conservation concern in Wales. No species included on Annex 1 of the EU Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) were recorded within the Substation survey area.

The priority species recorded within this area are listed in Table 3-4 along with their breeding status and any relevant notes. Their locations are shown on Figure 2.6.

Table 3-4 Priority species recorded within the Substation survey area, their conservation status, number recorded during each survey, and their breeding status

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Mallard	Amber – Wales & UK	May – 1 pair	Unlikely to be breeding	One pair were recorded during the May survey, close to the wall along the Bodelwyddan estate. They were flushed by the surveyor and flew east. No mallards were observed on the ponds or watercourses within the site.
Herring gull	Section 7 Red – Wales & UK	May - 9	Non-breeding	A flock of nine was observed foraging in fields within the survey area. They were disturbed by the surveyor and flew east.
Stock dove	Amber – Wales & UK	June – 3	Probable breeding	Three individuals were seen in a tree in the north of the Substation survey area during the June survey. They are likely to have bred in the area as suitable habitat is present within the hedgerows and woodlands, though none were seen during the previous two surveys.
Tawny owl <i>Strix aluco</i>	Amber – Wales & UK	June – 1	Confirmed breeding (1)	A tawny owl was heard calling from the woodland within the Bodelwyddan estate. A juvenile was also heard calling in this area during bat surveys undertaken in this area in June and July 2021.
Coal tit <i>Periparus ater</i>	Amber – Wales Green - UK	May – 2	Confirmed breeding (1)	An adult was seen carrying a caterpillar into a hole in the wall along the Bodelwyddan estate during the May survey. An individual was also heard calling in the woodland in the north of the Glascoed nature reserve.
Swallow	Amber – Wales Green - UK	May – 5 June -5	Non-breeding	Small flocks were seen foraging around the fields to the west of the Glascoed reserve. No suitable nesting habitat is present within

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
				the survey area, though they were observed in larger numbers around Faenol Bropor farm to the north of the survey area.
Long-tailed tit	Amber – Wales Green - UK	April – 1 May - 10 June - 6	Confirmed breeding (1)	A pair was seen in a tree in the northeast corner of the Substation survey area during the April survey. Ten individuals were recorded close to this tree and in woodland to the south of the Bodelwyddan estate during the May survey. A flock of 6 were recorded in the northwest corner of the Glascoed nature reserve during the June survey.
Willow warbler	Red – Wales Amber - UK	April – 2 June -1	Confirmed breeding (1)	One confirmed territory was located in woodland in the north of Glascoed nature reserve. Individuals were also heard singing in a hedgerow in the centre of the reserve and in woodland on the edge of the Bodelwyddan estate, though these were only heard during the April survey and may have related to birds on passage.
Song thrush	Section 7 Red – Wales & UK	April – 1 May – 2 June – 2	Confirmed breeding (1)	One confirmed territory was located in Coed y Gors. Individuals were also heard singing in woodland within the Bodelwyddan estate.
Redstart	Amber – Wales & UK	April – 3 May – 6 June - 5	Confirmed breeding (4)	Adults were observed on nests in trees within and close to the Bodelwyddan estate and in the wall along the boundary of the estate. They were also observed in trees in the centre of the survey area, though breeding could not be confirmed in this area.
Dunnock	Section 7 Amber – Wales & UK	April – 1 indiv. & 1 pair May – 2 indivs. June – 2 indivs.	Confirmed breeding (1)	One confirmed territory was located in a hedgerow in the southeast of the survey area. Individuals were also heard singing in hedgerows in the northeast of the Substation survey area, northwest of Glascoed nature reserve and in the southern boundary of Coed y Gors.
Bullfinch <i>Pyrrhula pyrrhula</i>	Section 7 Red – Wales Amber - UK	May – 1	Confirmed breeding (1)	An individual was seen carrying nest material to a hedgerow within Glascoed nature reserve. They were also heard calling within this area during other protected species surveys.

Species	Conservation Status	No. Recorded	Breeding Status (No. of Confirmed Territories/Pairs)	Notes
Linnet	Section 7 Red – Wales & UK	April – 1 pair May – 1	Probable breeding	One pair was seen close to woodland in the north of Glascoed nature reserve during the April survey. Another individual was observed calling in a hedgerow to the south of the survey area during the May survey.

Buzzard, woodpigeon, green woodpecker *Picus viridis*, great spotted woodpecker, magpie, jay *Garrulus glandarius*, jackdaw, carrion crow, blue tit, great tit, chiffchaff, blackcap, whitethroat, sedge warbler, nuthatch *Sitta europaea*, treecreeper, wren, blackbird, mistle thrush *Turdus viscivorus*, robin, chaffinch, greenfinch *Chloris chloris* and goldfinch were also recorded within this survey area.

3.3 Barn Owl Surveys

The preliminary external survey identified eight structures and eight trees with the potential to be used by nesting barn owls. During the follow-up survey, following closer inspection, all but two of these trees and seven of these buildings were assessed as having negligible suitability for barn owls.

Table 3-5 lists the trees and buildings confirmed to have suitability for nesting barn owls within the survey area. The exact locations of the structures and trees are not provided here to avoid the risk of persecution should nest locations enter the public domain and are provided in Confidential Appendix 04. Confidential Appendix 04 should only be provided to relevant nature conservation organisations.

Table 3-5 Buildings and trees with suitability for nesting barn owls

Name:	Photograph:	Description:	Habitat:	Field Signs:
S1a (left) and S1b (right)		Two outbuildings within a residential site. S1b was in the process of being re-roofed during the follow-up survey.	Type 3 – arable and grazed grassland in close proximity to the buildings. Busy road (A525) to the west.	None found though suitable access was present in S1a. S1a - Medium suitability S1b – Negligible suitability

Name:	Photograph:	Description:	Habitat:	Field Signs:
S2		Large stable building in farm – in use at time of survey. Limited access to attic due to safety concerns.	Type 2 – predominately horse-grazed pasture with areas of longer grass close to river.	None, though suitable access points were present. Medium suitability.
S3		Small two-storey stable building in farm – not in use at time of survey.	Type 2 – predominately horse-grazed pasture with areas of longer grass close to river.	Little owl (<i>Athene noctua</i>) pellets found. Users of large stable (S2) report seeing small brown owls close to the building. No barn owl field signs, though access was available to the attic rooms. Medium suitability.
S4		Single-storey derelict house. Three separate rooms. Small roof space divided into two sections.	Type 2 – predominantly improved, grazed grassland though smaller areas of semi-improved grassland with a longer sward are also present	Numerous pellets of varying shade seen on floor of western room. One adult barn owl emerged as surveyors approached the building. One adult and two juveniles seen in roof space above western room. Confirmed nesting site.
S5		Derelict bunker within woodland – ledges suitable for roosting are present	Type 3 – bunker is located in woodland surrounding by arable fields	None found. Low suitability as the ledges within the bunker are quite exposed and there is little suitable foraging habitat within close proximity.

Name:	Photograph:	Description:	Habitat:	Field Signs:
S6a (left) and S6b (right)		Derelict buildings with smashed windows and open doors.	Type 3 – buildings are surrounded by arable fields	None found Low suitability as the buildings are exposed to the elements and little suitable foraging habitat is present within close proximity.
T1		Large oak <i>Quercus robur</i> with holes in east and west facing sides of trunk, 'platform' area where trunk splits.	Type 3 – largely arable with areas of short grassland further afield.	Two adults present during preliminary survey. Three intact but cold eggs, dark black pellets and white splashes found during follow-up survey. No adults present. Confirmed nesting site but assumed to have failed.
T2		Large oak with a barn owl box located on the south facing side of trunk	Type 1 and 3 – the habitat within the reserve is grassland with a long sward, though to the west and north the habitat is predominantly sheep-grazed grassland and woodland. The tree is within approximately 0.5km of the A55 dual carriageway.	Pellets and broken eggshell were found within the box. Judging by the colour of the pellets, the nest box had not been used in the last 12 months. High suitability.

Breeding barn owls were confirmed in S4 – two adults and two juveniles were seen within the attic of the building and a large number of pellets were present on the floor of the northern room. Field signs of barn owls were also found in T1 and T2, although the nests appear to have been abandoned within the last three months for T1 and twelve months for T2 based on the colour of the pellets.

3.4 Kingfisher Survey

No kingfishers or suitable nest holes were seen during the otter and water vole surveys.

A kingfisher was seen in a ditch at SJ 01612 78212 during the breeding bird survey on 13th May 2021 (see Table 3-3), although this ditch was not included within the otter and water vole survey area as it was outside of the 200m buffer from the proposed cable corridor. The ditch was checked for the presence of nest holes during the May and June breeding bird surveys. None were found, though the presence of long and dense vegetation partially obscured the view of the banks.

3.5 Incidental Records

While carrying out the follow-up barn owl survey on the afternoon of 21st July 2021, a quail *Coturnix coturnix* was heard calling from an arable field to the south of Erw'r-gaseg woodland near Pengwern (approximate grid reference SJ014759). Quail is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

There were no incidental records of other protected or notable breeding bird species during the course of other ecological surveys undertaken for the project, although it is noted that many of these surveys were undertaken by non-ornithologists and were not targeted at identifying protected or notable bird species.

4.0 Discussion and Conclusions

4.1 Breeding Bird Survey

4.1.1 Landfall Survey Area

Fifteen priority species were recorded within the Landfall survey area of which four were confirmed to be breeding, two were probably breeding, three were possibly breeding, two were unlikely to be breeding and four were non-breeding due to the lack of suitable nesting features within the survey area.

No species included on Annex 1 of the EC Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) were recorded within the Landfall survey area and no wader species were recorded.

No species were observed breeding or exhibiting breeding behaviour on the beach. Their presence is probably impeded by the fact that the sea reaches the edge of the seawall at high tide. No ringed plover (or any other wader species) were recorded foraging on the beach during the breeding bird surveys. One wildfowl species (mallard) was considered to be possibly breeding but no other wildfowl species were recorded.

Of the 15 priority species recorded within the Landfall survey area, seven are listed in Section 7 of the Environment (Wales) Act 2016 and six are included on the Red List of birds of conservation concern in Wales. Of these, skylark, song thrush, dunnoek and linnet were confirmed to be breeding within the area based on observations of their behaviour and their presence in the same location on during more than one survey visit. Skylark were recorded primarily on the golf course. Song thrush, dunnoek, and linnet were observed primarily within Y Ffrith LWS. House sparrow bred within buildings just outside the survey area.

Nine of the 15 species recorded are included on the Amber List of birds of conservation concern in Wales. Of those, only dunnoek was confirmed to be breeding within the survey area.

The remaining species are on the green list of birds of conservation concern and represent a typical assemblage of species for the types of habitats present within the survey area.

4.1.2 River Clwyd Survey Area

Thirty priority species were recorded within the River Clwyd survey area, of which seven were confirmed to be breeding, five were probably breeding, six were possibly breeding, three were unlikely to be breeding and nine were non-breeding.

One species included on Annex 1 of the EC Birds Directive was recorded within the survey area – a kingfisher was recorded flying along a ditch to the north of Clwyd View Touring Caravan Park. No holes were found along this ditch, though parts of the bank were obscured by long vegetation so this has been classified as possibly breeding.

One species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) – little ringed plover – was recorded within the River Clwyd survey area. This species was only seen during the April survey and as no suitable breeding habitat is present, the record is likely to refer to birds on passage and it is considered that this species is not breeding within the survey area.

Ten species listed on Section 7 were recorded, of which skylark, song thrush, dunnoek, house sparrow and reed bunting were confirmed to be breeding within the survey area. Approximately 20 skylark territories were mapped. All but one of these were located within the grazing marsh either side of the River Clwyd. Reed bunting territories were located in ditches alongside the River Clwyd. All other territories for Section 7 species were located either in woodland close to the helicopter station or in woodland and hedgerows around houses near Cwybyr Uchaf.

Willow warbler was the only Welsh Red list species not included in Section 7 observed within this survey area. It was recorded as having a probable territory in the woodland to the southwest of the helicopter station.

Eighteen of the species recorded are included on the Amber List of birds of conservation concern in Wales. Of these, swallow, song thrush, mallard and dunnock were confirmed as breeding within the survey area.

Fourteen species of waterbirds (including two gull species) were recorded within the survey area, of which one, mallard, was confirmed to be breeding based on the observations of pairs within suitable habitat on multiple survey visits. Teal, tufted duck, goosander, cormorant, little ringed plover, curlew and snipe were considered to be non-breeding based on the records obtained and the lack of suitable nesting habitat within the survey area. The two gull species – lesser black-backed gull and herring gull – were only observed preening and loafing on a shingle bank in the river at low tide and were also considered to be non-breeding (although they may have been breeding nearby, outside the survey area). Shelduck, oystercatcher and redshank and snipe were observed within suitable breeding habitat though no behaviour indicative of breeding was recorded and in the case of shelduck the species was only observed in large flocks. These species were therefore classified as unlikely to be breeding. Mute swan was observed in pairs, though no nests were found along the River Clwyd or any other watercourses within the survey area and this species has therefore been classified as possibly breeding.

4.1.3 Substation Survey Area

Thirteen priority species were recorded within the Substation survey area, of which eight were confirmed to be breeding, two were probably breeding, one was unlikely to be breeding and two were non-breeding.

No species included on Annex 1 of the EC Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) were recorded within the Substation survey area and no wader species were recorded. No wildfowl were observed on the ponds or watercourses, although a pair of mallard were flushed from close to the wall along the Bodelwyddan estate in May.

Of the five species listed on Section 7, song thrush, dunnock and bullfinch were confirmed to be breeding within the survey area. Bullfinch was only recorded within the Glascoed nature reserve, whereas song thrush and dunnock were recorded within woodland and hedgerows near to the proposed location of the substation. Linnet and herring gull were also recorded within the survey area but were not considered to be breeding.

The Welsh Red List species willow warbler was confirmed to be breeding within Glascoed nature reserve.

Eight species observed within the survey area are included on the Welsh Amber list. Tawny owl, coal tit, long-tailed tit and redstart were confirmed as holding territories. Tawny owl was recorded within the Bodelwyddan estate woodland to the west of the survey area. Coal tit and redstart were observed nesting within the wall that runs along the eastern boundary of the estate. Coal tit was also observed in woodland to the north of Glascoed reserve.

The remainder of the species recorded are on the Welsh Green list of birds of conservation concern and represent a typical species assemblage for the farmland, woodland and grassland habitats present within the survey area.

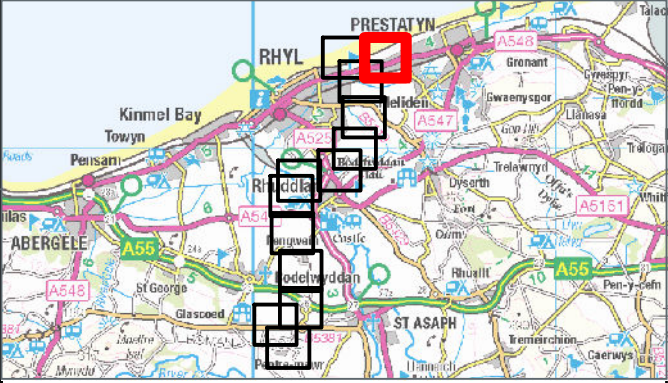
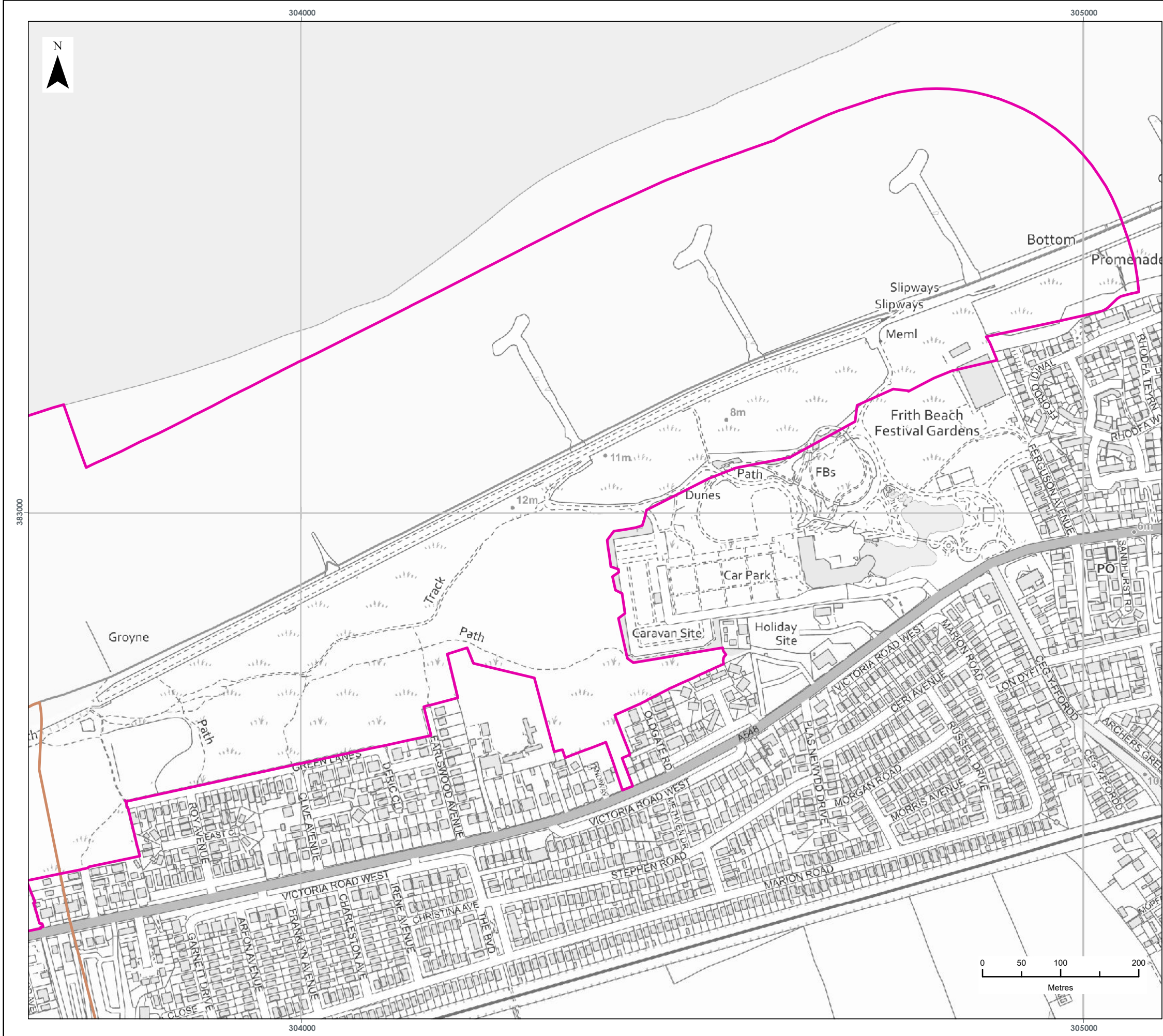
4.2 Barn Owl Survey

Nesting barn owls were confirmed to be present in a derelict house and within a mature oak tree, though the latter nest appeared to have been abandoned. Pellets were also present in a barn owl box close to the Substation survey area, suggesting they had been present within the last 12 months. The locations of the confirmed nests and other buildings and trees with the potential to support nesting barn owls are provided in Confidential Appendix 04.

4.3 Kingfisher Survey

One kingfisher was seen during the breeding bird survey in a ditch to the north of Clwyd View Caravan Park, west of the River Clwyd. No holes were found along the ditch, although long and dense vegetation obscured the view of the ditch in places and it has been classified as possibly breeding. However, it is noted that this ditch is >200m from the preferred cable corridor.

No kingfishers or field signs indicating their presence were observed along any of the other ditches and watercourses surveyed during the otter and water vole surveys. Many of the ditches surveyed were shallow (less than 0.5m deep) or were dry at the time of the survey indicating that suitable habitat is not widespread throughout the kingfisher survey area.



LEGEND

- Breeding Bird Survey Area - Landfall
- Barn Owl Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

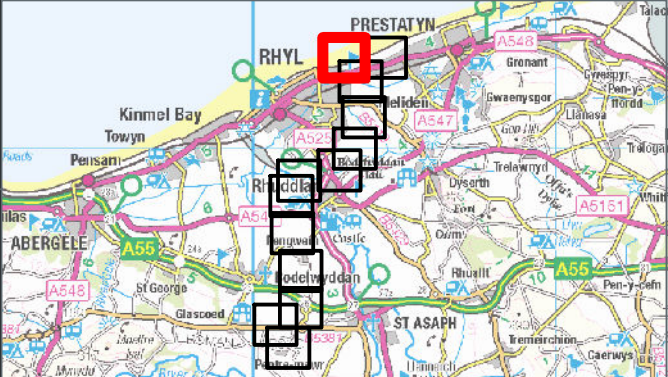
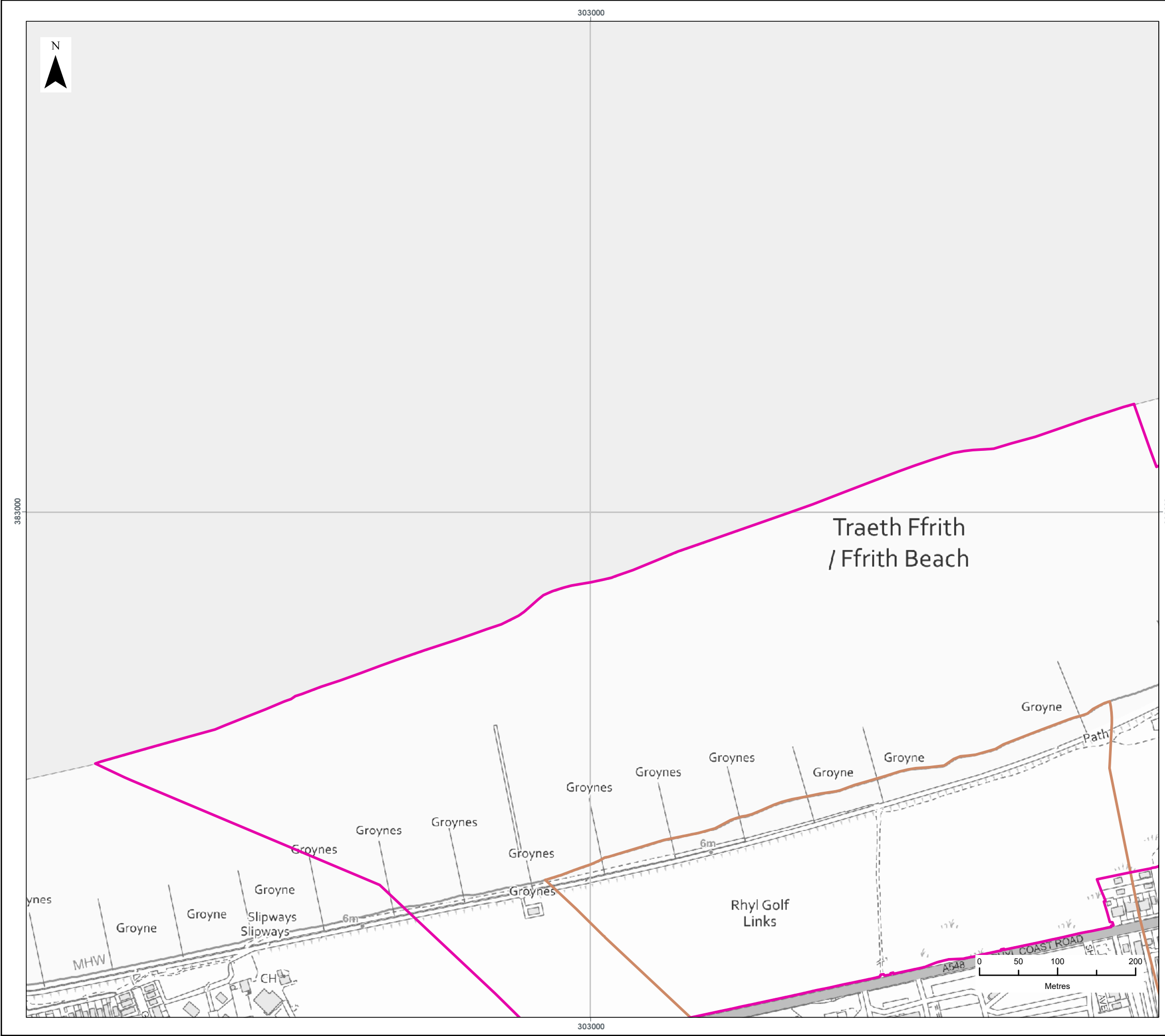
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.1

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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LEGEND

- Breeding Bird Survey Area - Landfall
- Barn Owl Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

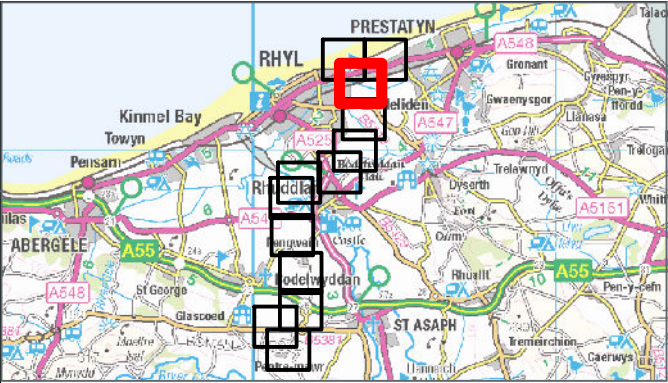
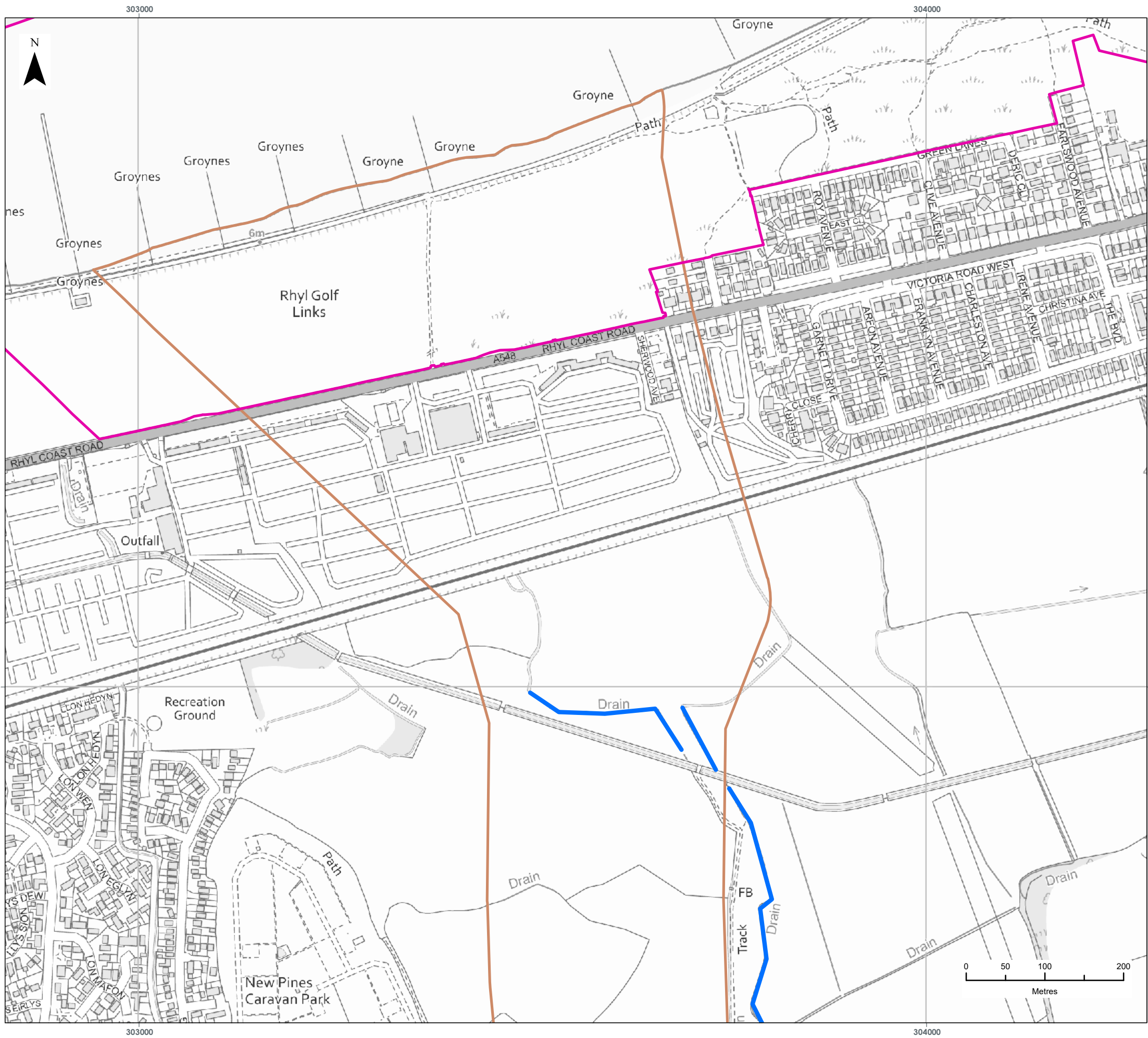
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.2

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



- LEGEND**
- █ Breeding Bird Survey Area - Landfall
 - █ Barn Owl Survey Area
 - █ Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

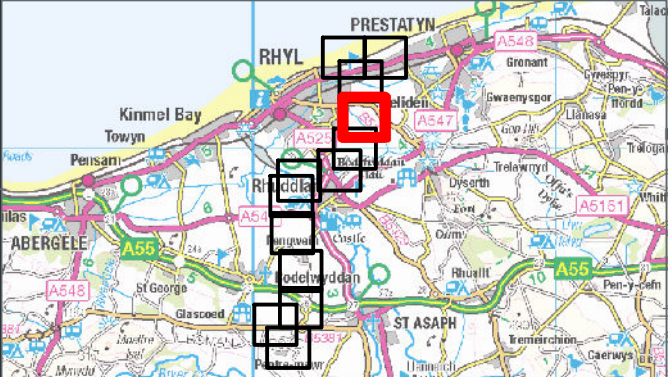
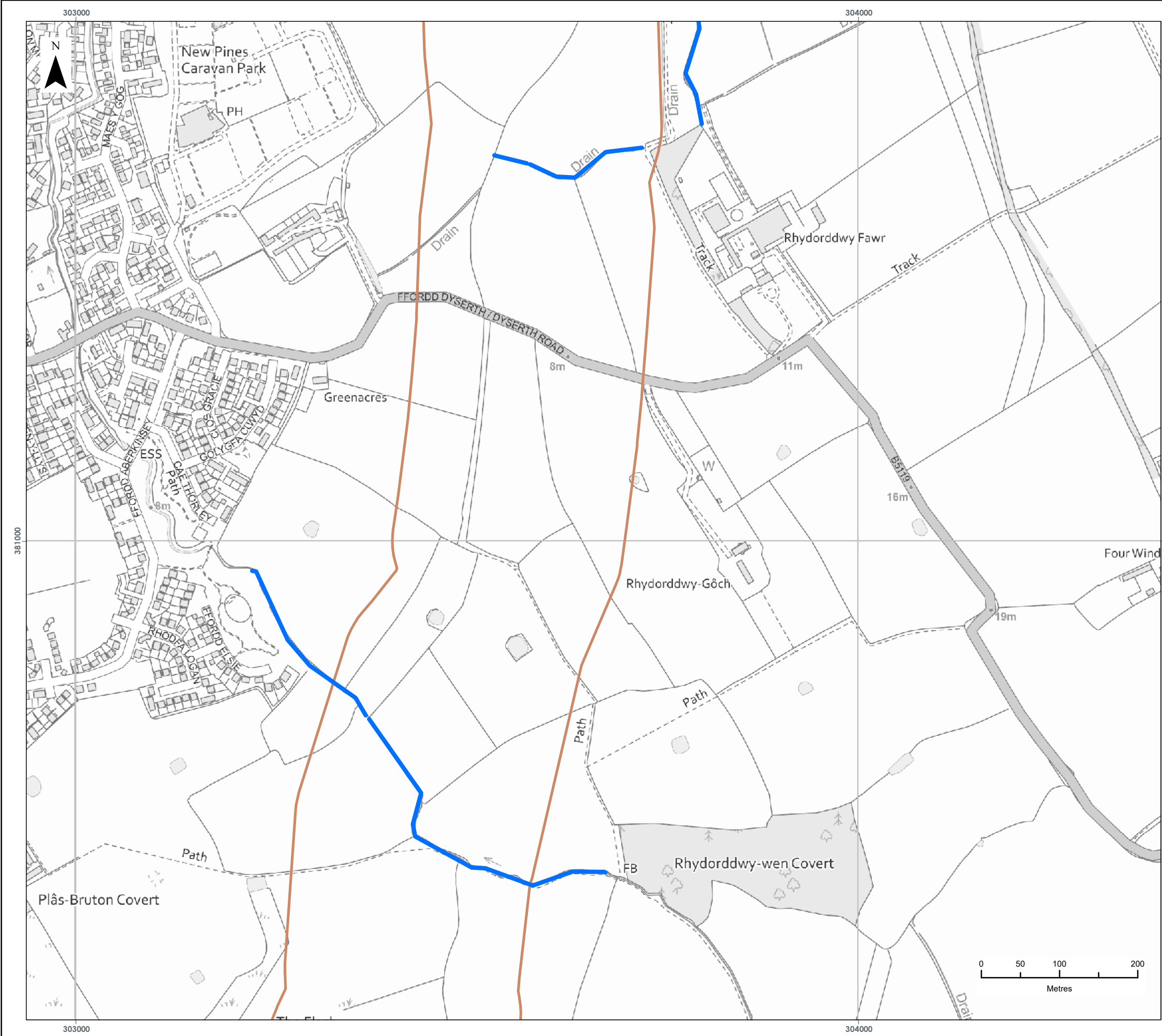
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.3

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

Barn Owl Survey Area

Kingfisher Survey Area

Data Source:
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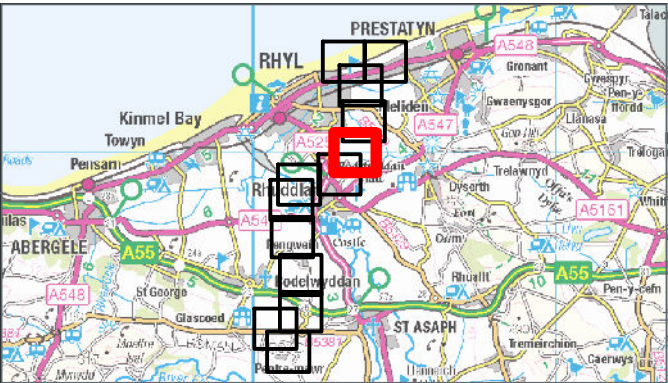
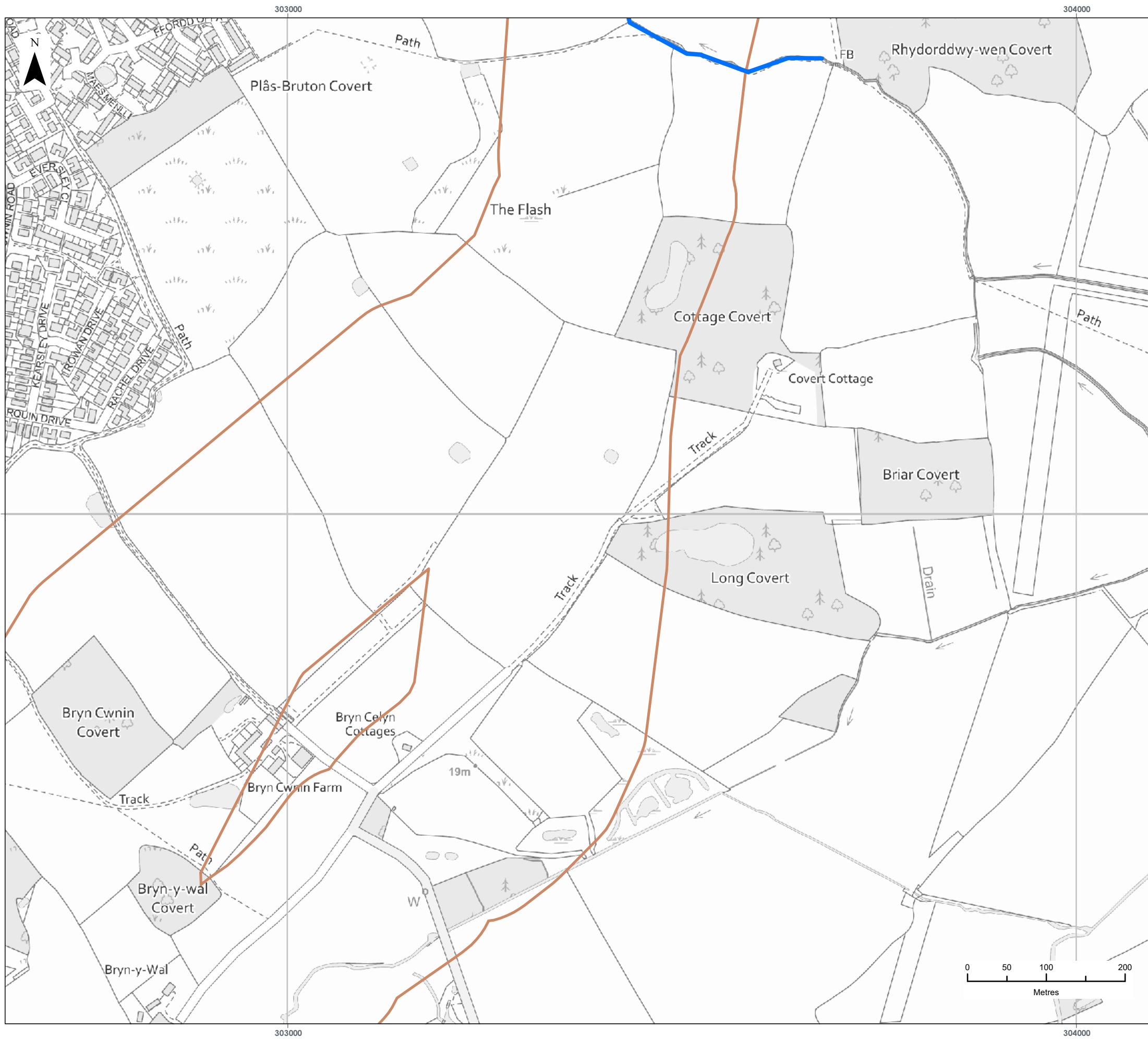
PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.4

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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- LEGEND**
- Barn Owl Survey Area
 - Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

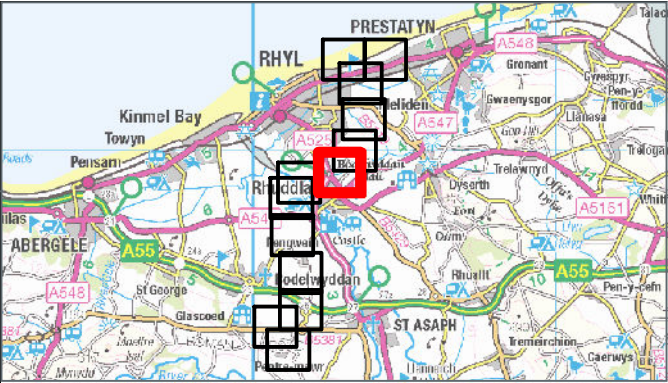
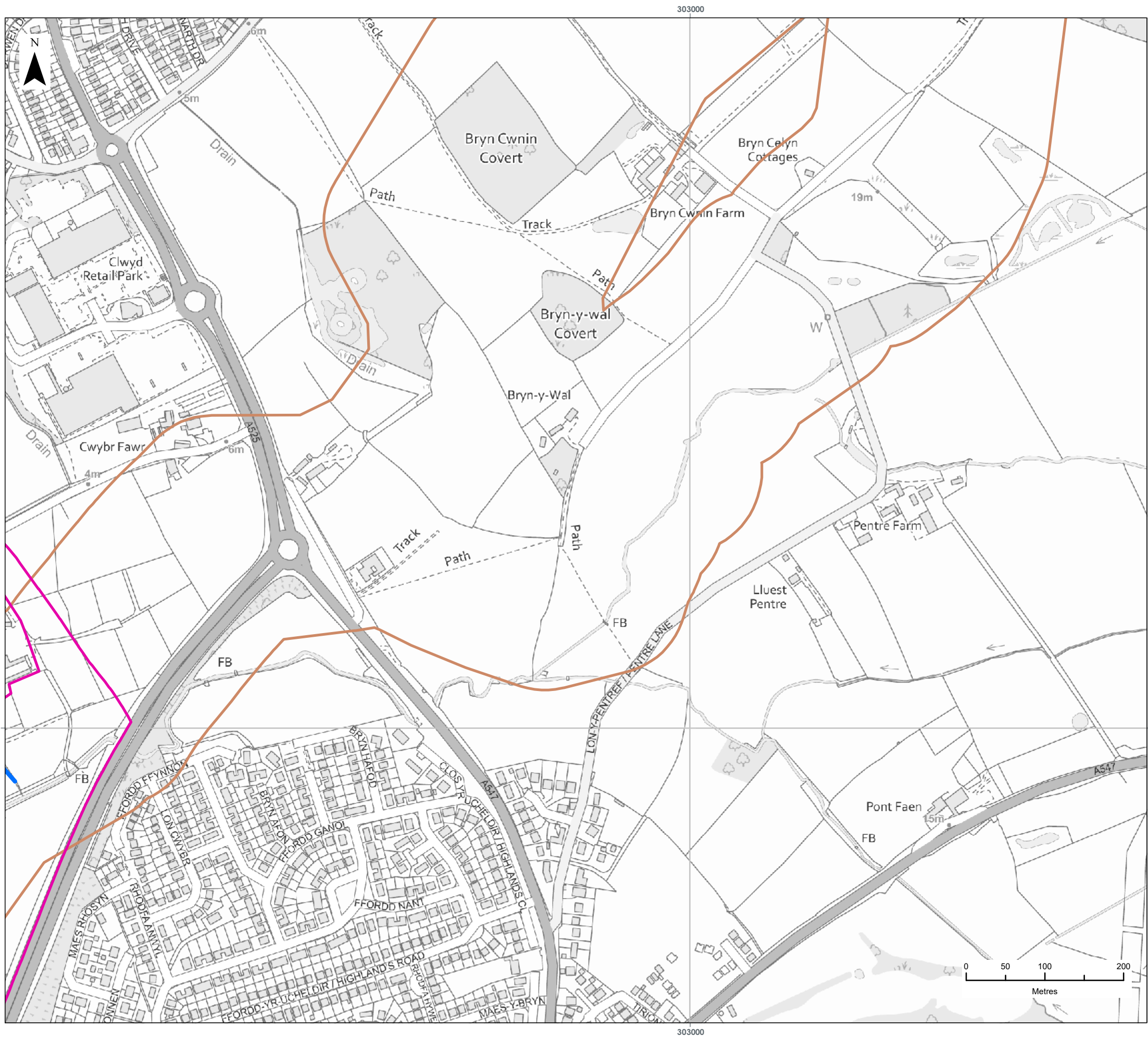
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.5

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



- LEGEND**
- Breeding Bird Survey Area - River Clwyd
 - Barn Owl Survey Area
 - Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)

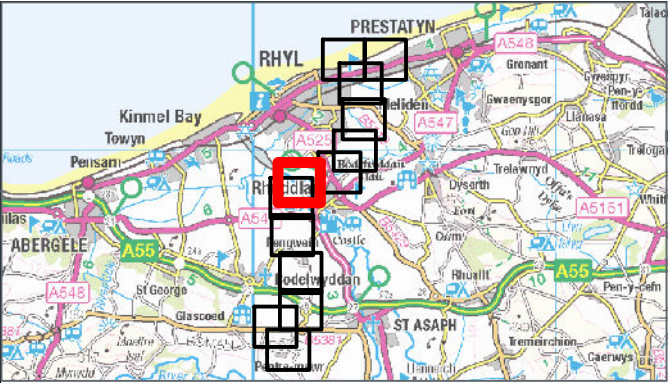
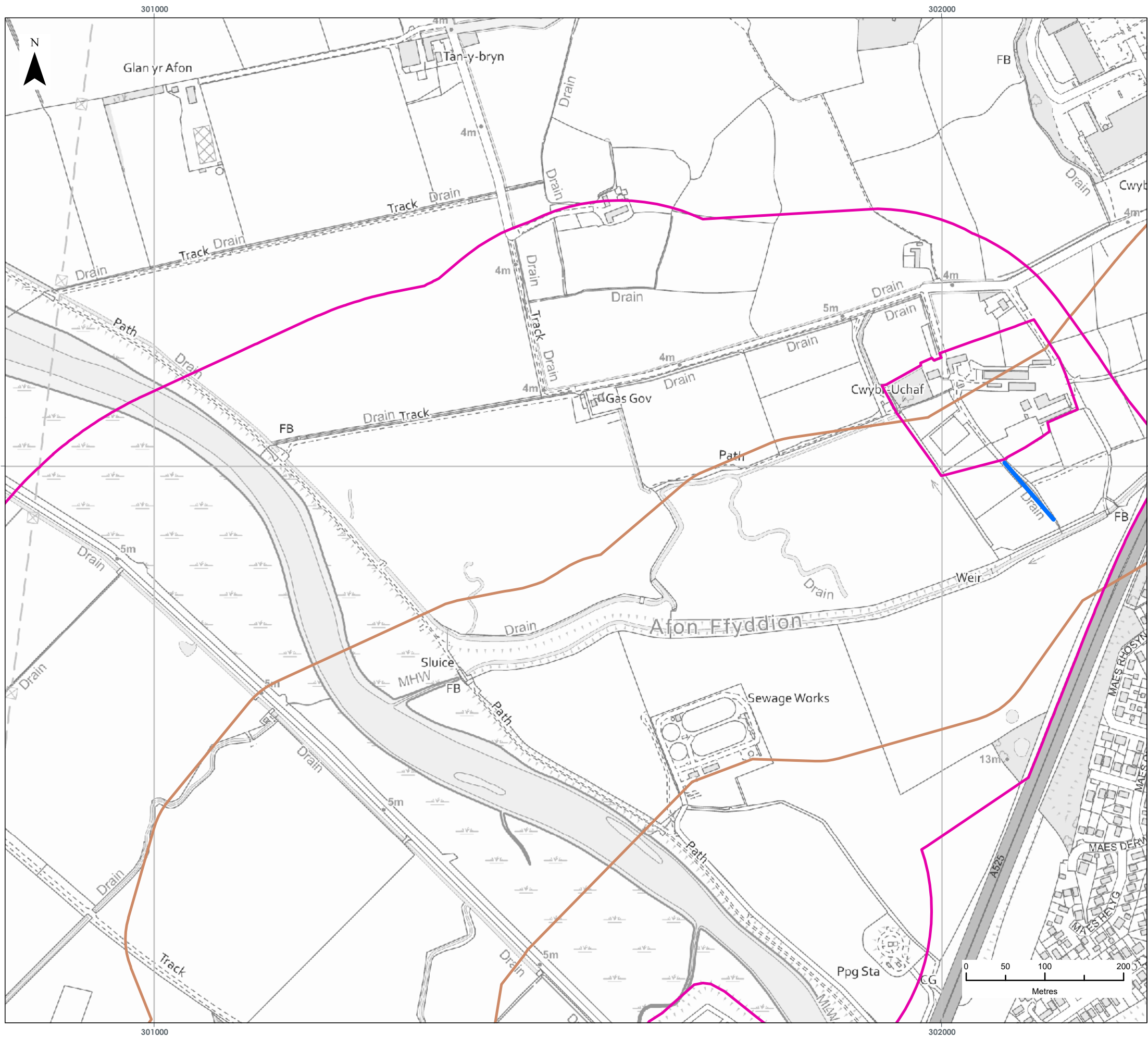
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Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.6

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



- LEGEND**
- ▭ Breeding Bird Survey Area - River Clwyd
 - ▭ Barn Owl Survey Area
 - ▭ Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

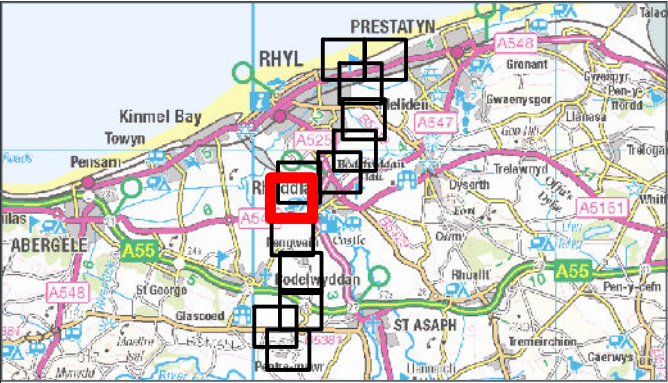
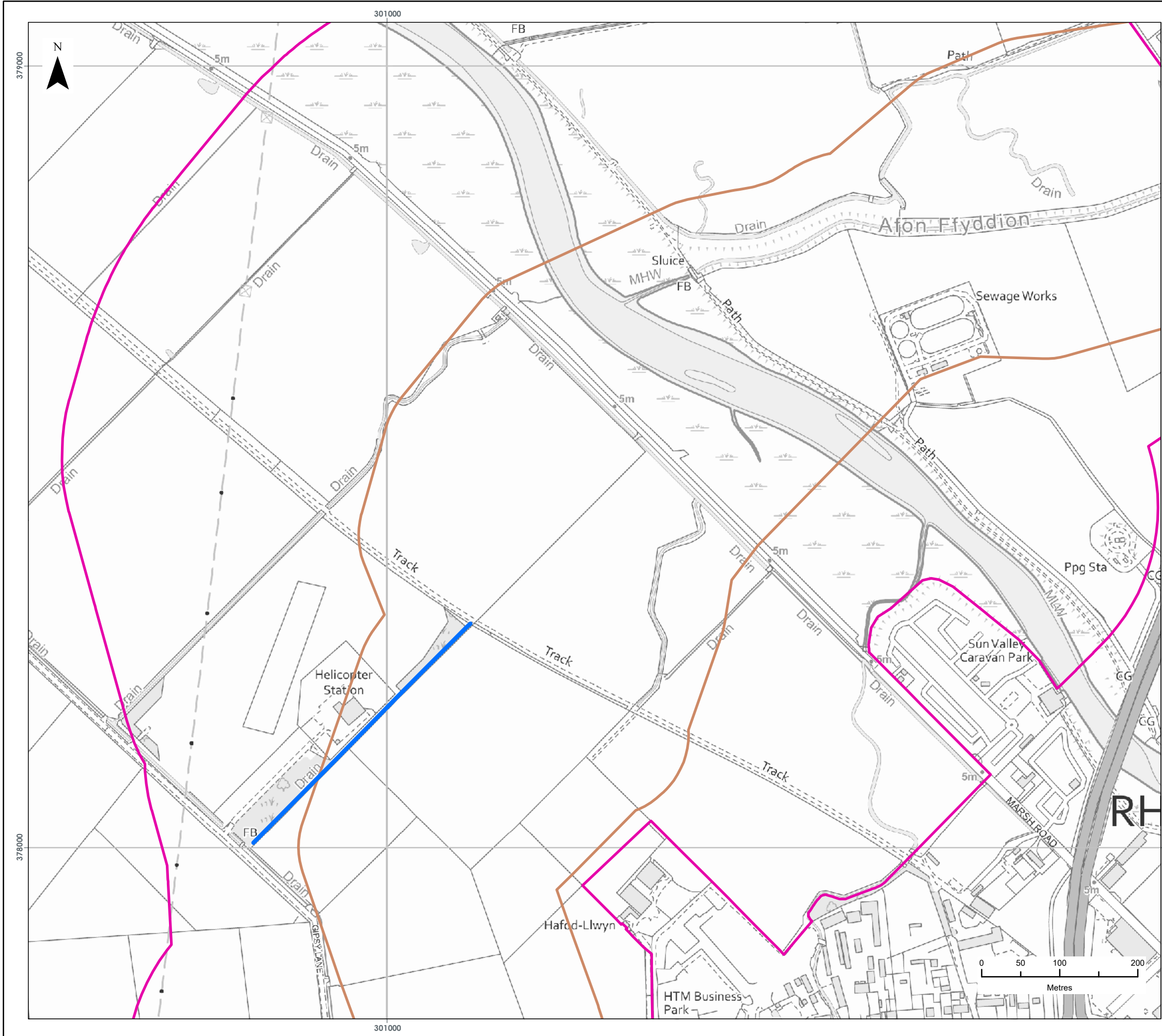
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.7

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



- LEGEND**
- Breeding Bird Survey Area - River Clwyd
 - Barn Owl Survey Area
 - Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)

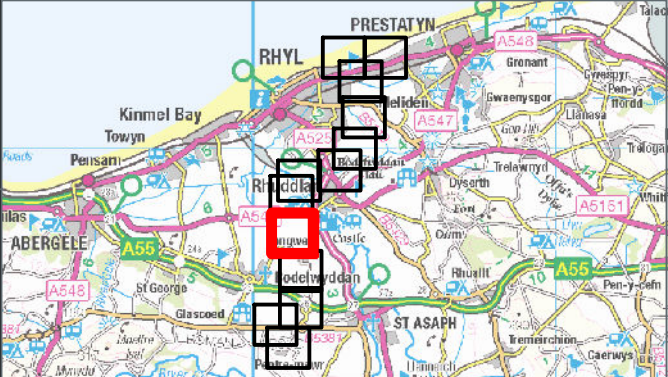
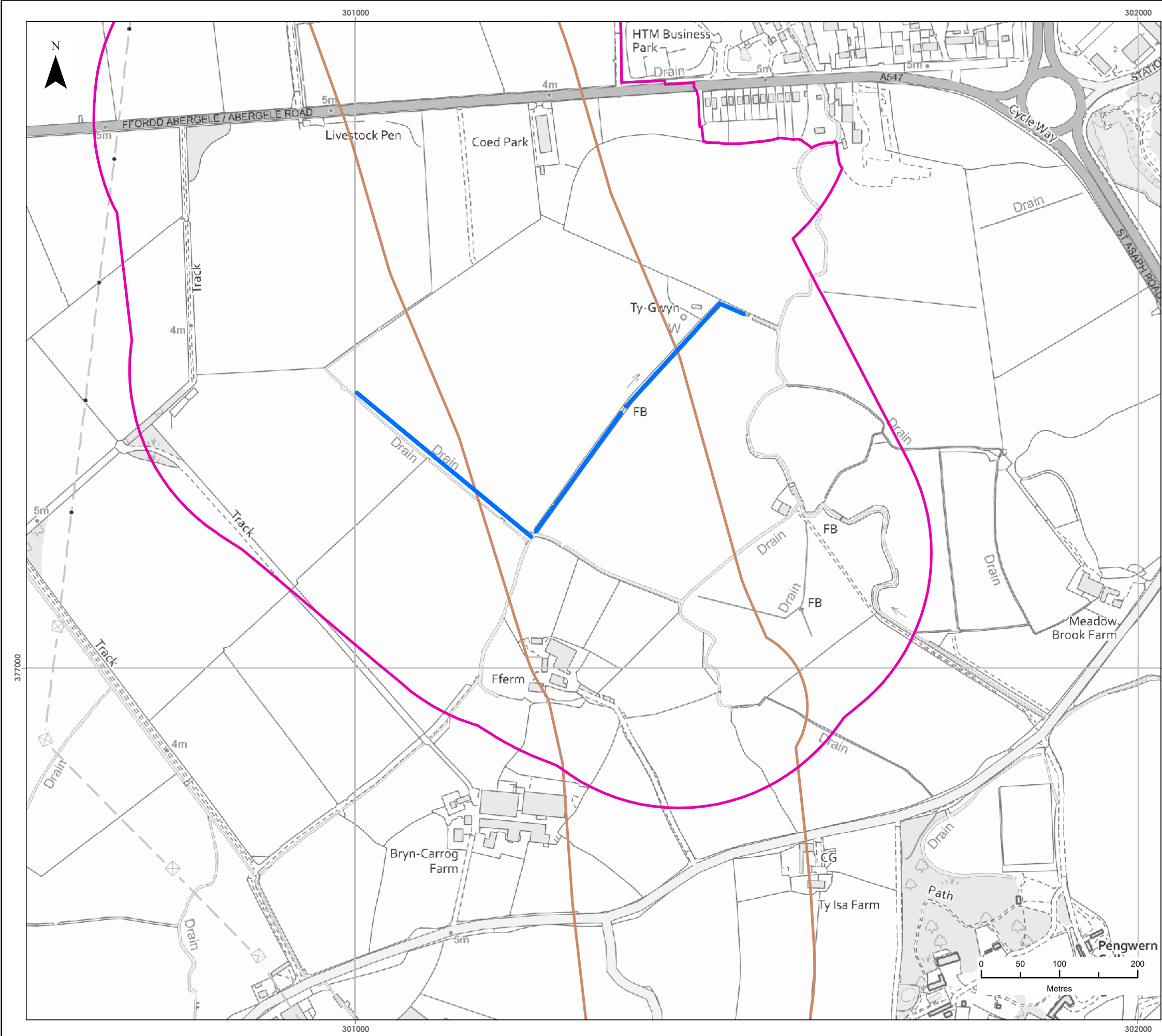
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.8

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wyrnt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

- █ Breeding Bird Survey Area - River Clwyd
- █ Barn Owl Survey Area
- █ Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

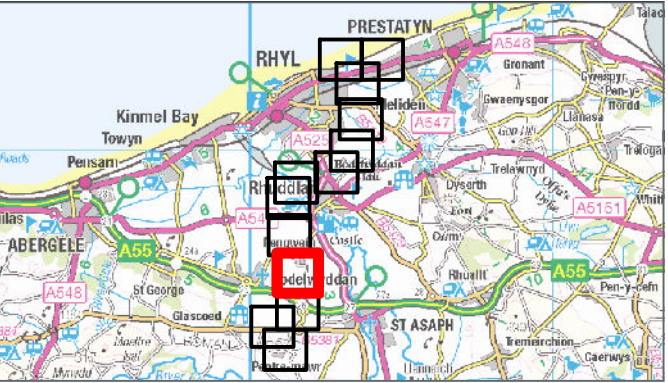
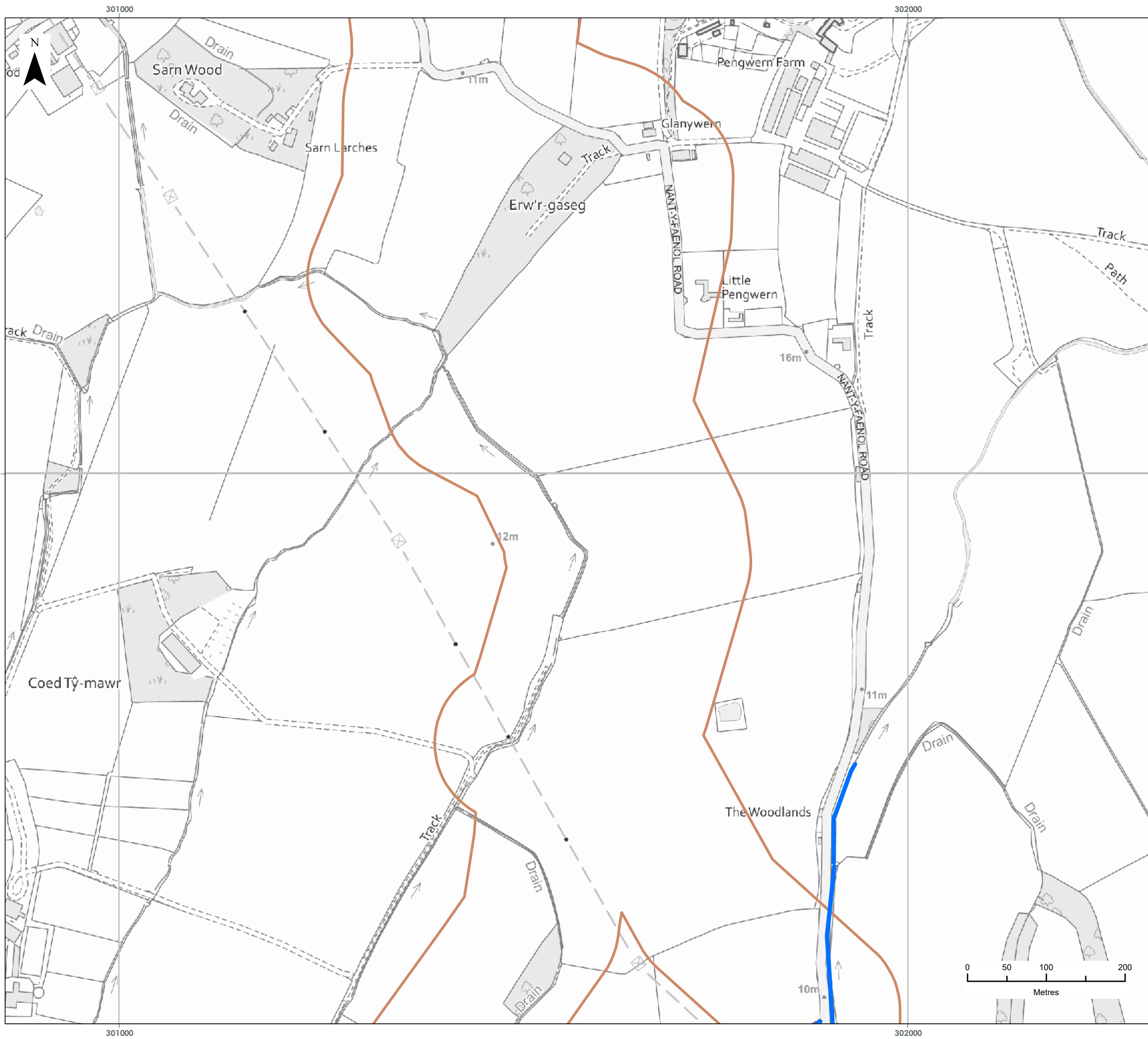
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.9

SCALE:	1:5,000	PLOT SIZE:	A3	DATUM:	ODN	COORDINATE SYSTEM:	British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

- Barn Owl Survey Area
- Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

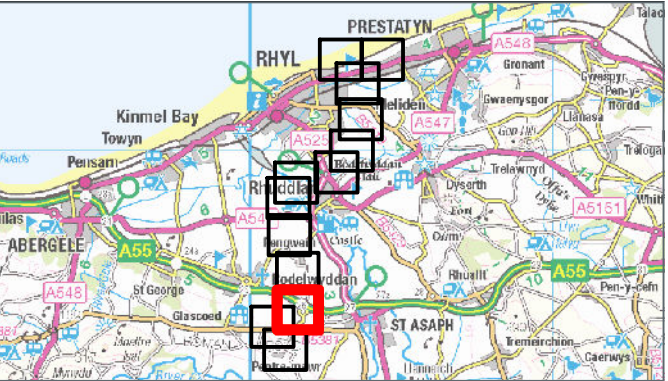
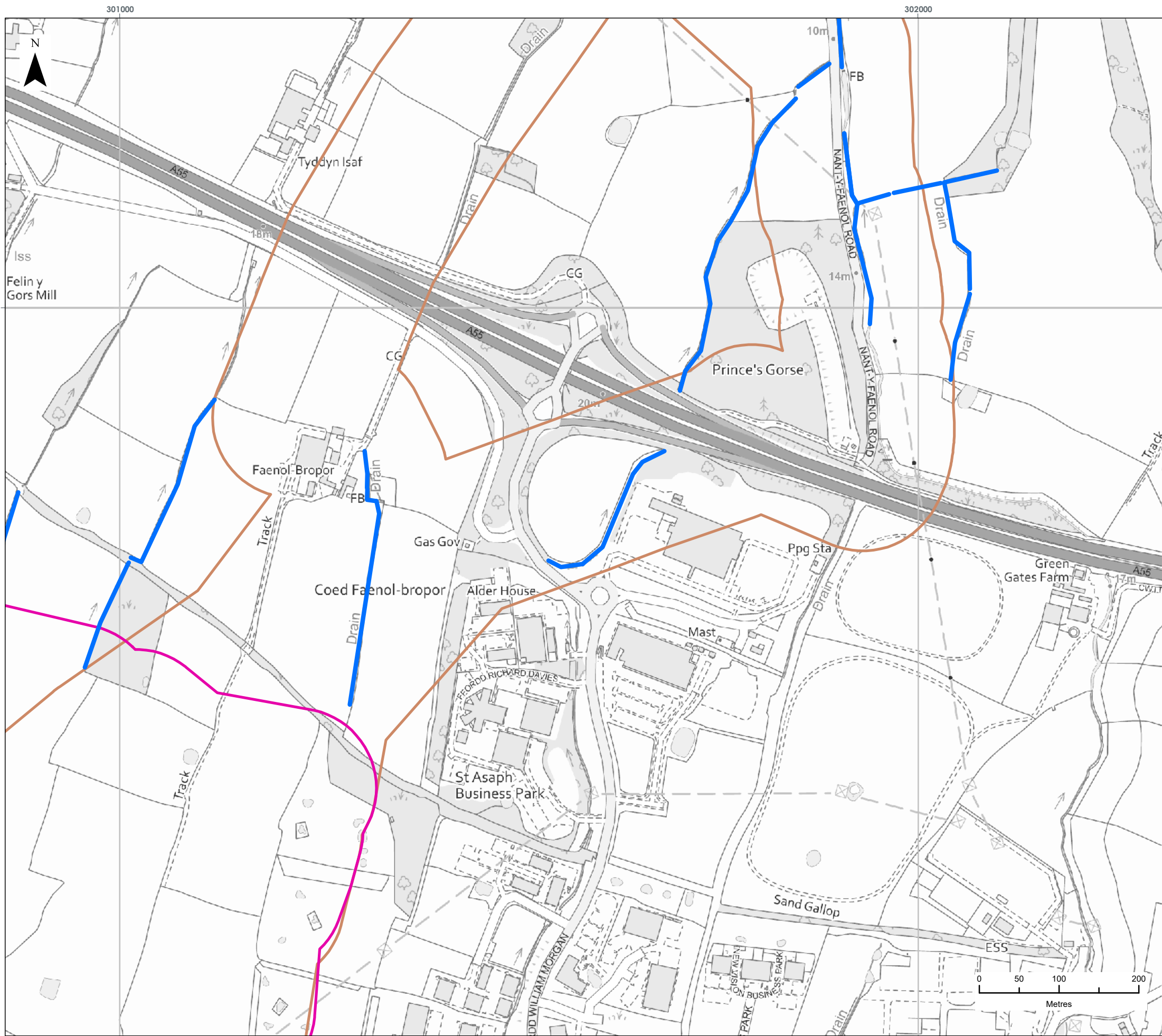
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.10

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

- Breeding Bird Survey Area - Substation
- Barn Owl Survey Area
- Kingfisher Survey Area

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PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)

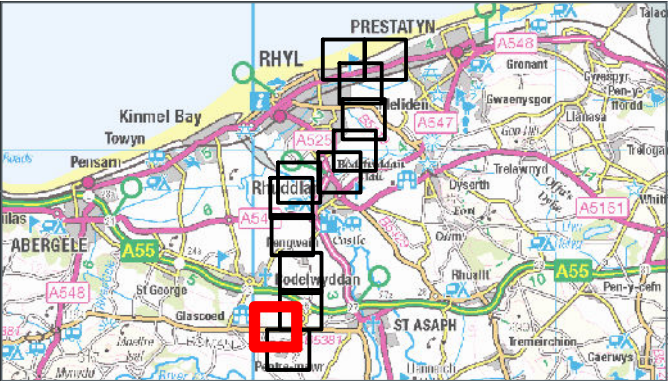
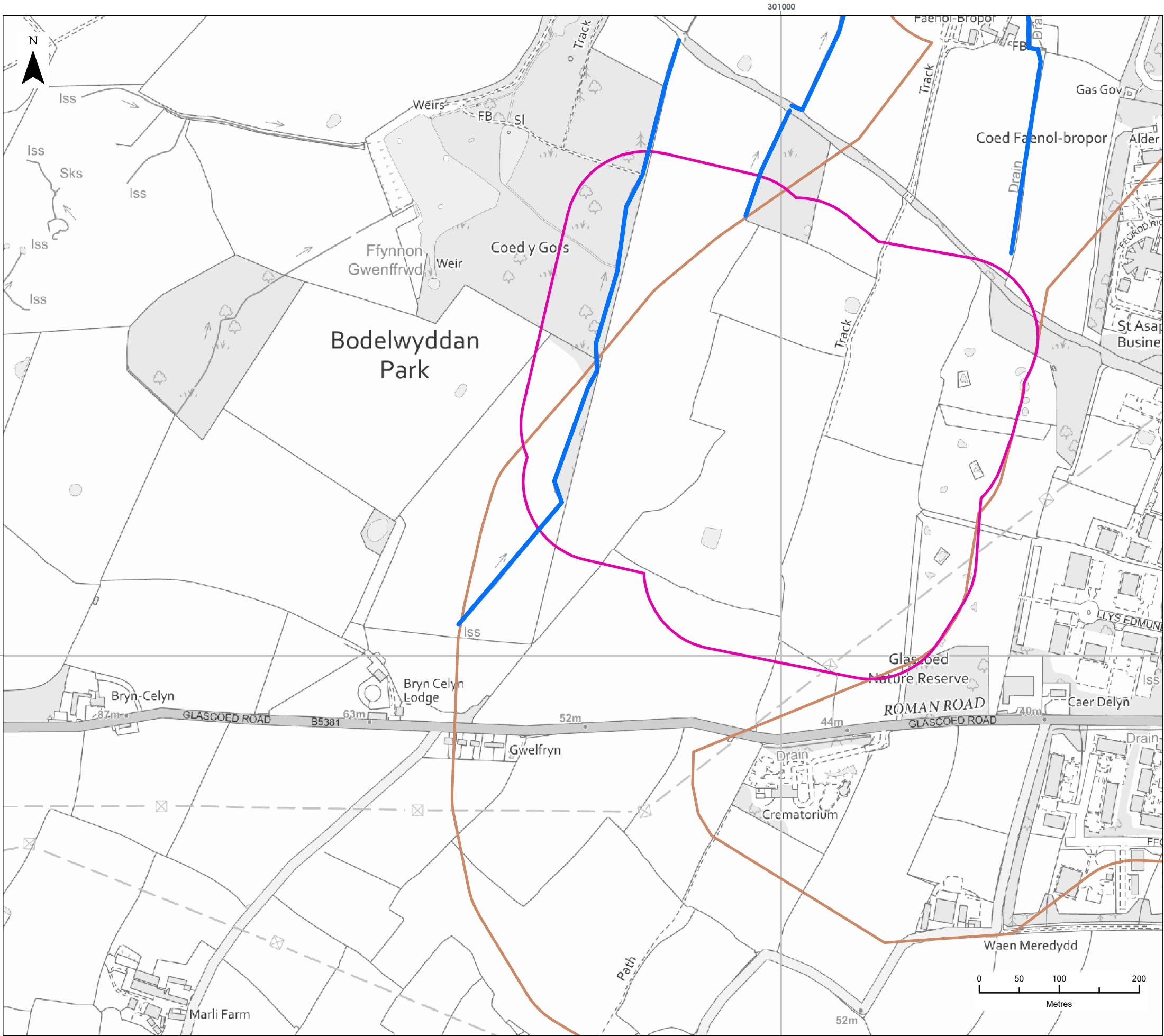
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Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.11

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wyrnt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



- LEGEND**
- Breeding Bird Survey Area - Substation
 - Barn Owl Survey Area
 - Kingfisher Survey Area

Data Source:
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PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)

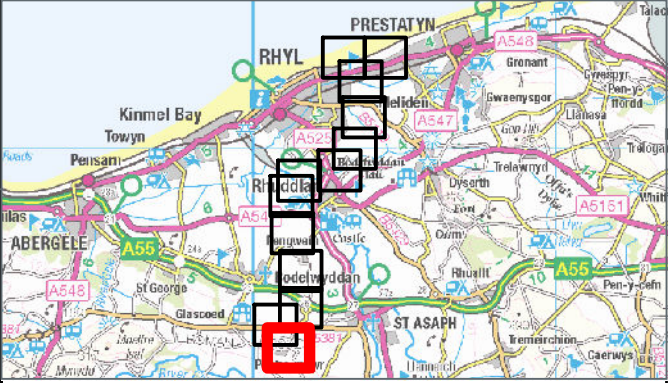
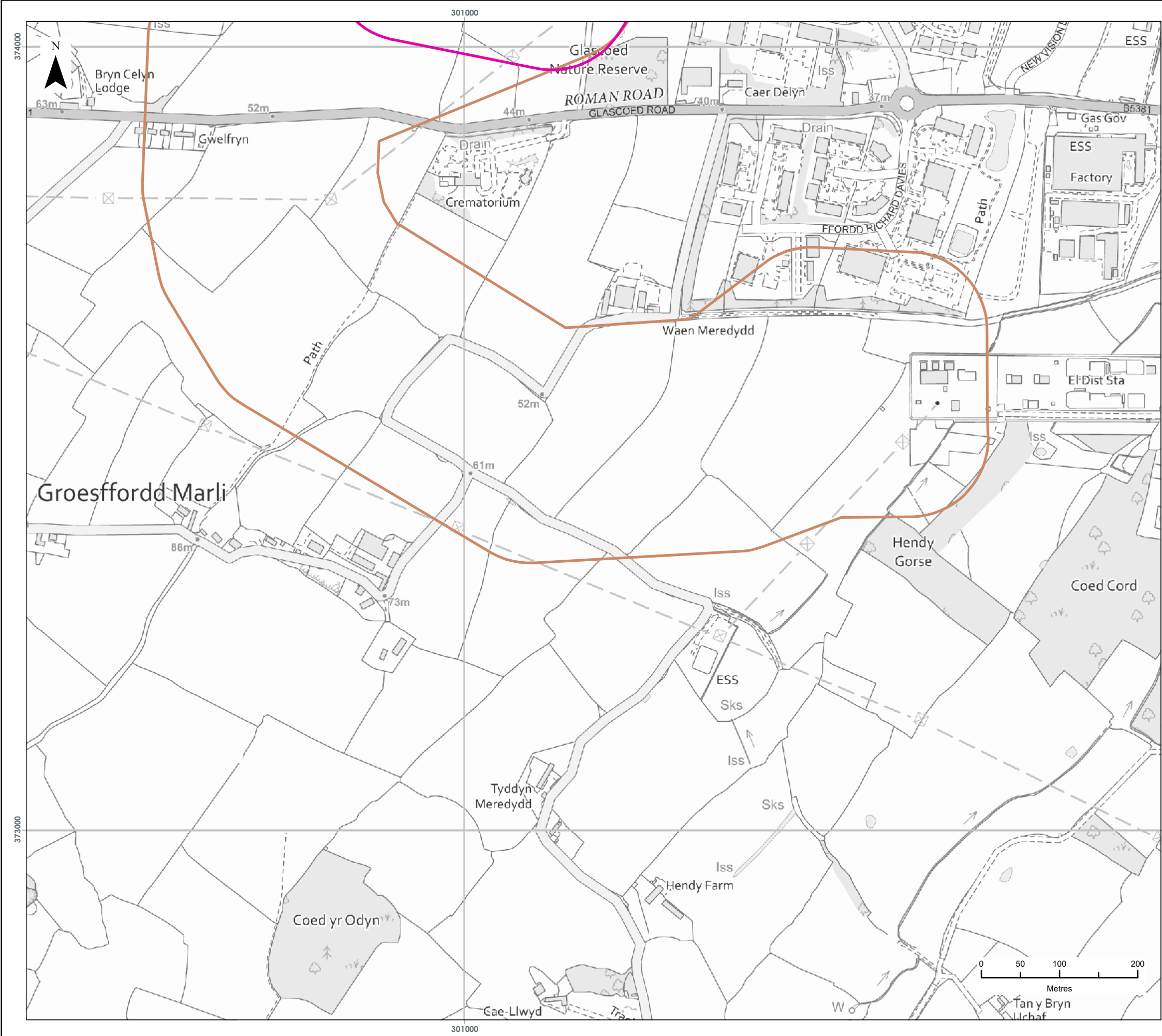
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Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.12

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wyrnt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

- Breeding Bird Survey Area - Substation
- Barn Owl Survey Area

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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

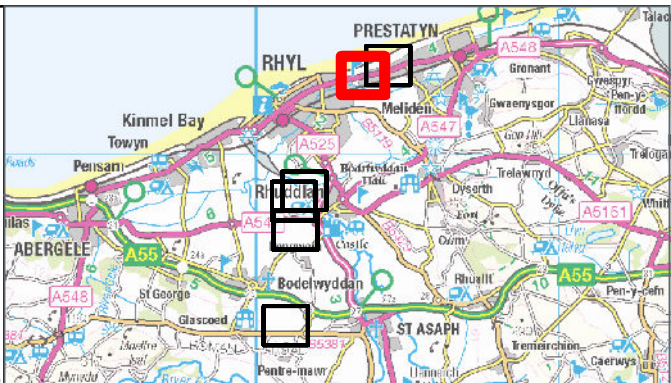
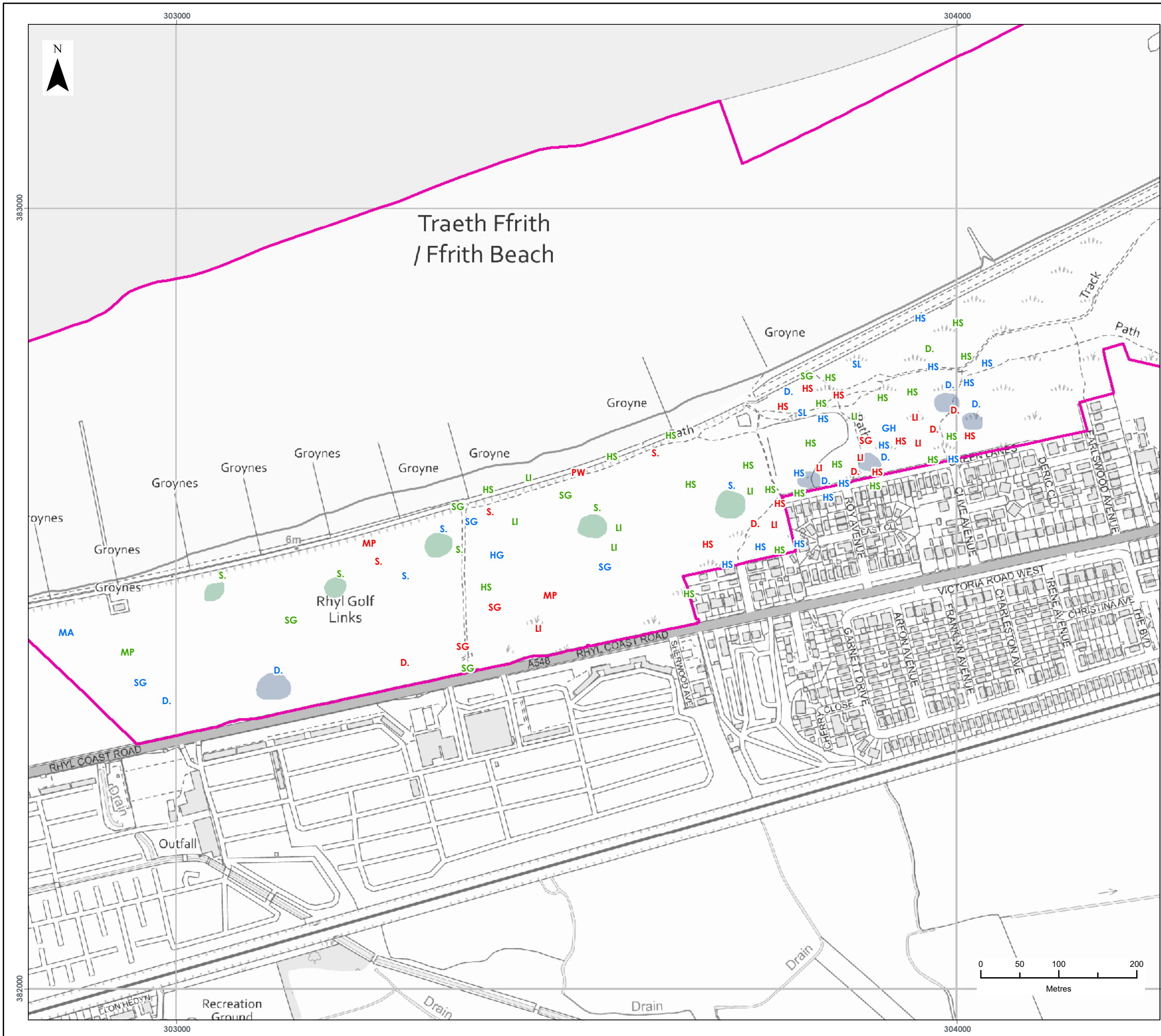
FIGURE TITLE:
Breeding Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 1.13

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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LEGEND

Breeding Bird Survey Area - Landfall

Confirmed Territories

 Dunnock	 Skylark
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BF - Bullfinch	LI - Linnet	SG - Starling
CA - Cormorant	LP - Little Ringed Plover	SI - Swift
CT - Coal Tit	LT - Long-tailed Tit	SL - Swallow
CU - Curlew	MA - Mallard	SN - Snipe
D - Dunnock	MP - Meadow Pipit	ST - Song Thrush
GH - Grasshopper Warbler	MS - Mute Swan	SU - Shelduck
GD - Goosander	OC - Oystercatcher	T - Teal
HG - Herring Gull	PW - Pied/White Wagtail	TO - Tawny Owl
HM - House Martin	RB - Reed Bunting	TU - Tufted Duck
HS - House Sparrow	RK - Redshank	W - Wheatear
K - Kestrel	RT - Redstart	WW - Willow Warbler
KF - Kingfisher	S - Skylark	
LB - Lesser Black-backed Gull	SD - Stock Dove	

April is Red - May is Blue - June is Green

Data Source:
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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

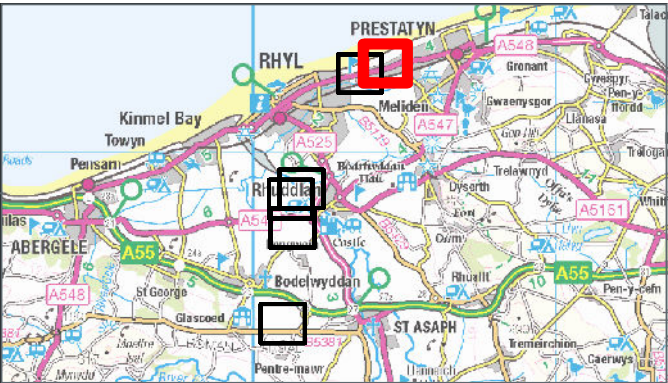
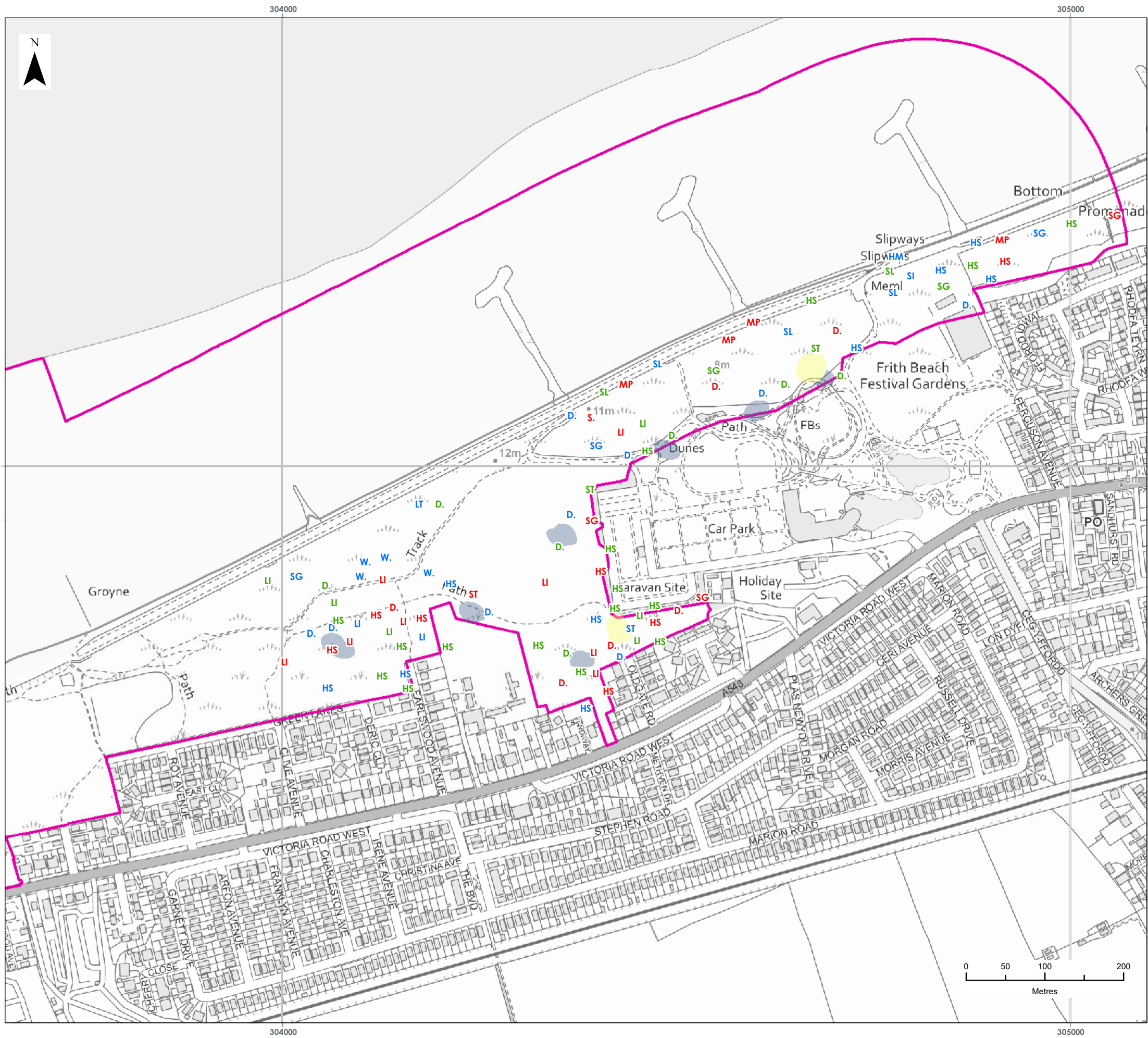
FIGURE TITLE:
**Breeding Bird Survey Results
Priority Species - Landfall 1**

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 2.1

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

 Breeding Bird Survey Area - Landfall

Confirmed Territories

Dunnock

Song Thrush

- | | | |
|-------------------------------|---------------------------|---------------------|
| BF - Bullfinch | LI - Linnet | SG - Starling |
| CA - Cormorant | LP - Little Ringed Plover | SI - Swift |
| CT - Coal Tit | LT - Long-tailed Tit | SL - Swallow |
| CU - Curlew | MA - Mallard | SN - Snipe |
| D - Dunnock | MP - Meadow Pipit | ST - Song Thrush |
| GH - Grasshopper Warbler | MS - Mute Swan | SU - Shelduck |
| GD - Goosander | OC - Oystercatcher | T - Teal |
| HG - Herring Gull | PW - Pied/White Wagtail | TO - Tawny Owl |
| HM - House Martin | RB - Reed Bunting | TU - Tufted Duck |
| HS - House Sparrow | RK - Redshank | W - Wheatear |
| K - Kestrel | RT - Redstart | WW - Willow Warbler |
| KF - Kingfisher | S - Skylark | |
| LB - Lesser Black-backed Gull | SD - Stock Dove | |

April is Red - May is Blue - June is Green

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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

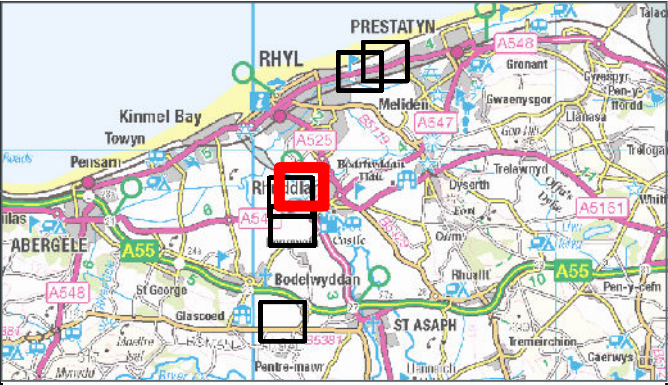
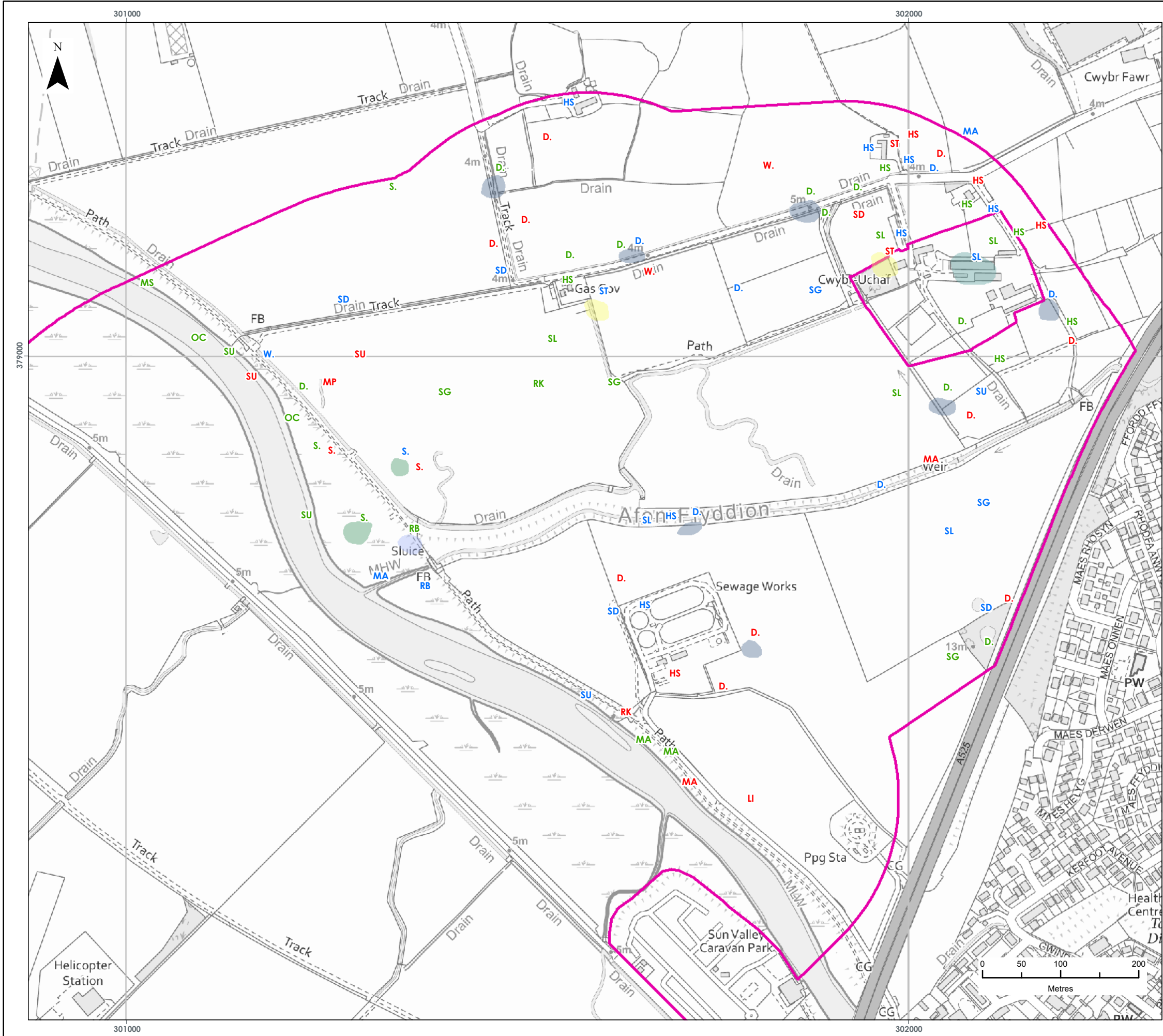
FIGURE TITLE:
**Breeding Bird Survey Results
Priority Species - Landfall 2**

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 2.2

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wyrnt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

Breeding Bird Survey Area - River Clwyd

Confirmed Territories

 Dunnock	 Song Thrush
 Reed Bunting	 Swallow
 Skylark	

BF - Bullfinch	LI - Linnet	SG - Starling
CA - Cormorant	LP - Little Ringed Plover	SI - Swift
CT - Coal Tit	LT - Long-tailed Tit	SL - Swallow
CU - Curlew	MA - Mallard	SN - Snipe
D. - Dunnock	MP - Meadow Pipit	ST - Song Thrush
GH - Grasshopper Warbler	MS - Mute Swan	SU - Shelduck
GD - Goosander	OC - Oystercatcher	T. - Teal
HG - Herring Gull	PW - Pied/White Wagtail	TO - Tawny Owl
HM - House Martin	RB - Reed Bunting	TU - Tufted Duck
HS - House Sparrow	RK - Redshank	W. - Wheatear
K. - Kestrel	RT - Redstart	WW - Willow Warbler
KF - Kingfisher	S. - Skylark	
LB - Lesser Black-backed Gull	SD - Stock Dove	

April is Red - May is Blue - June is Green

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PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

FIGURE TITLE:
**Breeding Bird Survey Results
Priority Species - River Clwyd 1**

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

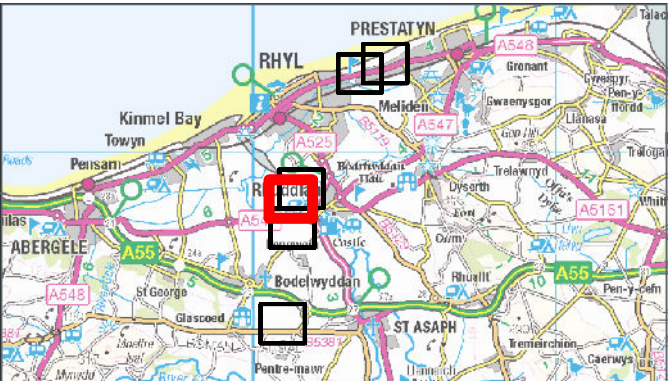
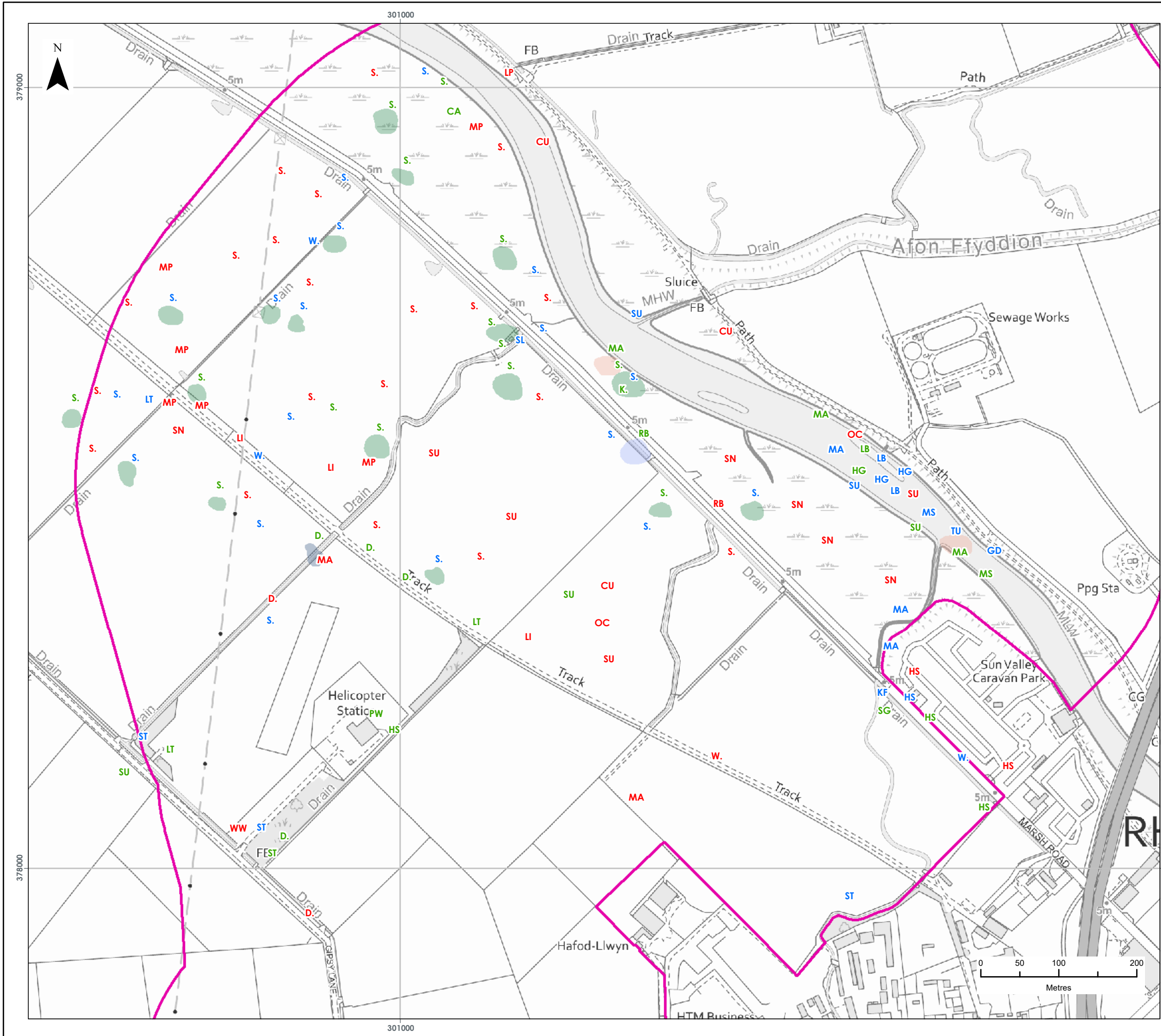
FIGURE NUMBER:
Figure 2.3

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wyrnt Alltraeth

AWEL Y MÔR

Offshore Wind Farm



LEGEND

Breeding Bird Survey Area - River Clwyd

Confirmed Territories

 Dunnock	 Reed Bunting
 Mallard	 Skylark

BF - Bullfinch	LI - Linnet	SG - Starling
CA - Cormorant	LP - Little Ringed Plover	SI - Swift
CT - Coal Tit	LT - Long-tailed Tit	SL - Swallow
CU - Curlew	MA - Mallard	SN - Snipe
D - Dunnock	MP - Meadow Pipit	ST - Song Thrush
GH - Grasshopper Warbler	MS - Mute Swan	SU - Shelduck
GD - Goosander	OC - Oystercatcher	T - Teal
HG - Herring Gull	PW - Pied/White Wagtail	TO - Tawny Owl
HM - House Martin	RB - Reed Bunting	TU - Tufted Duck
HS - House Sparrow	RK - Redshank	W - Wheatear
K - Kestrel	RT - Redstart	WW - Willow Warbler
KF - Kingfisher	S - Skylark	
LB - Lesser Black-backed Gull	SD - Stock Dove	

April is Red - May is Blue - June is Green

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PROJECT TITLE:
AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)

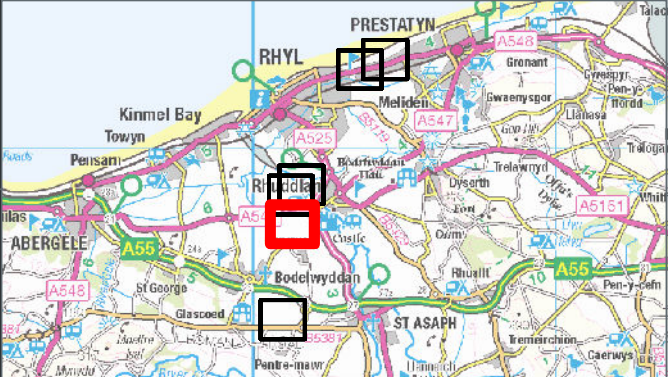
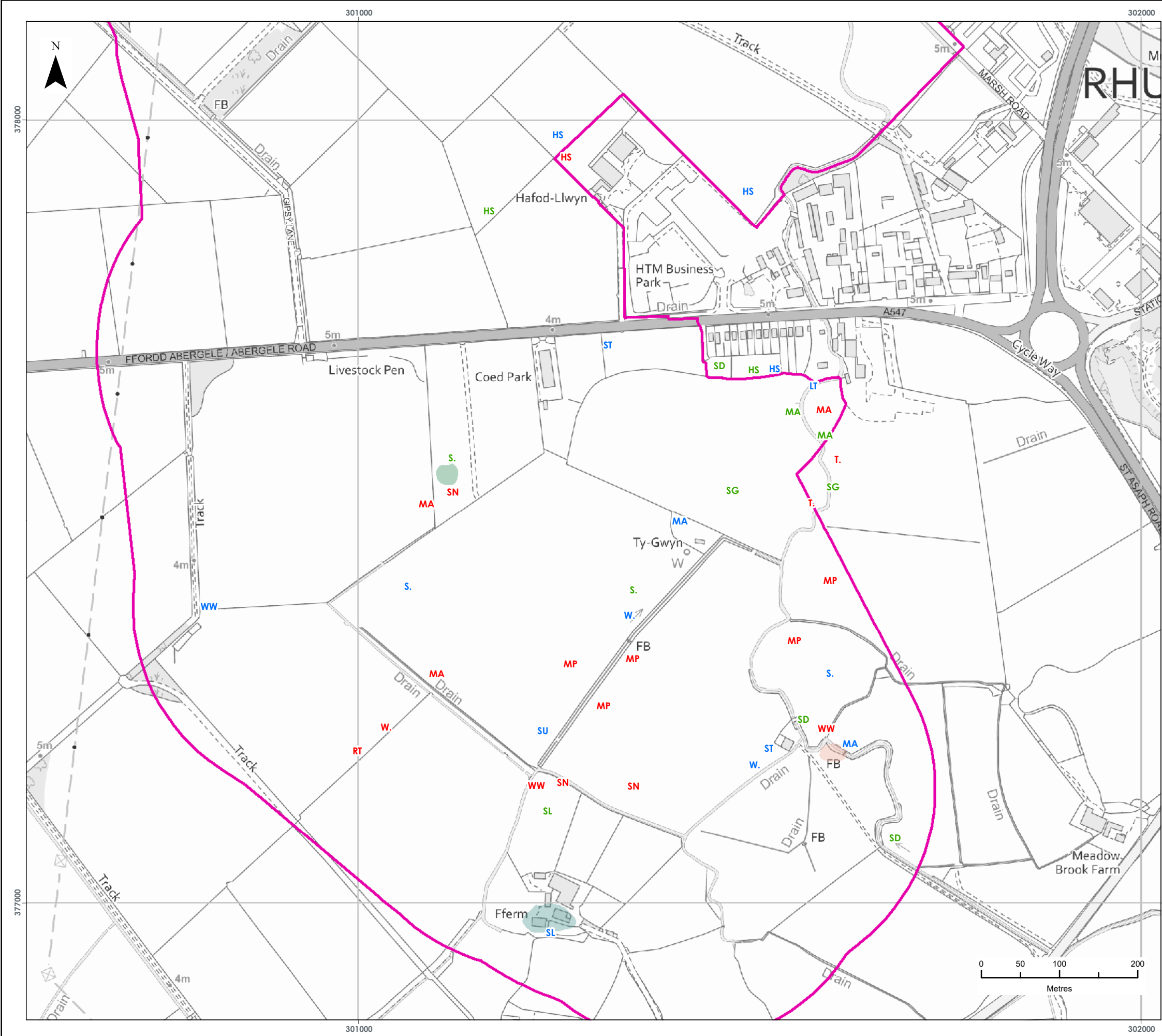
FIGURE TITLE:
Breeding Bird Survey Results
Priority Species - River Clwyd 2

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 2.4

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

Breeding Bird Survey Area - River Clwyd

Confirmed Territories

 Mallard	 Swallow
 Skylark	

BF - Bullfinch	LI - Linnet	SG - Starling
CA - Cormorant	LP - Little Ringed Plover	SI - Swift
CT - Coal Tit	LT - Long-tailed Tit	SL - Swallow
CU - Curlew	MA - Mallard	SN - Snipe
D - Dunnock	MP - Meadow Pipit	ST - Song Thrush
GH - Grasshopper Warbler	MS - Mute Swan	SU - Shelduck
GD - Goosander	OC - Oystercatcher	T - Teal
HG - Herring Gull	PW - Pied/White Wagtail	TO - Tawny Owl
HM - House Martin	RB - Reed Bunting	TU - Tufted Duck
HS - House Sparrow	RK - Redshank	W - Wheatear
K - Kestrel	RT - Redstart	WW - Willow Warbler
KF - Kingfisher	S - Skylark	
LB - Lesser Black-backed Gull	SD - Stock Dove	

April is Red - May is Blue - June is Green

Data Source:
© Crown copyright [and database rights] (2021) OS OpenData.

PROJECT TITLE:
*AWEL Y MÔR OFFSHORE WINDFARM
BREEDING BIRD SURVEY (ONSHORE)*

FIGURE TITLE:
**Breeding Bird Survey Results
Priority Species - River Clwyd 3**

VER	DATE	REMARKS	Drawn	Checked
1	18/10/2021	Draft	NJG	DW

FIGURE NUMBER:
Figure 2.5

SCALE: 1:5,000	PLOT SIZE: A3	DATUM: ODN	COORDINATE SYSTEM: British National Grid
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APPENDIX 01

Breeding Bird Survey Times, Dates and Weather Conditions

Landfall Survey Area

Date	Start Time	Finish Time	Temp. (°C) Start-Finish	Cloud (oktas)	Wind (Beaufort scale)	Precipitation
13/04/2021	06:45	09:30	3-10	7/8	1	0
11/05/2021	05:30	09:30	5-13	1/8	0	0
08/06/2021	05:00	09:00	12-20	6/8	0	0

River Clwyd Survey Area

Date	Survey Area	Start Time	Finish Time	Temp. (°C) Start-Finish	Cloud (oktas)	Wind (Beaufort scale)	Precipitation
15/04/2021	West of River and south of Abergele Road	06:35	11:00	2-8	0	0	0
16/04/2021	East of River Clwyd up to Cwybyr Uchaf	06:35	10:00	3-9	0	1	0
13/05/2021	West of River	05:35	11:00	8-15	0	0	0
14/05/2021	East of River	05:30	10:00	8-14	0	0	0
09/06/2021	East of River	05:15	09:30	14-22	5	2	0
10/06/2021	West of River	05:05	10:45	16-25	4	1	0

Substation Survey Area

Date	Start Time	Finish Time	Temp. (°C) Start-Finish	Cloud (oktas)	Wind (Beaufort scale)	Precipitation
14/04/2021	06:30	10:30	0-12 (frost at start)	0	1	Low mist for 20 mins, then 0
12/05/2021	05:40	09:30	3-10	8	1	0
16/06/2021	05:15	09:30	16-24	6	1	0

APPENDIX 02

Full List of Species Observed During the Breeding Bird Surveys (General), their Breeding Status and Locations

Species are listed taxonomically in order¹³ to best illustrate any taxonomic variations or similarities in site usage by assemblages of similar species. The table also lists the conservation status¹⁴ of each species recorded during the surveys.

Common Name	Conservation Status	Landfall	River Clwyd	Substation
Mute swan <i>Cygnus olor</i>	Amber – Wales & UK		Possible breeding	
Canada goose <i>Branta canadensis</i>	Green – Wales & UK		Probable breeding	
Shelduck <i>Tadorna tadorna</i>	Amber – Wales & UK		Unlikely to be breeding	
Teal <i>Anas crecca</i>	Amber – Wales & UK		Non-breeding	
Mallard <i>Anas platyrhynchos</i>	Amber – Wales & UK	Possible breeding	Confirmed breeding	Unlikely to be breeding
Tufted duck <i>Aythya fuligula</i>	Amber – Wales		Non-breeding	
Goosander <i>Mergus merganser</i>	Amber – Wales Green - UK		Non-breeding	
Cormorant <i>Phalacrocorax carbo</i>	Amber – Wales Green - UK		Non-breeding	
Grey heron <i>Ardea cinerea</i>	Green – Wales & UK		Possible breeding	
Buzzard <i>Buteo buteo</i>	Green – Wales & UK		Probable breeding	Probable breeding
Oystercatcher <i>Haematopus ostralegus</i>	Amber – Wales & UK		Unlikely to be breeding	
Little ringed plover <i>Charadrius dubius</i>	Schedule 1 Green – Wales & UK		Non-breeding	

¹³ https://bou.org.uk/wp-content/uploads/2020/12/British_List_9th_BOURC52_IOC10_2.pdf

¹⁴ Annex 1 = Annex 1 of the Birds Directive; Schedule 1 = Schedule 1 of the Wildlife and Countryside Act (1981) (as amended); Section 7 = Species of principal importance in Wales under Section 7 of the Environment (Wales) Act 2016; Red and Amber List (UK) = Red or Amber Listed in Birds of Conservation Concern in the UK (Eaton et al., 2015); and Red and Amber List (Wales) = on the Red or Amber List of Birds of Conservation Concern (BoCC) in Wales (Johnstone and Bladwell, 2016).

Common Name	Conservation Status	Landfall	River Clwyd	Substation
Curlew <i>Numenius arquata</i>	Section 7 Red – Wales & UK		Non-breeding	
Redshank <i>Tringa totanus</i>	Amber – Wales & UK		Unlikely to be breeding	
Snipe <i>Gallinago gallinago</i>	Amber – Wales & UK		Non-breeding	
Black-headed gull <i>Chroicocephalus ridibundus</i>	Section 7 Red – Wales Amber - UK		Non-breeding	
Lesser black-backed gull <i>Larus fuscus</i>	Green – Wales Amber – UK		Non-breeding	
Herring gull <i>Larus argentatus</i>	Section 7 Red – Wales & UK	Non-breeding	Non-breeding	Non-breeding
Stock dove <i>Columba oenas</i>	Amber – Wales & UK		Probable breeding	Probable breeding
Woodpigeon <i>Columba palumbus</i>	Green – Wales & UK	Probable breeding	Probable breeding	Probable breeding
Collared dove <i>Streptopelia decaocto</i>	Green – Wales & UK		Probable breeding	
Tawny owl <i>Strix aluco</i>	Amber – Wales & UK			Confirmed breeding
Swift <i>Apus apus</i>	Amber – Wales & UK	Non-breeding		
Kingfisher <i>Alcedo atthis</i>	Annex 1 Schedule 1 Green – Wales Amber -UK		Possible breeding	
Green woodpecker <i>Picus viridis</i>	Green – Wales & UK			Probable breeding
Great spotted woodpecker <i>Dendrocopos major</i>	Green – Wales & UK		Probable breeding	Probable breeding
Kestrel <i>Falco tinnunculus</i>	Section 7		Possible breeding	

Common Name	Conservation Status	Landfall	River Clwyd	Substation
	Red – Wales Amber -UK			
Magpie <i>Pica pica</i>	Green – Wales & UK	Probable breeding	Probable breeding	Probable breeding
Jay <i>Garrulus glandarius</i>	Green – Wales & UK			Probable breeding
Jackdaw <i>Corvus monedula</i>	Green – Wales & UK	Probable breeding	Probable breeding	Probable breeding
Carrion crow <i>Corvus corone</i>	Green – Wales & UK	Probable breeding	Confirmed breeding	Probable breeding
Raven <i>Corvus corax</i>	Green – Wales & UK		Non-breeding	
Blue tit <i>Cyanistes caeruleus</i>	Green – Wales & UK		Confirmed breeding	Confirmed breeding
Great tit <i>Parus major</i>	Green – Wales & UK	Confirmed breeding	Confirmed breeding	Confirmed breeding
Coal tit <i>Periparus ater</i>	Amber – Wales Green - UK			Confirmed breeding
Skylark <i>Alauda arvensis</i>	Section 7 Red – Wales & UK	Confirmed breeding	Confirmed breeding	
Swallow <i>Hirundo rustica</i>	Amber – Wales Green - UK	Non-breeding	Confirmed breeding	Non-breeding
House martin <i>Delichon urbicum</i>	Amber – Wales & UK	Non-breeding		
Long-tailed tit <i>Aegithalos caudatus</i>	Amber – Wales Green - UK	Possible breeding	Probable breeding	Confirmed breeding
Chiffchaff <i>Phylloscopus collybita</i>	Green – Wales & UK	Confirmed breeding	Confirmed breeding	Confirmed breeding
Willow warbler <i>Phylloscopus trochilus</i>	Red – Wales Amber - UK		Probable breeding	Confirmed breeding
Blackcap <i>Sylvia atricapilla</i>	Green – Wales & UK		Confirmed breeding	Confirmed breeding

Common Name	Conservation Status	Landfall	River Clwyd	Substation
Lesser whitethroat <i>Sylvia curruca</i>	Green – Wales & UK			Probable breeding
Whitethroat <i>Sylvia communis</i>	Green – Wales & UK	Probable breeding	Probable breeding	Probable breeding
Grasshopper Warbler <i>Locustella naevia</i>	Section 7 Red – Wales & UK	Probable breeding	Probable breeding	
Sedge warbler <i>Acrocephalus schoenobaenus</i>	Green – Wales & UK	Probable breeding	Probable breeding	Possible breeding
Reed warbler <i>Acrocephalus scirpaceus</i>	Green – Wales & UK	Probable breeding		
Nuthatch <i>Sitta europaea</i>	Green – Wales & UK			Probable breeding
Treecreeper <i>Certhia familiaris</i>	Green – Wales & UK		Probable breeding	Confirmed breeding
Wren <i>Troglodytes troglodytes</i>	Green – Wales & UK	Confirmed breeding	Confirmed breeding	Confirmed breeding
Starling <i>Sturnus vulgaris</i>	Section 7 Red – Wales & UK	Possible breeding	Probable breeding	
Blackbird <i>Turdus merula</i>	Green – Wales & UK	Confirmed breeding	Confirmed breeding	Confirmed breeding
Song thrush <i>Turdus philomelos</i>	Section 7 Red – Wales & UK	Confirmed breeding	Confirmed breeding	Confirmed breeding
Mistle thrush <i>Turdus viscivorus</i>	Green – Wales & UK			Probable breeding
Robin <i>Erithacus rubecula</i>	Green – Wales & UK	Probable breeding	Confirmed breeding	Probable breeding
Redstart <i>Phoenicurus phoenicurus</i>	Amber – Wales & UK		Possible breeding	Confirmed breeding
Stonechat <i>Saxicola rubicola</i>	Green – Wales & UK	Confirmed breeding	Confirmed breeding	

Common Name	Conservation Status	Landfall	River Clwyd	Substation
Wheatear <i>Oenanthe oenanthe</i>	Amber – Wales Green - UK	Possible breeding	Probable breeding	
Dunnock <i>Prunella modularis</i>	Section 7 Amber – Wales & UK	Confirmed breeding	Confirmed breeding	Confirmed breeding
House sparrow <i>Passer domesticus</i>	Section 7 Red – Wales & UK	Unlikely to be breeding	Confirmed breeding	
Pied wagtail <i>Motacilla alba ssp. yarellii</i>	Amber – Wales & UK	Unlikely to be breeding		
Meadow pipit <i>Anthus pratensis</i>	Amber – Wales & UK	Probable breeding	Possible breeding	
Chaffinch <i>Fringilla coelebs</i>	Green – Wales & UK		Probable breeding	Probable breeding
Bullfinch <i>Pyrrhula pyrrhula</i>	Section 7 Red – Wales Amber - UK			Confirmed breeding
Greenfinch <i>Chloris chloris</i>	Green – Wales & UK	Confirmed breeding	Probable breeding	Confirmed breeding
Linnet <i>Linaria cannabina</i>	Section 7 Red – Wales & UK	Confirmed breeding	Possible breeding	Probable breeding
Goldfinch <i>Carduelis carduelis</i>	Green – Wales & UK	Probable breeding	Probable breeding	Confirmed breeding
Reed bunting <i>Emberiza schoeniclus</i>	Section 7 Amber – Wales & UK		Confirmed breeding	

APPENDIX 03

Desk Study Results – Species of Conservation Importance Recorded within 2km of the Preferred Cable Corridor and Substation Zone

Protection/Conservation Status	Species
Wildlife & Countryside Act 1981 (as amended) Schedule 1 (42 species)	Goshawk <i>Accipiter gentilis</i> , Kingfisher <i>Alcedo atthis</i> , Garganey <i>Anas querquedula</i> , Scaup <i>Aythya marila</i> , Purple Sandpiper <i>Calidris maritima</i> , Ruff <i>Calidris pugnax</i> , Cetti's Warbler <i>Cettia cetti</i> , Marsh Harrier <i>Circus aeruginosus</i> , Peregrine, Hobby <i>Falco subbuteo</i> , Great Northern Diver <i>Gavia immer</i> , Whimbrel <i>Numenius phaeopus</i> , Greenshank <i>Tringa nebularia</i> , Green Sandpiper <i>Tringa ochropus</i> , Little Ringed Plover, Black Tern <i>Chlidonias niger</i> , Long-tailed Duck <i>Clangula hyemalis</i> , Whooper Swan <i>Cygnus cygnus</i> , Merlin <i>Falco columbarius</i> , Brambling <i>Fringilla montifringilla</i> , Red-throated Diver <i>Gavia stellata</i> , Little Gull <i>Hydrocoloeus minutus</i> , Mediterranean Gull <i>Larus melanocephalus</i> , Black-tailed Godwit <i>Limosa limosa</i> , Common Crossbill <i>Loxia curvirostra</i> , Velvet Scoter <i>Melanitta fusca</i> , Common Scoter <i>Melanitta nigra</i> , Red Kite <i>Milvus milvus</i> , Leach's Petrel <i>Oceanodroma leucorhoa</i> , Osprey <i>Pandion haliaetus</i> , Black Redstart <i>Phoenicurus ochruros</i> , Spoonbill <i>Platalea leucorodia</i> , Snow Bunting <i>Plectrophenax nivalis</i> , Chough <i>Pyrrhocorax pyrrhocorax</i> , Firecrest <i>Regulus ignicapilla</i> , Roseate Tern <i>Sterna dougallii</i> , Little Tern <i>Sternula albifrons</i> , Redwing <i>Turdus iliacus</i> , Fieldfare <i>Turdus pilaris</i> , Barn Owl <i>Tyto alba</i> , Hoopoe <i>Upupa epops</i> and Unidentified Diver
Environment (Wales) Act 2016 (Section 7) (36 species)	Lesser Redpoll <i>Acanthis cabaret</i> , Skylark <i>Alauda arvensis</i> , Greenland Greater White-fronted Goose <i>Anser albifrons subsp. Flavirostris</i> , White-fronted Goose <i>Anser albifrons</i> , Tree Pipit <i>Anthus trivialis</i> , Ringed Plover, Black-headed Gull <i>Chroicocephalus ridibundus</i> , Hen Harrier <i>Circus cyaneus</i> , Cuckoo <i>Cuculus canorus</i> , Lesser Spotted Woodpecker <i>Dendrocopos minor</i> , Yellowhammer <i>Emberiza citrinella</i> , Reed Bunting <i>Emberiza schoeniclus</i> , Kestrel <i>Falco tinnunculus</i> , Herring Gull <i>Larus argentatus</i> , Bar-tailed Godwit <i>Limosa lapponica</i> , Linnet <i>Linaria cannabina</i> , Twite <i>Linaria flavirostris</i> , Grasshopper Warbler <i>Locustella naevia</i> , Common Scoter <i>Melanitta nigra</i> , Yellow Wagtail <i>Motacilla flava</i> , Spotted Flycatcher <i>Muscicapa striata</i> , Curlew <i>Numenius arquata</i> , House Sparrow <i>Passer domesticus</i> , Tree Sparrow <i>Passer montanus</i> , Grey Partridge <i>Perdix perdix</i> , Golden Plover <i>Pluvialis apricaria</i> , Willow Tit <i>Poecile montana</i> , Marsh Tit <i>Poecile palustris</i> , Dunnock <i>Prunella modularis</i> , Chough, Bullfinch <i>Pyrrhula pyrrhula</i> , Roseate Tern, Turtle Dove <i>Streptopelia turtur</i> , Starling <i>Sturnus vulgaris</i> , Song Thrush <i>Turdus philomelos</i> , Ring Ouzel <i>Turdus torquatus</i> and Lapwing <i>Vanellus vanellus</i>
EU Birds Directive Annexe 1 (30 species)	Kingfisher, Greenland Greater White-fronted Goose, Short-eared Owl <i>Asio flammeus</i> , Barnacle Goose <i>Branta leucopsis</i> , Ruff, Black Tern, Marsh Harrier, Hen Harrier, Whooper Swan, Little Egret <i>Egretta garzetta</i> , Merlin, Peregrine, Black-throated Diver <i>Gavia arctica</i> , Great Northern Diver, Red-throated Diver, Storm Petrel <i>Hydrobates pelagicus</i> , Little Gull, Mediterranean Gull, Bar-tailed Godwit, Red Kite, Leach's Petrel, Osprey, Spoonbill, Golden Plover, Chough, Roseate Tern, Common Tern <i>Sterna hirundo</i> , Arctic Tern <i>Sterna paradisaea</i> , Sandwich Tern <i>Sterna sandvicensis</i> and Little Tern
Red List - UK (44 species)	Lesser Redpoll, Skylark, White-fronted Goose, Tree Pipit, Pochard <i>Aythya ferina</i> , Scaup, Ruff, Ringed Plover, Marsh Harrier, Long-tailed Duck <i>Clangula hyemalis</i> , Cuckoo, Lesser Spotted Woodpecker, Yellowhammer, Merlin, Herring Gull, Black-tailed Godwit, Linnet, Twite, Grasshopper Warbler, Velvet

Protection/Conservation Status	Species
	Scoter, Common Scoter, Grey Wagtail <i>Motacilla cinerea</i> , Yellow Wagtail, Spotted Flycatcher, Curlew, Whimbrel, House Sparrow, Tree Sparrow, Grey Partridge <i>Perdix perdix</i> , Shag <i>Phalacrocorax aristotelis</i> , Black Redstart, Willow Tit, Marsh Tit, Whinchat <i>Saxicola rubetra</i> , Woodcock <i>Scolopax rusticola</i> , Arctic Skua <i>Stercorarius parasiticus</i> , Roseate Tern, Turtle Dove, Starling, Redwing, Song Thrush, Fieldfare, Ring Ouzel and Lapwing
Amber List -UK (65 species)	Common Sandpiper <i>Actitis hypoleucos</i> , Razorbill <i>Alca torda</i> , Kingfisher, Pintail <i>Anas acuta</i> , Shoveler <i>Anas clypeata</i> , Teal <i>Anas crecca</i> , Wigeon <i>Anas penelope</i> , Mallard <i>Anas platyrhynchos</i> , Garganey, Gadwall <i>Anas strepera</i> , Greylag Goose <i>Anser anser</i> , Meadow Pipit <i>Anthus pratensis</i> , Swift <i>Apus apus</i> , Turnstone <i>Arenaria interpres</i> , Short-eared Owl, Light-bellied Brent Goose <i>Branta bernicla</i> subsp. <i>hrota</i> , Brent Goose <i>Branta bernicla</i> , Barnacle Goose, Goldeneye <i>Bucephala clangula</i> , Sanderling <i>Calidris alba</i> , Dunlin <i>Calidris alpina</i> subsp. <i>alpina</i> , Dunlin <i>Calidris alpina</i> , Knot <i>Calidris canutus</i> , Curlew Sandpiper <i>Calidris ferruginea</i> , Purple Sandpiper, Black-headed Gull, Dipper <i>Cinclus cinclus</i> , Marsh Harrier, Whooper Swan, Mute Swan <i>Cygnus olor</i> , House Martin <i>Delichon urbicum</i> subsp. <i>urbicum</i> , House Martin <i>Delichon urbicum</i> , Reed Bunting, Kestrel, Snipe <i>Gallinago gallinago</i> , Black-throated Diver, Great Northern Diver, Oystercatcher <i>Haematopus ostralegus</i> , Storm Petrel <i>Hydrobates pelagicus</i> , Common Gull <i>Larus canus</i> , Lesser Black-backed Gull <i>Larus fuscus</i> , Great Black-backed Gull <i>Larus marinus</i> , Mediterranean Gull, Bar-tailed Godwit, Gannet <i>Morus bassanus</i> , Leach's Petrel, Osprey, Redstart <i>Phoenicurus phoenicurus</i> , Willow Warbler <i>Phylloscopus trochilus</i> , Spoonbill, Grey Plover <i>Pluvialis squatarola</i> , Dunnock <i>Prunella modularis</i> , Manx Shearwater <i>Puffinus puffinus</i> , Bullfinch, Common Tern, Arctic Tern, Sandwich Tern, Little Tern, Tawny Owl <i>Strix aluco</i> , Shelduck <i>Tadorna tadorna</i> , Spotted Redshank <i>Tringa erythropus</i> , Greenshank <i>Tringa nebularia</i> , Green Sandpiper, Redshank <i>Tringa totanus</i> and Guillemot <i>Uria aalge</i> .
Red List – Wales (35 species)	Greenland Greater White-fronted Goose, Pochard, Grey Partridge, Balearic Shearwater <i>Puffinus mauretanicus</i> , Golden Plover, Grey Plover, Lapwing, Curlew, Bar-tailed Godwit, Dunlin, Little Tern, Common Tern, Roseate Tern, Arctic Tern, Black-headed Gull, Common Gull, Herring Gull, Great Black-backed Gull, Cuckoo, Short-eared Owl, Lesser Spotted Woodpecker, Kestrel, Marsh Tit, Willow Warbler, Grasshopper Warbler, Starling, Spotted Flycatcher, Pied Flycatcher <i>Ficedula hypoleuca</i> , Tree Sparrow, Yellow Wagtail, Bullfinch, Linnet, Twite, Lesser Redpoll, and Yellowhammer.
Amber List – Wales (15 species)	Mute Swan, Gadwall, Teal, Mallard, Scaup, Red-breasted Merganser <i>Mergus serrator</i> , Whimbrel, Black-tailed Godwit, Common Sandpiper, Spotted Redshank, Redshank, Sandwich Tern, Lesser Black-backed Gull, Swift, House Sparrow.

CONFIDENTIAL APPENDIX 04

Barn Owl Survey Results

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