Llywodraeth Cymru
Welsh Government

A55 Junctions 14 and 15 Improvements

Statement to Inform an Appropriate Assessment (SIAA)

March 2021

UNDEB EWROPEAIDD
EUROPEAN UNION

Llywodraeth Cymru
Welsh Government

Cronfa Datblygu Rhanbarthol Ewrop
European Regional Development Fund

Intended for
Welsh Government

Document type
Report

Date
December 2019

A55 JUNCTION 15

STATEMENT TO INFORM AN APPROPRIATE ASSESSMENT (SIAA)

Llywodraeth Cymru
Welsh Government

RAMBOLL

RICHARDS MOOREHEAD & LAING LTD
ENGINEERING, ENVIRONMENTAL and LANDSCAPE CONSULTANTS

CYNGOR GWYNEDD COUNCIL

A55 JUNCTION 15
STATEMENT TO INFORM AN APPROPRIATE ASSESSMENT (SIAA)

Project name	**A55 Junctions 15 & 16**
Project no.	**RML 3066**
Recipient	**Welsh Government**
Document type	**Report**
Version	**F01**
Date	**27/05/2020**
Prepared by	**Donna Hall**
Checked by	**Andrew Sumner [RML Approved: IG Richards]**
Approved by	**Rob Griffiths**
Description	**Habitats Regulations Statement to Inform and Appropriate Assessment**

Ref A55J15J16-RML-30-15-RP-X-0058

Ramboll
2nd Floor, The Exchange
St. John Street
Chester
CH1 1DA
United Kingdom

T +44(0)1244 311855
https://uk.ramboll.com

Ramboll UK Limited
Registered in England & Wales
Company No: 03659970
Registered office:
240 Blackfriars Road
London
SE1 8NW

CONTENTS

APPENDICES

SIAA - Appendix A
Scheme Option – layout approval

SIAA - Appendix B
DESIGNATED SITES locAtion plan

SIAA - Appendix C
SCREENING report

SIAA - Appendix D
citation sheets for EuropeAN sites

SIAA - Appendix E
overwintering bird survey report

SIAA - Appendix F
ENVIRONMENTAL MANAGEMENT PLANS

SIAA - Appendix G
EXTENT OF LAND TAKE

SIAA - Appendix H
consultation response NRW

1. EXECUTIVE SUMMARY

1.1 The Scheme involves localised highway improvements in close proximity to the existing A55 Junction 15 at Llanfairfechan at grid reference SH686 756, within the administrative area of Conwy County Borough Council.

1.2 The central objective of the improvement scheme is to remove the roundabout. The scheme will result in a dual carriageway with free-flowing traffic in both directions. Slip roads will allow access and egress from the A55 with local roads modified to meet current highway design standards.

1.3 This report has been prepared to provide initial information to the Welsh Ministers ("the Competent Authority") on the implications of the Scheme on European Sites as required by Regulation 63 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[1] (the "Habitats Regulations") transposing the provisions of Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (Habitats Directive), and Council Directive 2009/147/EC, on the conservation of wild birds (Birds Directive) into UK legislation. It covers Stage 2 (Appropriate Assessment) as set out in LA 115 Habitat Regulations Assessment[2] (formerly HD44/09).

1.4 A screening assessment has been carried out (March 2019) which was submitted to the Employers Agent (EA)in line with the Habitats Directive[3] the Birds Directive[4] and relevant transposing regulations.

1.5 This screening exercise identified that in the absence of appropriate mitigation and taking into consideration their conservation objectives, likely significant effects on qualifying features of European Sites could not be ruled out at Stage 1[5]**.** Consideration of these sites in the SIAA is therefore required.

1.6 Whether the Scheme would have an adverse effect on the integrity of the sites has been determined by considering the effect on the conservation objectives, taking account of the implementation of proposed mitigation measures to avoid or reduce any adverse impacts.

1.7 Where the SIAA concludes that there are effects on the integrity of a European site an assessment of alternative solutions shall be undertaken.

1.8 It was concluded that the Scheme would not affect the achievement of the conservation objectives for the European sites. Each of these have been assessed in Section 6.

1.9 For the purposes of Regulation 63 of the Habitat Regulations, based on the information provided in this assessment, it is concluded that no adverse effect on the integrity of the designated sites or their features of interest is predicted as a result of the Scheme, either alone or in combination with other plans or projects.

[1] https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents
[2] DMRB Sustainability & Environment Appraisal LA 115 Habitat Regulations Assessment (formerly HD44/09) Revision 0
[3] 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive)
[4] 2009/147/EC on the Conservation of Wild Birds (the Birds Directive)
[5] Please note that LA 115 was not in circulation when the screening assessment was done as such this followed HD44/09, Volume 11, Section 45 of the Design Manual for Roads and Bridges (2009) (DMRB).

2. INTRODUCTION

2.1 Background

2.1.1 The A55 trunk road is a key element of the UK and European strategic road network and provides the main economic artery for the whole of North Wales. The A55 forms part of Euroroute 22, which is the Trans European Route from Dublin in Ireland to Ishim in Russia. Of the 235 miles of E22 in the UK, the two at-grade roundabouts at Junction 15 at Llanfairfechan, and Junction 16 between Penmaenmawr and Dwygyfylchi, are the only roundabouts on the route from Holyhead to Hull and hence are a constraint to the smooth flow of traffic on this strategic route and this has led to increased journey times and poor journey time reliability.

2.1.2 Improvement schemes are proposed for both the existing junctions 15 and 16, but this Assessment Report covers only Junction 15.

2.1.3 Historically, the schemes at Junction 15 and 16 have been referred to collectively as the 'Junction 15 and 16 Improvements'. Since the Statutory Processes for each junction are being conducted independently of one another and because of the proposed minor improvements to the Junction 14 layout, a decision has been taken to rename the draft Orders, associated Environmental Statements and reporting as follows; the Junction 15 Scheme is now known as the Junction 14 and 15 Improvement Scheme. The Junction 16 Scheme is now known as the Junction 16 and 16A Improvement Scheme.

2.2 **Purpose of this report**

2.2.1 This report has been prepared to provide initial information to the Welsh Ministers ("the Competent Authority") on the implications of the Scheme on European Sites as required by Regulation 63 of the. Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. European Sites are those sites which support habitat types and species which are considered to be most in need of conservation at a European level and are more broadly referred to as Natura 2000 sites. Within the UK, sites supporting the most representative or best example of habitats and non-bird species are designated as Special Areas of Conservation (SAC). Those sites supporting significant numbers of birds at a European level, including wintering, breeding and migratory populations, are designated as Special Protection Areas (SPA).

2.2.2 The aims of this document are to provide information on:

a) Identification of which European Sites are in the potential range of influence of the Scheme;

b) Identification of the potential of the Scheme to give rise to effects on European Sites;

c) Identification of the relevant qualifying interests/interest features of each European Site being considered;

d) Identification of the relevant Conservation Objectives of these features and European Sites;

e) Identification and characterisation of the potential impacts of the Scheme taking into consideration mitigation;

f) Identification of other plans or projects which may cause effects on the European sites and the features of interest of the sites;

g) Characterisation of the significance of the potential in-combination effects with other plans and project; and

h) Consideration of effects in relation to Conservation objectives.

2.2.3 A screening assessment has been carried out (March 2019, Appendix C) which identified that in the absence of appropriate mitigation and taking into consideration their conservation objectives, likely significant effects on qualifying features of the following European Sites could not be ruled out at Stage 1 due to proximity to the Scheme:

1) Traeth Lafan / Lavan Sands, Conway Bay SPA

2) Liverpool Bay / Bae Lerpwl (Wales) SPA

3) Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC

2.2.4 Consideration of these sites in the SIAA is therefore required. The locations of these sites are shown on Figure 8.1, Appendix B.

2.2.5 Under the same Regulations, and as identified in the screening assessment (March 2019, Appendix C) it is considered that it is unlikely that there will be significant effects on the following European Sites, therefore no further assessment is needed, the justification is detailed within the Screening Assessment and provided within the screening reports in Appendix C:

a) Coedydd Aber SAC

b) Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines SAC

c) Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites SAC

d) Glynllifon SAC

2.2.6 This report covers Stage 2 (Statement to Inform an Appropriate Assessment) of the Assessment of the Implications on European Sites (AIES) process as set out in DMRB (2019) Sustainability & Environmental Appraisal LA 115 Habitat Regulations assessment (formerly HD 44/09) Revision 0.

2.3 **Guidance**

2.3.1 The following legislation, policy and guidance was consulted:

a) DMRB (2019) Sustainability & Environmental Appraisal LA 115 Habitat Regulations assessment (formerly HD 44/09) Revision 0;

b) Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora;

c) CCW (March 2008) Core Management Plan including Conservation Objectives for Traeth Lafan/Lavan Sands, Conwy Bay SPA (incorporating a section of Y Fenai a Bae Conwy/Menai Strait and Conwy Bay SAC)[6];

d) The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[7];

e) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC (European Commission, 2000)[8];

f) Natural England & Countryside Council for Wales (October 2012) Liverpool Bay / Bae Lerpwl Special Protection Area Advice under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended). Version 6.5[9];

[6] https://naturalresources.wales/media/674184/Traeth%20Lafan%20SAC%20Plan%2021[1].4.08%20English.pdf
[7] https://www.legislation.gov.uk/ukdsi/2019/9780111176573/regulation/1
[8] https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf
[9] https://naturalresources.wales/media/678824/liverpool-bay-bae-lerpwl-spa-conservation-advice.pdf

g) Natural Resources Wales (NRW) (March 2018) Menai Strait & Conwy Bay / Y Fenai a Bae Conwy Special Area of Conservation (SAC) Advice provided by NRW in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulations 2017[10];

h) Planning Policy Wales (Edition 10 – December 2018) Chapter 6, refers to the protection and management of designated sites[11];and

i) Well-being of Future Generations (Wales) Act 2015[12].

2.3.2 Core Site Management Plans (Ref c, f. g, as listed above) published by NRW were used to gather information on European Sites. These documents provide the main elements of NRW's management plan for protected sites and sets out what needs to be achieved on the sites, the results of monitoring and the actions required.

2.4 Personnel and quality assurance

2.4.1 This report has been written by Donna Hall and reviewed and approved by Andrew Sumner for issue by RML.

2.4.2 Principal Ecologist Donna Hall is the ecology lead for this scheme. She is a full member of CIEEM with over 15 years' experience working within multi-disciplinary consultancies. Donna holds Natural England survey licenses for bats (Class 2), great crested newts and the white-clawed crayfish which cover all counties in England and survey licenses for great crested newts and bats which cover all counties in Wales. She has undertaken the production of nature conservation chapter for EIA schemes and produced HRA from screening to Appropriate Assessments for road schemes including the A494 River Dee Bridge Improvement Key Stage 3-4 River Dee Road Crossing and also screening assessments in respect of sewage outfall works.

2.4.3 Andrew Sumner is Environmental Coordinator to the project team. He is a Principal Landscape Architect and is a Chartered member of the Landscape Institute with over 37 years' experience of working with multidisciplinary project teams, including those developing highways projects. He has experience in the compilation of and reviewing of HRA's including for the A40 Road Scheme and the M4 Widening Cardiff.

[10] https://naturalresources.wales/media/688114/sac_uk0030202_enreg_37.pdf
[11] https://gov.wales/sites/default/files/publications/2018-12/planning-policy-wales-edition-10.pdf
[12] https://gov.wales/well-being-future-generations-wales-act-2015-guidance

3. THE PROJECT

3.1 Strategic importance of the scheme

3.1.1 The A55 trunk road is a key element of the UK and European strategic road network and provides the main economic artery for the whole of North Wales. The A55 forms part of Euroroute 22, which is the Trans European Route from Dublin in Ireland to Ishim in Russia. Of the 235 miles of E22 in the UK, the two at-grade roundabouts at Junction 15 at Llanfairfechan, and Junction 16 between Penmaenmawr and Dwygyfylchi, are the only roundabouts on the route from Holyhead to Hull and hence are a constraint to the smooth flow of traffic on this strategic route and this has led to increased journey times and poor journey time reliability.

3.1.2 Improvement schemes are proposed for both the existing junctions 15 and 16, but this Assessment Report covers only Junction 15. The Welsh Government appointed Ramboll, Richards Moorehead & Laing (RML) and Ymgynghoriaeth Gwynedd Consultancy (YGC) as their technical and environmental advisors and appointed Corderoy with WSP and TACP as Employer's Representative, to develop and consider a range of options with the intention of identifying a preferred solution for the junction and then developing the design up to publication of Draft Orders.

3.1.3 Junctions 15 and 16 of the A55 have been subject to a number of recent studies as they are the only at-grade roundabout interchanges on this major North Wales trunk road. An initial study and assessment was carried out by Capita Symonds and completed in 2005. This developed three options for junction 15. In February 2008 Atkins was commissioned by the North and Mid-Wales Trunk Road Agency (NMWTRA) to examine road safety improvements along the A55 in the vicinity of Llanfairfechan and Penmaenmawr, with a focus on considering options for removing the at-grade roundabout.

3.1.4 The study included a stakeholder workshop on the options, traffic data collection and modelling, some local topographical survey, preliminary environmental assessments and an initial Stage 1 WelTAG appraisal. This study which was completed in April 2009 concluded that new grade-separated options should be progressed to provide safety improvements.

3.1.5 In February 2011 following inclusion of the scheme in the Welsh Government's National Transport Plan, Atkins was instructed again to review options, address potential alternatives and hold an Options Workshop. The scheme options and cost estimates developed to date were reviewed and new options developed and priced at the two junctions.

3.1.6 In October 2017 the current project team were commissioned to undertake the Stage 2 appraisal in accordance with the new WelTAG 2017 guidance. A review of Stage 1 was carried out first, and a range of options for further consideration was selected from those previously developed. A Public Information Exhibition (PIE) was held in December 2017 and the views of those who responded in the questionnaire were taken into consideration in the WelTAG Stage 2 Appraisal.

3.1.7 In the Stage 2 Appraisal five options for Junction 15 were considered. These were taken to the statutory 12-week Public Consultation which commenced in June 2018. The public response in questionnaires was taken into consideration in the appraisal to identify an option that could be recommended to Ministers as a possible Preferred Route.

3.1.8 At the completion of the Weltag Stage 2 process and subject to Welsh Government acceptance of the recommendations, we have been able to advise on a route option for junction 15. The formal public consultation process on the options was extended by several weeks to allow the Local Authority to respond to the consultation.

3.2 Problems associated with the existing situation

3.2.1 Junctions 15 and 16 are the only at-grade roundabout interchanges on this major North Wales trunk road. This has led to increased journey times and poor journey time reliability. They also contribute to the incidence of stationary traffic backing up into Pen-y-Clip and Penmaenbach Tunnels, which in turn can be an increased safety hazard.

3.2.2 The existing dual carriageway was built in the 1980s to make use of the narrow shoreline and to avoid demolition of properties where possible. In order to fit the road into the narrow corridor, the designers had to use horizontal and vertical alignments which are subject to departures from normal highway design standards.

3.2.3 A summary of the existing problems that have been identified as being associated with the existing situation are listed in Table 1. These problems have been confirmed through consultation with key stakeholders, including Conwy County Borough Council, NMWTRA and the Welsh Government.

Table 1: Existing Problems

Issue	Existing problem
Environmental and social issues	Existing environmental issues include noise and the visual impact associated with the A55. The Welsh Government has identified the section along the A55 near Llanfairfechan and Penmaenmawr as being a priority area for intervention in North-West Wales. Social issues include those associated with the communities' reliance on the A55 plus the impact of the A55 severing the communities from themselves and the coast.
Transport - Safety	The junctions and A55 mainline between Junctions 14 and 16A do not comply with current design standards. Based on feedback from public consultation, there is a perception that the roundabouts are dangerous, with members of the public raising concerns about near misses and their fears of using the junctions.
Transport - Delays	The A55 corridor experiences seasonal traffic and delays, especially during summer weekends and where peak flows correspond with the ferry.
Poor Network Resilience	The primary issues identified relate to the lack of local and strategic diversion routes, during incidents or planned works, and the operational requirements for tunnel maintenance.
Sustainable Travel	Public consultation has identified that there is a perception that there is a lack of competitive sustainable travel options, poor coastal access for non-motorised users and concerns with respect to the safety of cyclists.

3.2.4 The dual carriageway is perceived by residents to be visually intrusive into attractive seaward views. Since it was constructed residents have found that their access to

facilities and area across the road is restricted, for example the beach and promenade. Traffic noise is also considered to be intrusive, particularly at peak periods of use. The installation of speed-reducing 'rumble strips' at approaches to the roundabouts causes additional noise which is unpopular.

3.3 **Scheme objectives**

3.3.1 Transport planning objectives have been developed during previous development work and engagement, aiming to address one or more of the identified problems. During the early stages of Key Stage 3 the problems and objectives were refreshed during a focused workshop event with key stakeholders, considering the WelTAG 2017 guidance and Wellbeing of Future Generations (Wales) Act wellbeing goals. The scheme objectives are:

a) OBJ1: Improve access to regional, national and international markets and improve access to employment opportunities;

b) OBJ2: Improve road safety on the A55 from Junction 14 to Junction 16A;

c) OBJ3: Improve journey times and journey time reliability on the A55 from Junction 14 to Junction 16A;

d) OBJ4: Improve resilience on the A55 for strategic and local traffic;

e) OBJ5: Improve journey times, journey time reliability and safety for access onto the A55 from Llanfairfechan and Penmaenmawr;

f) OBJ6: Reduce severance with coastal areas for the Non-Motorised Users and enhance provision made for walkers and cyclists;

g) OBJ7: To take reasonable steps to build healthier communities and better environments; and

h) OBJ8: Opportunities to provide integrated transport are increased

3.3.2 The technical objectives for the scheme are to;

a) TECH OBJ1 Minimising technical departures from standards;

b) TECH OBJ2 Minimising need to reduce speed limits; and

c) TECH OBJ3 Minimising disruption during construction.

3.3.3 Working with the Statutory Environmental Bodies (SEBs) the following Scheme Environmental Objectives were agreed:

3.3.4 *We want to achieve*

a) Avoidance or mitigation of impacts to provide:

b) Connectivity to and from the coast, and either side of the A55 so that communities continue to enjoy public services and open spaces;

c) Protection of community assets and local businesses from adverse impacts during construction;

d) Protection of the quality of urban spaces, listed buildings, and registered Parks and Gardens that are adversely affected through the careful alignment of roads, surfacing of footways, earthworks and tree and shrub planting;

e) Minimise adverse impacts on buried archaeological sites;

f) Landscape integration the junctions into their coastal settings by avoidance of further 'industrialisation' of the road corridor;

g) Consider the design of the schemes to achieve an overall reduction in traffic noise nuisance, problems associated with airborne pollution and visual impact of traffic;

h) Protect valued seaward views in the long term through careful design and aftercare

i) Minimise light spill from highway lighting to avoid or reduce the impact on 'Dark Skies' within the Snowdonia National Park;

j) Protection of the designated sites;

k) Improved road drainage to reduce the adverse impacts of A55 traffic pollutant spills on water quality in watercourses and on the sea;

l) Protect habitats and biodiversity and provide habitats designed to suit the coastal context; and

m) Consider whole-life cost, health and safety risks and onerous management commitments when designing the soft estate.

3.3.5 Enhancements to support the purposes of the Well-Being of Future Generations Act include:

a) Support community life and economic viability through enhanced cohesion and connectivity, support for education, learning and community involvement;

b) Enhanced quality and quantity of public spaces associated with the road corridor;

c) Improve access and enjoyment of the coastal setting, the townscape and the seafront, while enhancing opportunities for walking cycling and healthy lifestyles;

d) Enhance biodiversity through habitat creation, habitat connectivity and improvements within the road corridor in a manner that reflects and supports the coastal setting.

3.4 **The proposed scheme**

3.4.1 The Economy and Transport Minister Ken Skates announced the preferred option for Junction 15 on 5th April 2019. Having taken full account of the technical, social, economic and environmental aspects of the scheme and listened carefully to the consultation responses, Option D has been selected as the preferred route to replace the roundabout at Junction 15 Llanfairfechan.

3.4.2 With the purpose of removing the roundabout, the Scheme would result in a dual carriageway with free-flowing traffic in both directions. A new grade-separated junction would provide movement on and off the A55 to both east and westbound carriageways, utilising an overbridge. The eastbound slip roads would rise on embankment to meet with a signal controlled T-junction to the north of the overbridge. The westbound traffic off the A55 would meet with a priority junction with the link road, at the south side of the overbridge.

3.4.3 Proposed eastbound slip roads, on the north side of the junction, would rise on embankments up to a maximum of 10.9 metres above existing ground level, to cross the dual carriageway on the proposed bridge. To accommodate the junction and the necessary highway alignments and slip roads, the A55 dual-carriageway centreline would be moved, up to 6 metres south, towards residential properties along Penmaenmawr Road. As a consequence, the arrangement would affect Penmaenmawr Road and the link road to the existing Junction 15. The change in alignment means that for the property closest to the roundabouts, the distance from the edge of the west-bound off slip road to the corner of the most westerly corner of the rear wall would increase in the order of 1m from 13m. However, to ensure that provision is made for stopping sight distances, an increased width of verge is required. This means that the distance to the retaining wall would decrease from in order of 7m, in the current situation, to 3m.

3.4.4 The realigned A55 mainline and lengthened slip roads would extend approximately 337 metres south west from the existing roundabout for a distance of 610 metres, to a point approximately 222 metres north east from the existing roundabout, where the road tapers back to meet the existing dual carriageway.

3.4.5 To the south of the bridge over the dual carriageway slip road, the link road would descend towards Penmaenmawr Road and a signal-controlled junction. The west bound slip roads on the south side of the dual carriageway would rise on embankments to meet the link road. To accommodate the junction, which must meet current highway design standards, Penmaenmawr Road would be moved further south, cutting into the hillside.

3.4.6 The total length of the new trunk road would be approximately 2337 metres (including slip roads, overbridge and link road) with approximately 400 metres of side roads affected.

3.4.7 Full details of the project are provided in Chapter 2 of the Environmental Statement, the Layout Approval Plan is provided in Appendix A and the EMP is provided in Appendix F.

3.5 Physical land take

3.5.1 The total land take required for the Scheme (including land take required temporarily) is approximately 10.55 ha (105,555 m2) in total area. The J15 mainline realignment length is 602 m. The J15 side road length is 460 m. The extent of land-take for the scheme is shown in Figure 2.4 in Volume 3 of the Environmental Statement, and Appendix G.

3.5.2 Land required on a temporary basis would be taken to allow efficient, safe construction and to minimise the environmental impacts and would be used for the contractors compound, materials storage areas, haul roads and to provide adequate space to erect boundary fences, divert services and install drains and culverts.

3.6 Key stages of the project and project timing

3.6.1 The construction programme for the main works would have a duration of approximately 24 months, from mid-2021 to mid-2023. Construction would be anticipated to commence in 2021, with work programmed to take place over period of approximately 24 months. The construction would be completed, and the scheme opened in 2023, followed by a 3-year period of environmental maintenance and aftercare extending until 2026.

3.6.2 The indicative construction programme is:

a) Decision to proceed to Construction: Early 2021

b) Construction commence: Mid 2021

c) Completion of Construction (24 months duration) Late 2023

d) Environmental maintenance and aftercare: (3 years) Late 2026

3.6.3 Working hours would be subject to agreement with the CCBC Environmental Health Officer and may vary by location and activity. Typically, contractors work Monday to Friday with reduced activity on a Saturday. There would normally be no working on Sundays or Bank Holidays. Typical working hours are shown in Table 2.

Table 2: Typical Site Working Hours

Period	Day	Start time	Finish time
Summer	Monday to Friday	7am	7pm
	Saturday	7am	4. 30pm
Winter	Monday to Friday	7. 30am	5. 30pm

3.6.4 Following the issue of the 'Notice to Proceed to Construction', there would be a period when the detailed design will be developed. Prior to work starting on site, property precondition surveys, vegetation and further protected species surveys, where required, would be carried out.

3.6.5 The construction site would be made secure as early as possible by the erection of permanent fencing. Where this is not possible temporary fencing would be installed. Site

clearance work would commence with vegetation clearance at a time and method to avoid harm to wildlife.

3.6.6 Early construction activities would include:

a) Construction of the main site compounds, four in total;

b) Construction of main site access points;

c) Temporary and permanent fencing;

d) Construction of temporary diversions to existing footpath and cycleways.

e) Ongoing programme of seasonal ecological surveys;

f) Development of site haul roads;

g) Statutory Undertakers service diversions;

h) Topsoil stripping and stockpiling with archaeological monitoring;

i) Site clearance of trees, hedges, fencing, walls and small structures;

j) Construction of structures would commence as soon as possible;

k) Earthworks operations to form embankments and cuttings;

l) Drainage operations including pre-earthworks drainage ditches and existing water course culvert installation;

m) Haulage of materials to and from the site on the existing road network;

n) Construction of the carriageways

o) Side road works; and

p) Accommodation works.

3.6.7 Bulk earthworks would normally be carried out in the summer, but the contractor would take advantage of any periods of dry weather in the other seasons. Pre-earthworks drainage would follow the earthworks sequence.

3.6.8 Structures would be progressed throughout the construction period. The construction sequence has been determined to ensure that the Scheme would be built with minimum disruption to the local environment, local population and the travelling public. It is planned to commence construction of the following structures early in the construction programme.

3.6.9 A summary of the construction phasing includes the following, full details are provided in Chapter 2 of the Environmental Statement:

a) **Erection of site offices and compound**: the principal site offices and compound for both Junctions 15 & 16 will be located at Dwygyfylchi and will be made ready in advance of the commencement of construction.

b) **Phase 1 (approx. 4 weeks duration)**: This phase requires the existing A55 to be reduced to single line working in both directions with the outside lane used for construction operations and will therefore be a night-time operation. The work entails site clearance and excavation within the existing central reserve and roundabout island and full depth road reconstruction. Excavated arisings will be hauled to a stockpile - assumed to be located adjacent to the site offices at Dwygyfylchi – for later reuse within the Works.

c) **Phase 2 (approx. 45 weeks duration):** Both carriageways of the A55 are relocated to the extreme north of the corridor, enabling construction work to progress on the southern side of the site. Bridge construction, demolition of properties, construction of retaining walls. Construction of the new westbound carriageway will continue throughout Phase 2 with tie-in work at either end being undertaken at night with single lane working on the westbound A55.

d) **Phase 3 (approx. 45 weeks duration):** Construction of the eastbound slip roads, construction of viaduct and overbridge. Construction of the new eastbound carriageway will continue throughout Phase 3 with tie-in work at either end being undertaken at night with single lane working on the eastbound A55.

e) **Phase 4 (approx. 4 weeks duration):** The A55 traffic is rerouted onto its final alignment. Final finishing works to both realigned carriageways – final tie-in work, road restraint barriers to the central reserve and road markings – will be carried out at night with lane closures and/or contraflows as necessary.

3.7 Resource requirements

3.7.1 Resource requirements throughout the lifetime of the project include the requirement for landtake to construct the scheme including the demolition of two properties at the junction of Shore Road East and Penmaenmawr Road. The bulk earthworks design has been developed to make use of as much of the excavated materials as possible in earthworks. This will avoid wasteful haulage of fill and minimise the volume that would leave site or must be brought to site from quarries.

3.7.2 Aggregates will be required for the construction of the project, including potentially to provide general fill given the current shortfall in the materials balance. The exact sources of aggregates cannot be defined at this stage though several quarries have been identified within Chapter 15 of the Environmental Statement. It is anticipated that the Carboniferous Limestone, igneous rocks and glacio-fluvial sand and gravel deposits would be suitable for use in road construction. The Precambrian and Ordovician slates have also been used in road construction in North Wales, including slate waste.

3.7.3 In Conwy, Flintshire and Denbighshire no significant sources of secondary or recycled aggregates were identified, with the exception of small-scale slate waste tips which are being reworked.

3.7.4 At this stage it is anticipated that the following materials could be recovered from off-site sources for use on the Project:

a) General fill, in particular to address the shortfall in the cut fill balance; and

b) Pavement foundation aggregates

3.7.5 No resources will be required to be taken from the European sites.

3.8 Waste and materials

3.8.1 It is anticipated that the Scheme would require the movement of approximately 27,423 tonnes of cut earthworks materials and 84,416 tonnes of imported earthworks materials. Further information can be found in Chapter 15 (Materials).

3.8.2 Chapter 15 of the Environmental Assessment considers the likely significant effects on and from materials and waste associated with the construction of the proposed scheme. However, use of materials and production of waste during operation are not covered in Chapter 15 nor in this assessment. Given the scale of the project and the fact that there is a substantial element incorporating existing highways the change in activities such as repairing potholes, clearing out drains and road surface maintenance will be relatively minor in scale and are not likely to cause significant effects. As such, it is anticipated that operational phase effects will be similar to those for the existing highway and therefore these have been scoped out.

3.8.3 . A trunk road is built as a permanent feature that will never be decommissioned and it does not have a defined life and is not built with the intention of decommissioning. As such, the effects from decommissioning are likewise scoped out.

3.8.4 An initial review was conducted as part of the scope of the assessment for material assets and waste within Chapter 15 based on LA110[13], the results of these are detailed in Table 3.

Table 3: Initial Review of Scope of Assessment – Material Assets and Waste

Question	Response
Is the project likely to recover/reuse little on site material thereby requiring materials to be imported to site?	Yes - the project is likely to re-use all of material cut. However, there is still a large net balance of imported material required for the project
Is the project likely to use little or no recycled or secondary materials thereby requiring the majority of the materials used on the project to comprise primary materials?	There are opportunities to re-use road planings and aggregates arising from removal of existing pavements and to re-use excavated materials However, there is not a materials balance for the project and there is a need to import materials to meet the requirement for fill. In the worst case this could require primary materials, even if all the excavated materials are reused the majority of materials (i.e. > than 50% of the material requirement) would still need to be imported
Is the project likely to sterilise mineral sites or peat resources?	No
Would the project generate large quantities of waste relative to regional waste capacity?	No – at this stage it is expected that requirements for landfill would be limited. The assessments undertaken indicate it should be possible to reuse virtually all of the planings at the site and the excavated materials
Will the project have an effect on the ability of waste infrastructure within the region to continue to accommodate waste from other sources?	Unlikely

3.8.5 Other key construction materials comprise concrete (ready mix and precast, for example kerbs), steel (reinforcement, barriers), bricks, pipes (concrete and plastic), timber (fencing, formwork and other potential uses) and tarmac for the highway pavement. Concrete plants are noted at Abergele and Rhyl, and asphalt plants at Abergele, Penmaenmawr and Bangor[14].

3.8.6 The exact landfill and recycling facilities to be utilised cannot be defined at this stage and therefore consideration has been given to available facilities across the Study Area.

3.8.7 The types and quantities of materials required to construct the project have been assessed in Chapter 15 of the ES and are summarised in Table. 4:

[13] DMRB Sustainability and Environment Appraisal LA110 Material assets and Waster (formerly IAN 153/11) Revision 0
[14] https://www.agg-net.com accessed 20.10.19 (taken from Chapter 15)

Table. 4: Types and Quantities of Materials Required for Construction

Material Type	Estimated quantity (tonnes)
Aggregates	25,032
Ready-mix concrete	40,705
Pre-cast concrete	2,589
Steel	6,884
Asphalt	17,552
Plastic (e.g. pipework)	7,739
Timber	2,676
Brick	75.6

3.8.1 It is anticipated that the following materials could be recovered or diverted from landfill (Table 5):

Table 5: Materials Recovery & Diversion

Material	Estimated Quantity
Any non-paved areas, subject to no contamination being present, would be used as fill material on site	Assuming that 100% of the arisings from the cut fill assessment are reused would equate to 15,235m^3 diverted. The review of the contaminated land assessment indicates that it should be possible to reuse all of the materials.
Road planings	Assuming 100% of the road planings are reused would equate to 550 tonnes diverted. The review of the contaminated land assessment indicates that it should be possible to reuse all of the materials.
Aggregates recovered from the existing road construction	Assuming all of this material can be reused equates to 6,150 tonnes diverted.
Demolition materials from removal of the footbridge and demolition of two properties adjacent to Shore Road	Assuming 95% of this material is recycled or reused equates to 230 tonnes diverted.
Green waste	Diverted for composting, assumes 500 tonnes diverted.
Off cuts, surplus materials and waste from site operations/offices	Segregated to maximise the opportunities for reuse and recycling – allowance of 350 tonnes over the construction period (based on 5 tonnes of waste (1 skip) per week over 100 weeks with 70% reused/recycled)

3.8.1 It is anticipated that the wastes arising from construction requiring disposal to landfill would comprise the following (Table 6):

Table 6: Waste Requiring Disposal to Landfill

Type	Estimated Quantity/ Allowance
Invasive species	250 tonnes (allowance)
Waste from demolition assuming 95% recycling 20 tonnes	20 tonnes
Waste from off cuts, surplus materials and site	150 tonnes

3.8.2 The contaminated land assessment indicates that all of the materials arising from the proposed Scheme should be capable of being reused, similarly the assessment shows that all of the tarmac should also be capable of being reused.

3.8.3 The project has a shortfall of materials for construction of some 84,000 tonnes which will need to be imported. At this stage it is not possible to confirm where the imported materials would originate from since it will depend on what projects are underway in the area from which fill materials can be sourced.

3.8.4 It is anticipated that most of the materials arising from the construction works would be suitable either for re-use in the works, in the case of soils, or for recycling and recovery in the case of other construction materials. Re-use, recycling and recovery would be the preferred treatment routes with disposal to landfill adopted as a last resort.

3.9 Services

3.9.1 The requirement for services are detailed within Chapter 2 of the Environmental Statement. A summary is provided for this assessment.

3.9.2 The Scheme would use conventional piped drainage to remove water from the carriageway. This drainage, along with attenuation storage, would be designed to store surface water and then discharge it to the existing network, under the North Wales coastal railway line and then into the sea via existing sea outfalls at the following locations:

a) Chainage 200m north side
b) Chainage 275m north side
c) Chainage 465m north side

3.9.3 The drainage measures are set out in Chapter 7 of the Environmental Statement. Detailed Scheme design would take place following submission of the Environmental Statement (ES), however, the design would be likely to include a range of measures intended to meet the requirements of the statutory standards for sustainable drainage systems (SuDS). These include attenuation measures to receive water from the Scheme and from areas where there are risks of surface water flooding. These would act to attenuate flows to existing rates (allowing for climate change) during the operation of the Scheme prior to discharge to existing outfalls (including those which outfall to the sea).

3.9.4 Completion of construction works would be undertaken under the management of a Construction Environmental Management Plan (CEMP) which would include measures protective of the water environment such as management of surface water runoff from exposed earthworks and construction compounds, provision of spills kits and emergency spill procedures. Further details are provided in the pre-CEMP document.

3.9.5 Utility diversions are necessary where existing roads would be stopped-up or realigned. The diversions would generally be routed along existing service corridors, roads or footpaths. Where the service could be retained in its present location but would be affected by the proposed Scheme, appropriate protection measures would be agreed with the relevant authority.

3.9.6 Utility diversions are necessary where existing roads would be stopped-up or realigned. The diversions would generally be routed along existing service corridors, roads or footpaths. Where the service could be retained in its present location but would be affected by the proposed Scheme, appropriate protection measures would be agreed with the relevant authority.

3.10 Lighting

3.10.1 Highway lighting is already provided along this length of the A55 and on adjacent country roads and within the town of Llanfairfechan. New lighting would be installed along the A55 and at Junction 15 to meet current standards. Luminaires would be designed to emit no light above the horizontal level. LED Luminaires are proposed because these can be more directional and so reduce light spill beyond the road.

3.11 Traffic management

3.11.1 The requirements for traffic management have been carefully considered in design to minimise the disruption to road users during construction. Before a contractor commences construction of the Scheme, they will have developed a plan for traffic management throughout the construction period so that all the existing routes would remain open and access would be maintained to all residential areas around the junction.

3.11.2 During normal working, two lanes would be maintained in both directions on the A55. There would be short-term requirements for single line working. A 50mph speed limit would be imposed on all sections of public road passing through a work site to ensure the safety of the road users and workforce.

3.12 Summary of screening assessments

3.12.1 A screening assessment has been carried out (March 2019) which has been submitted to the Employers Agent for review. This screening identified that in the absence of appropriate mitigation and taking into consideration their conservation objectives, likely significant effects on qualifying features of the following European Sites could not be ruled out at Stage 1:

a) Traeth Lafan / Lavan Sands, Conway Bay SPA
b) Liverpool Bay / Bae Lerpwl (Wales) SPA
c) Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC

3.12.2 NRW requested that Traeth Lafan SSSI feature be included in the assessment. This was requested during consultation on the ES Chapter 8. NRW made reference to the fact than an SIAA would be conducted on the sites as advised and also commented that the SSSI be included for transparency.

3.12.3 It is considered that it is unlikely that there will be significant effects on the following European Sites, therefore no further assessment is needed.

a) Coedydd Aber SAC
b) Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines SAC
c) Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites SAC
d) Glynllifon SAC

3.12.4 Further details of the assessment, in the form of matrix worksheets for those sites scoped out of the Stage 2 assessment, are provided in the submitted Screening Report, Appendix C.

4. IDENTIFICATION OF EUROPEAN SITES

4.1 Sites

4.1.1 The first step in the process was to identify all of the European sites that could potentially be affected, following DMRB HD44/09 guidance[15]. Each of these was then assessed in Stage 1, and where LSE's were identified or there was sufficient uncertainty as to LSE's occurring, then these sites were subject to the Stage 2 assessment.

4.1.2 LA 115 states that consideration should be given to any European Sites where the proposed scheme is:

a) ≤2km of any SAC, cSAC, pSAC, SPA, pSPA or Ramsar sites; or

b) ≤30km of any SACs, cSACs or pSACs, where bats are one of the qualifying interests;

c) crossing/adjacent to upstream of, or downstream of, watercourses designated in part or wholly as A European site;

d) has a potential hydrological or hydrogeological linkage to a European site containing a groundwater dependent terrestrial ecosystem (GWDTE) which triggers assessment in accordance with LA 113: or

e) has an Affected Road Network (ARN) which triggers the criteria for assessment of European sites within HA 207/07[16] Air Quality.

4.1.3 Following the screening, three sites were identified within the 30km search area which could potentially be affected by the proposals. These are detailed in Table 7 below and their locations are on the figure in Appendix B. JNCC standard data forms and detailed information on the sites are provided in Appendix D.

[15] It should be noted that for Stage 2, the new guidance LA 115 was followed.

[16] Now replaced by DMRB Sustainability & Environment Appraisal LA 105 Air Quality Revision 0

Box 1 Favourable conservation status as defined in Articles 1(e) and 1(i) of the Habitats Directive

"The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable.

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' when:

- Population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis."

Table 7: Relevant statutory designated sites

Site Name/ Area	Qualifying features	Distance from Site	Summary of Conservation Objectives
Traeth Lafan / Lavan Sands, Conway Bay SPA UK9013031 Area = 2703.13 ha 100% marine	Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC: • A130 Oystercatcher *Haematopus ostralegus*, 4,931 individuals representing at least 0.5% of the wintering Europe & Northern/Western Africa population (5-year peak mean 1991/2 - 1995/6) • A069 Red-breasted Merganser *Mergus serrator** • A160 Curlew *Numenius arquat*, (Europe - breeding) 1.1% of the population in Great Britain 5-year peak mean 1991/92-1995/96*. • A005 Great crested grebe *Podiceps cristatus* (North-western Europe - wintering) * • A162 Redshank *Tringa tetanus** *NB: these species are listed on the Natura 2000 standard data entry but only Conservation Objectives for Oystercatcher are provided within the Core Management Plan for this site.	Adjacent to Scheme (approximately 50m, coastal)	The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied; • The 5 year mean peak of the number of wintering oystercatchers is at least 4,000. • The abundance and distribution of cockles of 15mm or larger and other suitable food are maintained at levels sufficient to support the population with a 5 year mean peak of 4,000 individuals. • Oystercatchers are not disturbed in ways that prevent them spending enough time feeding for survival. • Roost sites, including high tide roost sites, remain suitable for oystercatchers to roost undisturbed. • The management and control of activities or operations likely to adversely affect the oystercatchers, is appropriate for maintaining the feature in favourable condition and is secure in the long term. Performance Indicators for Oystercatcher: **A1**: Number of wintering oystercatchers (lower limit 4000 individuals) **A2:** The extent of intertidal flats and the broad-scale spatial distribution of their constituent sediment and community types is maintained

Site Name/ Area	Qualifying features	Distance from Site	Summary of Conservation Objectives
			A3: The abundance and distribution of cockles => 15mm are maintained at levels sufficient to support the population at 4,000 individuals **F1.** Disturbance of roosting or feeding oystercatcher is not significant. Activities and developments which could cause significant disturbance should be controlled as far as is possible. **F2.** High tide roost sites do not deteriorate in habitat quality and suitability for birds. Grazed fields adjacent to the shore used as high tide roosts should be maintained and sightlines for the oystercatchers retained.
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC UK0030202 Area = 26,501.64 ha 100% marine	Annex I habitats that are a primary reason for selection of this site: • 1110: Sandbanks which are slightly covered by sea water all the time • 1140: Mudflats and sandflats not covered by seawater at low tide • 1170: Reefs Annex I habitats present as a qualifying feature, but not a primary feature for site selection: • 1160: Large shallow inlets and bays • 8330: Submerged or partially submerged sea caves	Adjacent to Scheme (approximately 50m, coastal)	Summary of the Vision Statement for the site[17]: • The intertidal mudflats and sandflats feature should continue to comprise an array of sediment habitats and their associated biological communities, ranging from wave-exposed sands, through to sheltered muds and tide-swept muddy gravels. • The reef feature should continue to comprise a variety of habitats and their associated biological communities, occurring on hard substrate of different types throughout the site.

[17] Full details are provided in the Natural Resources Wales (NRW) (March 2018) Menai Strait & Conwy Bay / Y Fenai a Bae Conwy Special Area of Conservation (SAC) Advice provided by NRW in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulations 2017.

Site Name/ Area	Qualifying features	Distance from Site	Summary of Conservation Objectives
			• The subtidal sandbanks feature should continue to comprise mobile or highly mobile sediment habitats and their associated communities. • The large shallow bay feature should continue to comprise a variety of sediment and hard substrate habitats and their associated biological communities. • The sea caves feature should continue to comprise intertidal and subtidal caves, clefts, crevices and tunnels in the limestone substrate around the Great and Little Ormes and the north-east coast of Anglesey. Summary of Conservation Objectives: • The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing. • The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. • The presence, abundance, condition and diversity of typical species is such that habitat quality is not degraded. The conservation objectives do not aim to prevent all change to the habitat and species features, or to achieve an indefinable, abstract natural or pristine state, since these would be unrealistic and unattainable aspirations. Rather, they seek to prevent further negative modification of the extent, structure and function of natural habitats and species' populations by human activity and to ensure

Site Name/ Area	Qualifying features	Distance from Site	Summary of Conservation Objectives
			that degradation and damage to the features that is attributable to human activities or actions is prevented. Consequently, in order to meet the requirements of the Directive and ensure the site makes its appropriate contribution to conservation of biodiversity, the conservation objectives seek to; • Encompass inherent dynamism rather than to work against it • Safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species; • Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.
Liverpool Bay / Bae Lerpwl (Wales) SPA UK9020294 Area = 25,2757.73 ha 96% marine	Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC: • A065 Common scoter *Melanitta nigra* 56,679 individuals representing at least 10.31% of the wintering NW Europe population (2004/05 – 2010/11). • A193 Common tern *Sterna hirundo** (breeding 360 individuals representing 1.80% of the breeding population in Great Britain (2011 – 2015). • A195 Little tern *S. albifrons** (breeding 260 individuals representing 6.84% of the breeding population in Great Britain (2010 - 2014)	Approximately 295 m due north	Conservation Objective for red throated diver, common scoter, non-breeding assemblage of waterbirds: • Subject to natural change, maintain or enhance the populations and its supporting habitats in favourable condition The interest feature will be considered to be in favourable condition only when both of the following two conditions are met: (i) The size of the population is at or shows only non-significant fluctuation around the mean population at the time of designation of the SPA. to account for natural change;

Site Name/ Area	Qualifying features	Distance from Site	Summary of Conservation Objectives
	• A001 Red throated diver *Gavia stellata* (North-western Europe - wintering) 5.4% of the GB population 5-year peak mean 2001/02 - 2006/07. Population in the SPA 1171. • A177 Little gull* *Hydrocoloeus minutus* (non-breeding 319 individuals (2004/05 – 2010/11). Population in the SPA 319. Over winter, the area regularly supports 69,687 individual water birds (5 year peak mean 2004/05 - 2010/11) including species exceeding 1% of the GB total or 2,000 individuals: common scoter *Melanitta nigra*, red-throated diver *Gavia stellata*, little gull *Hydrocoloeus minutus*, red-breasted merganser *Mergus serrator* and great cormorant *Phalacrocorax carbo*. (less than 1% GB or less than 2000 Individuals) black headed gull *Chroicocephalus ridibundus*, common gull *Larus canus*, common eider *Somateria mollissima*, Northern fulmar *Fulmarus* glacialis, great black-backed gull *Larus marinus*, great crested grebe *Podiceps cristatus*, common murre *Uria aalge*, Northern gannet *Morus bassanus*, Atlantic puffin *Fratercula arctica*, European herring gull *Larus argentatus*, black-legged kittiwake *Rissa tridactyla*, lesser black-baked gull *Larus fuscus*, great Northern diver *Gavia immer*, European shag *Phalacrocorax aristotelis*, razor bill *Alca torda*, velvet scoter *Melanitta fusca.* *NB: these species are listed on the Natura 2000 standard data entry but only Conservation Objectives for red throated diver, common scoter,		(ii) The extent of the supporting habitat within the site is maintained.

Site Name/ Area	Qualifying features	Distance from Site	Summary of Conservation Objectives
	non-breeding assemblage of waterbirds are provided within the Core Management Plan for this site.		

4.2 Baseline conditions – Approach

4.2.1 Chapter 8 of the Environmental Statement, sections 8.4 and 8.5 provide details of the existing baseline conditions of the Scheme and approach to identification of the baseline. In summary, the following surveys and data collection have been conducted in respect of the features of interest of the designated sites relevant to this assessment.

4.2.2 An ecology desk study was undertaken initially in September 2017 and was updated in July 2019. Records were obtained from Cofnod (the biological records centre for north Wales) to identify designated sites and protected habitats or species within 2km.

4.2.3 Overwintering bird surveys have been conducted by Biome Consulting. The survey programme consisted of six 'Through The Tide Counts' (TTTC) with monthly surveys between October 2017 and March 2018 (inclusive). Each survey encompassed one complete tidal cycle during daylight hours, starting at either high or low tide. During each survey, three full counts were completed (i.e. counts around low, mid and high tide). Surveys took place utilising vehicles or vegetation/structures (e.g. hedgerows, buildings, sea walls etc.) as a hide or screen to avoid unnecessary disturbance to waders as far as possible.

4.2.4 All waders and wildfowl were recorded, with their locations recorded on a map. Further details on the method and findings are presented in the wintering bird survey report provided at Appendix E.

4.2.5 Limitations encountered during the wintering bird surveys were that although efforts were made to avoid double counting, due to the size of the survey area it is possible that, if birds moved within the survey area during a tidal state survey, double-counting may have occasionally occurred.

4.2.6 No intertidal habitat surveys have been conducted as there will be no land take from intertidal habitats supporting the features of interest of the sites.

4.2.7 An extended Phase 1 habitat survey was undertaken on the 19th October 2017, which was updated in June 2018 and again over the summer in 2019 to include additional areas and when access permissions were gained. The extent of each observed habitat is mapped in Figure 8.3 of the Environmental Statement. The presence of any Invasive Non-Native Species (INNS) was also noted and marked up on the Phase 1 habitat plan.

4.2.8 The effects of changes in air quality as a result of the construction and operation of the Scheme are described in Chapter 12 of the Environmental Statement: Air Quality. The approach requires an assessment of the impacts of road traffic emissions on Designated Sites within 200 m of a road (the Affected Road Network (ARN)). When pollutant concentrations exceed a critical level, it is considered that there is a risk of harmful effects. The critical level changes dependent upon the type of receptor, for example habitat type. Refer to 4.2.13.

4.2.9 The risk of potential air quality impacts from demolition, earthworks, construction and trackout (the transport of dust and dirt from the application site onto the public road

network) was assessed according to guidance developed by the IAQM[18] in order to identify the appropriate level of mitigation.

4.2.10 The Air Quality Assessment identified the same three designated sites within 200m ARN of the proposed Scheme, Traeth Lafan / Lavan Sands, Conwy Bay SPA/SSSI and Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC.

4.2.11 Effects at ecological receptors relating to NOx concentrations and nitrogen deposition have been assessed. Road traffic is not a significant source of other pollutants that vegetation may be sensitive to, such as ammonia (NH3) and sulphur dioxide (SO2), and as such an assessment of these pollutants has been scoped out of this assessment.

4.2.12 Concentrations of nitrogen oxides were predicted, and deposition calculated, at a range of receptors at increasing distances from the ARN in order to indicate whether or not the critical level and critical loads are being exceeded in the habitat. All ecological receptor locations were modelled at a height of 0 metres representative of vegetation growing at ground level.

4.2.13 The lowest critical loads for the most sensitive habitat within each designation are presented in Table 8. Data have been taken from the Air Pollution Information System (APIS) website[19].

Table 8: Deposition and Site Relevant Critical Loads (where available)

Site	**Habitat**	**Critical Load (2015 – 2017)**		
		Nitrogen Deposition (kgN/ha/yr)	**Acid Deposition (keqN/ha/yr)**	**NOX (µg)**
Traeth Lafan / Lavan Sands, Conwy Bay SPA UK9013031	Littoral sediment/Saltmarshes; Mudflats and sandflats not covered by seawater at low tide	20-30 upper saltmarsh – 20 lower saltmarsh – 30	Not sensitive	Saltmarsh - 30 ug
Liverpool Bay / Bae Lerpwl (Wales) SPA UK9020294	Littoral sediment/Saltmarshes; Mudflats and sandflats not covered by seawater at low tide	20-30 upper saltmarsh – 20, lower saltmarsh - 30	Not sensitive	Saltmarsh - 30 ug
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC UK0030202	1110: Sandbanks which are slightly covered by sea water all the time	20 – 30	Not sensitive	30 ug
	1140: Mudflats and sandflats not covered by seawater at low tide	20 – 30	Not sensitive	30 ug
	1170: Reefs	No estimate available	No estimate available	No estimate available
	1160: Large shallow inlets and bays	No estimate available	No estimate available	No estimate available

[18] Holman et al (2019). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.0, Institute of Air Quality Management, London. www.iaqm.co.uk/text/guidance/airquality-impacts-on-nature-sites-2019.pdf

[19] http://www.apis.ac.uk

Site	Habitat	Critical Load (2015 – 2017)		
	8330: Submerged or partially submerged sea caves	No estimate available	No estimate available	No estimate available
Traeth Lafan SSSI	Eel Grass (*Zostera noltei*)	No estimate available	No estimate available	No estimate available
	Rockpools (pools and depressions in the mussel bed supporting hydroids or sea firs	No estimate available	No estimate available	No estimate available
	Moderately exposed sand	20 – 30	Not sensitive	30 ug
	Running water	No estimate available	No estimate available	No estimate available
	Saltmarsh	upper saltmarsh –20 lower saltmarsh - 30	Not sensitive	30 ug

4.2.14 No assessment of potential effects from noise upon features of interest of the designated sites (SPA birds) was carried out as part of the assessment, only upon human Noise Sensitive Receptors (NSRs). However, the main areas utilised by birds which are features of the SPA would not be affected (the marine habitats). In addition, assessment of significant vibration effects due to operational road traffic has been scoped out because the scheme does not introduce a new source of vibration closer than existing roads in relation to the features of interest.

4.2.15 In order to assess the potential quality of water being discharged from the operational Scheme, a water quality assessment has been completed utilising Highways England's Water Risk Assessment Tool (HEWRAT) within LA113. This is the tool adopted by the Welsh Government for such purposes.

4.2.16 Drainage layout drawings of the area show that the drainage system running along Penmaenmawr Road runs to Shore Road East, then follows Shore Road East under the A55, railway and sea wall to a sea outfall. Drainage from the base of the existing A55 embankment is also shown to connect to the pipes below Shore Road East (in addition to two other pipes under the A55 and railway to sea outfalls).

4.2.17 The road pavement at J15 is currently drained from the site mostly using a kerb and gully drainage system, discharging directly into Conwy Bay at three drainage outfalls off the beach to the north of the Scheme. There is currently no treatment or attenuation of road runoff in the existing system.

4.2.18 No GWDTEs are present such that an assessment of the impact on GWDTEs has been scoped out.

4.3 **Baseline conditions - Results**

4.3.1 Full details of the habitats encountered during the surveys are provided in Section 8.5 of Chapter 8 of the Environmental Statement. The main habitats identified (with their Phase 1 classification code) were:

a) Mixed plantation woodland A1.3.2;

b) Parkland / scattered trees – broadleaved A3.1;

c) Neutral grassland – semi-improved B2.2;

d) Poor semi-improved grassland B6;

e) Running water G2;

f) Coastland H;

g) Amenity grassland J1.2;

h) Boundaries – hedge intact species poor J2.1.2; and

i) Built up areas – buildings J3.6.

4.3.2 A large number of bird records were received during the desk study, the majority of which relate to species associated with the adjacent SPAs.

4.3.3 The over wintering bird surveys (October 2017[20]) recorded a maximum of 1,322 oystercatchers predominantly foraging within the intertidal area to the west of Junction 15. Numbers within the survey area reduced as the tide flooded and birds left to forage/roost elsewhere with a maximum of 105 birds present at high tide (January 2018). During high tide, oystercatcher were recorded using the recreational amenity grassland areas to the north of the A55 and Penmaen Park to the south. Oystercatcher are a feature of interest of the Traeth Lafan / Lavan Sands, Conway Bay SPA. Table 9 provides a summary of Peak Counts recorded during the survey.

4.3.4 Other species noted during the wintering bird surveys (those in bold are features of the SPAs) were mute swan *Cygnus olor*, greater scaup *Aythya marila*, mallard *Anas platyrhynchos*, goosander *Mergus merganser*, **great crested grebe**, **red-breasted merganser**, cormorant *Phalacrocorax carbo*, bar-tailed godwit *Limosa lapponica*, curlew *Numenius arquata,* **redshank**, ringed plover *Charadrius hiaticula* and turnstone *Arenaria interpres*.

4.3.5 Great crested grebe were recorded forging on the sea during four survey months, with a maximum of two birds present (high tide, January 2018). Single Red-breasted merganser were recorded during mid and low tide surveys in October 2017. Redshank were recorded during each survey month, predominantly foraging in the inter-tidal area near the stream outflow in the west of the survey area. A maximum of 12 birds were observed during any survey, roosting just above the high tide line on the beach in the west of the survey

[20] Martyn Owen (2018) A55 Junctions 15 and 16 Wintering Bird Survey 2017/2018 Biome Consulting

area in February 2018. Table 9 provides a summary of Peak Counts recorded during the survey.

4.3.6 Full details of the over wintering bird surveys are provided in Appendix E.

4.3.7 Aside from the SPA and SAC habitats, those within the Scheme area which provide suitable foraging, roosting and nesting habitat for overwintering birds include the grassland, in particular the fields to the north of Penmaen Park.

4.3.8 The peak maximum counts of those species recorded which are features of the Traeth Lafan / Lavan Sands and Conwy Bay SPA relative to the SPA and GB population estimates, as well as the value of these populations, are summarised in Table 9 No WeBS data was available for the Liverpool Bay / Bae Lerpwl (Wales) SPA, as such an evaluation based on the above method was not possible. Species which are features of this SPA recorded within the Scheme area during the TTTC were cormorant, red breasted merganser and great crested grebe, each of these were recorded in low numbers (1 or 2 individuals) as such not in significant numbers.

4.3.9 The value of the population of each qualifying species within the study area has been calculated according to the peak TTTC recorded during the 2017-2018 wintering bird surveys, relative to the estimated population size of the SPA/s. The general rules of classification were as follows[21]:

a) Named qualifying species and those named in the SPA assemblage where the maximum count represented >5% of the SPA population were classified as being of ***Very High/High – International/National*** significance;

b) Species where the study area maximum count represented 1-5% of the SPA population were classified as being of ***Medium/Low Value – Regional/County*** significance;

c) ***Negligible Value*** – ***Local*** significance was assigned to species whose maximum count in the study area represented 0 -1% of the SPA population; and

d) Where no species were encountered, no value was assigned.

Table 9: Internationally Important Populations of Regularly Occurring Species within the Traeth Lafan / Lavan Sands, Conway Bay SPA

Species Name	Peak Count	SPA Wintering population (5 yr mean)[12]	% SPA population in study area peak count	GB wintering population estimate[22]	Value (sensitivity of site)
Oystercatcher	1322 (low tide –	6306 (exceeds British	21%	320,000	Very High - International

[21] As utilised for the M4 Corridor around Newport. Welsh Government. M4 Corridor around Newport, Environmental Statement Volume 1 Chapter 10: Ecology and Nature Conservation March 2016.

[22] Musgrove *et al* 2013 *Population estimates of birds in Great Britain and the United Kingdom https://www.britishbirds.co.uk/wp-content/uploads/2010/12/APEP3.pdf*

Species Name	Peak Count	SPA Wintering population (5 yr mean)[12]	% SPA population in study area peak count	GB wintering population estimate[22]	Value (sensitivity of site)
	October 2017)	National Importance threshold)			
Red-breasted Merganser	1 (low and mid tide count	76	1.3%	8,400	Low Value – County
Great crested grebe	2 (high tide count January)	168	1.1%	19,000	Low Value – County
Redshank	12 (High tide count February)	1,367	0.8%	120,000	Low Value – County

4.3.10 The over winter qualifying species for the designated site, oystercatcher, utilise the fields to the south of Junction 15 and Penmaen Park for refuge and foraging. Approximately 1.6% of the SPA population of oystercatcher were recorded (105 individuals).

4.3.11 The three-year average (2015 – 2017) nitrogen and acid deposition rates for each of the Designated Sites sensitive to either nitrogen or acid deposition are presented in Table 10; data have been taken from the APIS website. The APIS data does not include future year predictions and therefore on a conservative basis, the APIS baseline is assumed constant for the future year assessments.

Table 10: Baseline Deposition Rates

Site	Traeth Lafan/ Lavan Sands, Conway Bay SPA; Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC - Littoral sediment/Saltmarshes; Mudflats and sandflats not covered by seawater at low tide		
	Total Nitrogen Deposition (kgN/ha/yr)	**Nitrogen (kegN/ha/yr)**	**Sulphur (keqS/ha/yr)**
Background	10.6	Not sensitive	
Critical Load / Level	20 - 30		

4.3.12 There is the assumption that vehicle emissions factors and background pollutant concentrations are anticipated to decrease over time due to improvements combustion technologies. This is based on the Emission Factor Toolkit (EFT) estimates of vehicle emissions by Euro Class and on the Air Quality Consultants study on nitrogen dioxide trends across the UK. Furthermore, the AQC study on nitrogen dioxide trends in the UK 2005 to 2018 shows that North Wales caught up with the downward NOx emissions UK trend, with slightly steeper downward trends than the rest of the UK over the period 2010 to 2018 [23].

4.3.13 The results of the air quality assessment completed for the Scheme demonstrate that there would not be significant air quality impacts on receptors from construction or operational traffic and that NOx and Nitrogen Deposition levels (from APIS) are within the objective / Critical Level / Critical Load.

4.3.14 The closest sensitive receptors to construction activity will be the designated sites Traeth Lafan / Lavan Sands, Conwy Bay SPA/SSSI and Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC. Overall, without mitigation, the risk of dust soiling impacts is likely to be highest for earthworks and construction activities where these occur close to the designated sites. The risk of ecological impacts is highly likely to be low to negligible for all activities. Full details of the dust risk assessment methodology which includes the assessment criteria is provided Chapter 12 and in Appendix 12.1 of the Environmental Statement. With mitigation in place, effects are considered to be not significant.

4.3.15 Run-off from the Scheme would be discharged into the Marine environment via three existing outfalls. This drainage, along with attenuation storage, would be designed to store surface water and then discharge it to the existing network, under the North Wales coastal railway line and then into the sea via existing sea outfalls at the following locations:

a) Chainage 200m north side

b) Chainage 275m north side

c) Chainage 465m north side

4.3.16 The HEWRAT assessment concludes that, with respect to dissolved contaminants, the respective quality thresholds are met for almost 90 % of rainfall events without the need for the dilution that would occur upon discharge to the sea. For the remaining rainfall events routine runoff from the Scheme requires only a small volume of seawater to dilute dissolved contaminants to concentrations below the thresholds given in HEWRAT/LA113. Dilution of runoff is anticipated to take place within a short distance of each sea outfall (Refer to Appendix 7.3 of the Environmental Statement for details). Following this, the run-off would be subject to further, significant, dispersion within the coastal water body. Taking the above into account, the water volume with contaminant concentrations above is considered to be insignificant.

4.3.17 The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments.

[23] https://www.aqconsultants.co.uk/CMSPages/GetFile.aspx?guid=feb92332-26f7-4989-b86a-21e5732a5404

4.3.18 A spillage risk assessment has been completed and is presented in Appendix 7.3 of the Environmental Statement. The assessment concludes that the annual probability of a spillage that could cause a Category 1 or 2 incident is less than 0.5% and thus that no specific pollution control measures would be required[24]. It should be noted that the removal of the roundabout will decrease the risk of spillage when compared to the current situation and thus will provide betterment in that respect. The risk of a pollution incident at J15 is 1 in ~1300 years. Where discharge is to a sensitive waterbody (such as an SAC, SPA etc), a return period less frequent than 1 in 200 years is acceptable.

4.4 **Future baseline**

4.4.1 There is the potential for change in the baseline conditions in the medium to long term as a result of climate change. The climate change risk assessment for Wales (January 2012)[25] identified the main potential results of climate change significant to the natural environment to be:

a) reduction in soil moisture and lower river flows, and an increase in the frequency and Changes in soil organic carbon, although the ways in which it might be affected are not adequately understood at present;

b) Changes in climate space and species migration patterns, which could result in significant changes to biodiversity;

c) Increases in pests and diseases;

d) Changes to coastal and estuarine habitats and species, including a reduction in intertidal area; and

e) Changes to the marine environment, including an increase in disease hosts and pathogens, harmful algal blooms and invasive species. The effects of ocean acidification include adverse effects on shellfish;

4.4.2 A rise of about 1°C in the annual mean sea surface temperature has been recorded in the Menai Strait, and possibly the rest of the SAC, since the 1960s, a similar rise to that of the rest of the UK. The effect that increasing sea surface water temperatures will have on the species and communities associated with the habitat features of the SAC remains to be ascertained and is the subject of various studies and investigations

4.4.3 Other potential effects on the future baseline are the link with the coastal areas and sea level rise, species migration patterns including fish and migratory bird species, increases in INNS, stress to native species therefore decreasing resistance to invasion of INNS, reduction in intertidal habitats including those which are a feature of the designated sites and important habitat for breeding and over wintering bird assemblages. Fisheries including shellfish could also be affected by an increase in water temperature and changes in water quality. There may also be implications on the status of the designated sites and degradation in ecological functionality.

4.4.4 In grassland habitats, reduced summer rainfall and increased evaporation and transpiration could affect species composition. Areas created as wetland/SuDs will have

[24] 1 Highways England, Design Manual for Roads and Bridges LA113 Road Drainage and the Water Environment

[25] UK 2012 Climate Change Risk Assessment (Defra Project Code GA0204) A climate change risk assessment for Wales January 2012.

less input and become dry more often / for greater periods. In the future baseline these water features could be permanently dry outside extreme rainfall events.

4.4.5 Overall, climate change and the effects on the natural environment are hard to predict due to a range of interrelated factors, i.e. economic growth, new developments and technologies and the actions which Welsh Government and key organisations are taking to minimise climate risks at present.

4.4.6 Whilst in the long term, rising sea levels may cause a loss of intertidal habitats (which are hard to predict), it is considered that this will not influence the effects of the Scheme on biodiversity within the timescale of construction and opening of the new road Scheme and layout. The A55 would still be in operation as a major traffic route, with the revised layout of J15 not significantly affecting the future baseline of species and habitats, within a local, regional, national, international and global context.

5. ASSESSMENT METHODOLOGY

5.1 Informing the appropriate assessment

5.1.1 This section sets out the applicable methodologies and assumptions for the consideration of the Junction 15 improvement works with regard to the requirements of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the AIES process as set out in DMRB LA 115 Habitats Regulations Assessment.

5.1.2 This report covers the second of five stages which constitute an AIES process. The first stage is Screening which has been previously conducted (March 2019) this and the remaining stages are shown as follows:

a) Stage 1: Screening

b) Stage 2: Appropriate Assessment

c) Stage 3: Alternative Solutions

d) Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)

e) Stage 5: Compensatory Measures

5.1.3 The appropriate assessment shall report on and provide evidence of examination of adverse effects on the integrity of a European site to inform the competent authority undertaking the appropriate assessment.

5.1.4 Informing the appropriate assessment should be undertaken following the procedure within Figure 1.

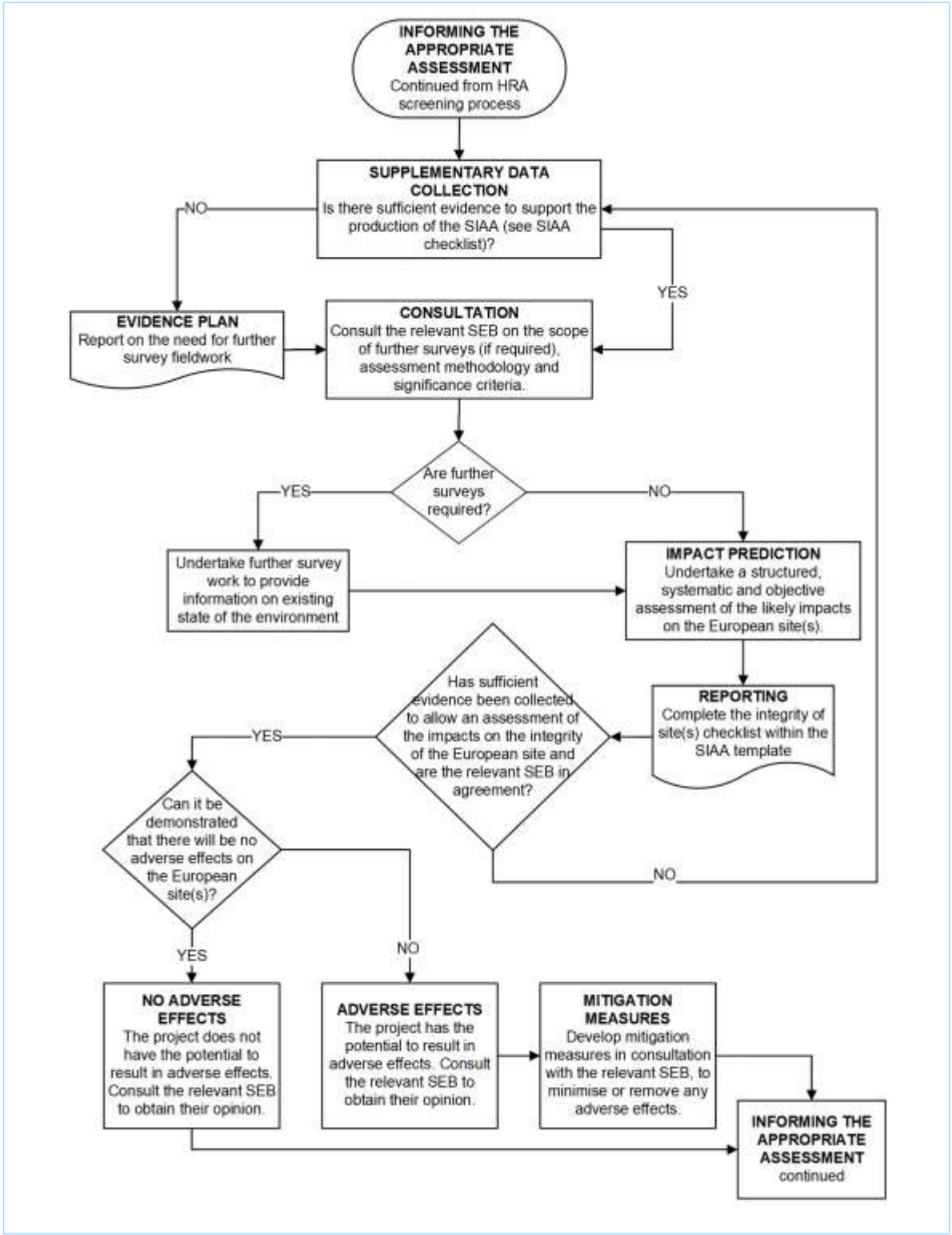


Figure 1: Informing the appropriate assessment process **(*Source: DMRB, LA 115 Habitat Regulations Assessment)***

5.1.5 Reporting and consultation shall follow the procedure within Figure 2.

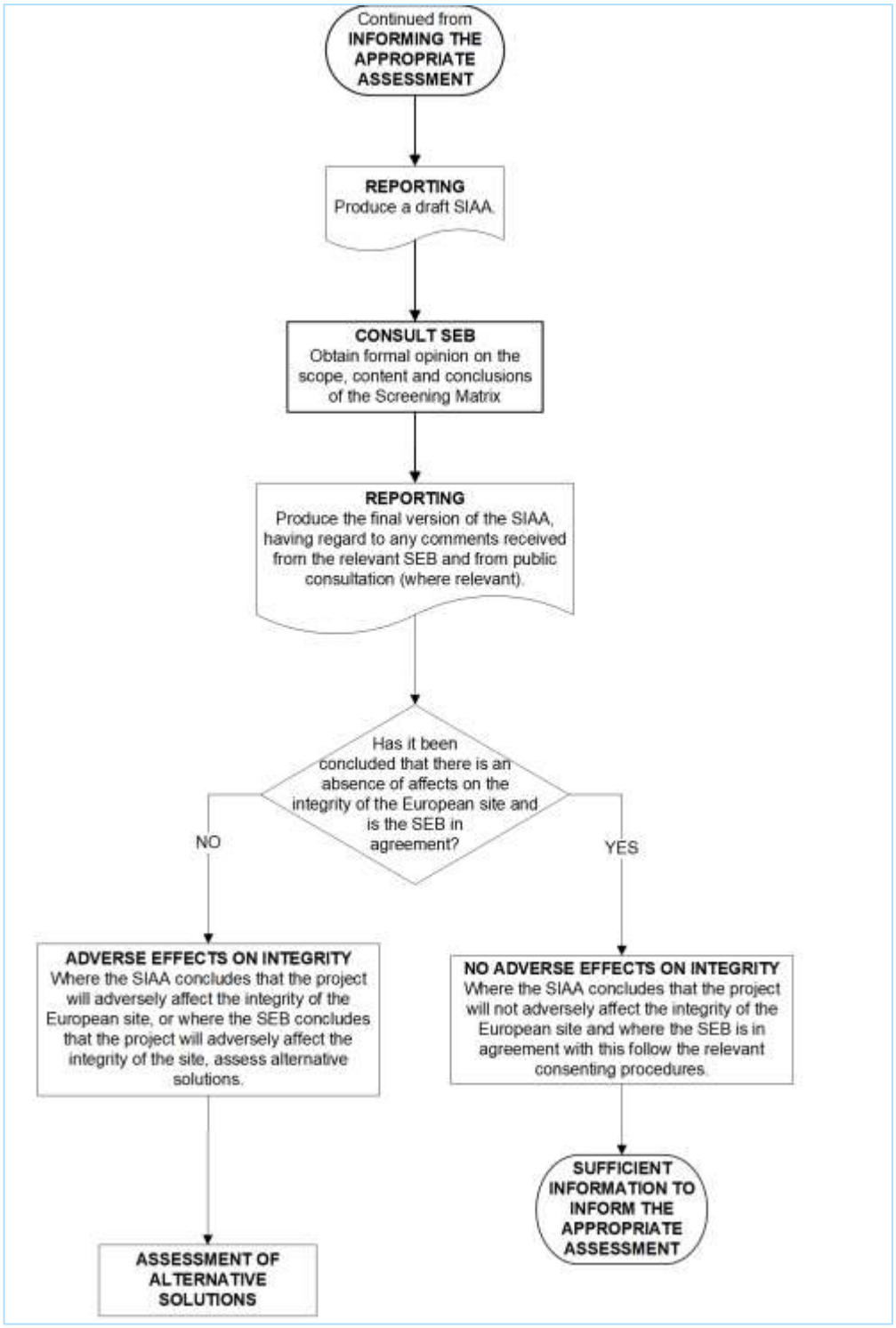


Figure 2 Informing the appropriate assessment process (***Source: DMRB, LA 115 Habitat Regulations Assessment)***

5.2 Conservation Objectives

5.2.1 Conservation objectives of each feature of interest of the European Sites potentially affected were reviewed. In Wales, conservation objectives are considered to consist of the vision and performance indicators stated in the relevant Core Management Plan available from Natural Resources Wales website. For each of the sites the relevant qualifying features of interest were also collated and examined.

5.3 Assessment of Impacts and Significance

5.3.1 The Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018)[26] are the current industry standard for ecological assessment and are therefore considered to be current good practice. The assessment of effects on the conservation objectives of each of the ecological features of the designated sites was therefore undertaken in line with the CIEEM guidance.

5.3.2 In addition, new published guidance has been recently published (November 2019) for the assessing the effects on biodiversity (LA 108)[27]. This has been reviewed along with the assessment carried out as part of the Environmental Statement, Chapter 8[28].

5.3.3 The value of a designated sites, its ecological features and conservation objectives has been determined based on professional judgement and the role of the designated site within the landscape, as well as considering its importance within a defined geographical context. Various characteristics contribute to the importance of the ecological features of the designated sites including the size of habitat or species population, habitat connectivity, rarity and robustness.

5.3.4 Level of impact is determined by the following characteristics:

a) positive or negative (e.g. adverse/beneficial);

b) duration (e.g. permanent/temporary);

c) reversibility (e.g. irreversible/reversible)

d) extent/magnitude; and

e) frequency and timing

5.3.5 In carrying out the assessment, a general method for the grading of the significance of effects has been adopted. A significant effect is an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the consequences of the Scheme on designated sites and their features of interest.

[26] CIEEM (September 2018) Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine.
[27] DMRB (November 2019) Sustainability & Environment Appraisal LA 108 Biodiversity.
[28] LA 108 was not in force when the draft Chapter 8 was produced.

5.3.6 The assessment of potential and significant residual effects has utilised the following five level magnitude of effects as shown in Table 11. This is the same method utilised within Chapter 8 of the Environmental Statement.

Table 11: Magnitude of Effect and Descriptors

Magnitude of Effect	**Typical Descriptors**
Major	The change is likely to restore an ecological receptor to favourable conservation status, or to create a feature of recognisable value within an international or national context – **major beneficial effect.** The change is likely to cause a permanent (irreversible) effect on the integrity of an ecological receptor– **major adverse effect.**
Moderate	The change is likely to restore an ecological receptor to favourable conservation status, or to create a feature of recognisable value within a regional or county context – **moderate beneficial effects.** The change adversely affects the valued ecological receptor, but there will probably be no permanent effect on its integrity with appropriate mitigation and is reversible – **moderate adverse effect.**
Minor	The change is likely to restore an ecological receptor to favourable conservation status, or to create a feature of recognisable value within a local context minor beneficial effect. The change adversely affects the valued ecological receptor in the short term but there will be no permanent effect (reversible) – **minor adverse effect.**
Negligible/Slight	The change is likely to restore or retain the status of an ecological receptor –**slight beneficial effect.** The change affects the valued ecological receptor in the short term but there will be no permanent effect (reversible) – **slight adverse effect.**
No change/Neutral	The change has no significant effect on the ecological receptor, either beneficially or adversely.

5.3.7 The significance of the potential effects was assessed taking into account plainly established uncontroversial (PEU) mitigation (i.e. mitigation measures forming part of the Scheme[29]) for the Stage 2 assessment and any other additional mitigation measures proposed.

5.4 Identification of Impacts

5.4.1 Site clearance, construction and the operation of the scheme has the potential to give rise to the following impacts on European Sites and features of interest:

a) Changes in air quality including elevated NOx concentrations and an increase in airborne pollutants during construction, e.g. dust;

[29] These are often intended to avoid or minimise adverse effects considered in the design process and that may not readily be recognisable as mitigation. These measures are a fundamental part of the design and incorporated within the scheme

b) Changes in water quality due to pollution incidences including increased run-off from construction and operation activities or increased siltation;

c) Non-physical disturbance including increased noise and vibration during construction of structures;

d) Land take including a direct loss of loss of habitat and disturbance to habitat utilised by birds which are a feature of the SPA for high tide roosting;

e) Potential barrier to movement of species from the increased height of the slip road; and

f) Additional lighting during construction causing illumination upon of adjacent fields utilised by birds which are a feature of the SPA.

5.4.2 The list above has formed the basis for considering the potential effect on the European Sites by identifying the sources or impacts and the pathways that could link those sources to the features of interest of the site (receptors).

5.4.3 Sources of information used in this assessment were taken from the EIA for the project.

5.5 Alternative solutions considered as part of the EIA

5.5.1 Chapter 3 of the Environmental Statement outlines the main alternatives considered during the development of the Scheme and sets out the main reasons for the selection of the preferred option.

5.5.2 Five options were initially under consideration. The preferred option has been selected following a rigorous assessment of each. These included appraisal against the Project Objectives (set out in Section 3.3). The preferred option must also satisfy performance requirements set out in Welsh Transport Appraisal Guidance 2017[30], which include:

a) Ability of the option to prevent, or solve the problem now and in the future;

b) Ability of the option to meet the objectives set and improve the social, cultural, environmental and economic well-being of Wales;

c) Short and longer-term impacts of the options in delivering multiple benefits across the four aspects of well-being and to maximise contribution to all seven well-being goals;

d) Deliverability of the options; and

e) Robustness to uncertainty and potential to drive long lasting change.

5.5.3 Based on the questionnaire responses and key stakeholder engagement, there was no clear consensus in favour of any single option at the junction, but key concerns were identified in the responses from key stakeholders and organisations, local communities and the public and these have also been taken into consideration.

[30] WelTAG 2017 Welsh Transport Appraisal Guidance. https://gov.wales/sites/default/files/publications/2017-12/welsh-transport-appraisal-guidance.pdf

5.5.4 Each of the options under consideration would likely have a similar potential effect upon designated sites and the features of interest.

5.6 Assessment of Cumulative Impacts

5.6.1 A requirement of the Habitat Regulations is to also examine the potential for a plan or project to have a significant effect either alone or in combination with other plans and projects. These include those with spatial and/or temporal overlap with Junction 15 namely

a) Trunk road and motorway plans or projects which have been confirmed

b) Developments and other projects which are currently under construction

c) Proposed developments which are currently under consideration with the local planning authority or other determining bodies

d) Local Plan commitments and indicative timescales for implementation

5.6.2 Cumulative effects result from multiple actions on receptors and resources over time and are generally additive or interactive (synergistic) in nature. Cumulative effects can also be considered as:

> '*…impacts resulting from incremental changes caused by other past, present or reasonably foreseeable actions together with the project* [31].'

5.6.3 Two principal types of cumulative effects are considered: *interrelationships* between effects generated by the Scheme, and the addition or *interaction* of effects generated by one or more other schemes *in combination* with the project being assessed.

In-combination Effects

5.6.4 When considering in-combination effects in the assessments for each designated site, the potential impact of the measure on the feature is the key consideration. A plan or project could have an effect on water quality which in isolation would not be a significant effect, however in-combination with other impacts, could be significant.

5.6.5 The assessment of in-combination effects with 'other development' was identified through a systematic approach consisting of searching and identifying 'reasonably foreseeable' projects and proposals which could have in-combination effects. The methodology is set out in Chapter 19 of the Environmental Statement.

5.6.6 In consultation with the Local Planning Authorities, a short-list of sites was subsequently agreed. The short list includes the following sites. Consultation was sought with Natural Resources Wales (NRW) on the 1st April 2020 who referred us to the Lle Portal which was subsequently reviewed, no relevant in-combination Schemes were found. Any gaps have been detailed within the cumulative effects chapter, chapter 19.

a) Land to the West of Penmaen Park;

[31] European Commission, 1999

b) New build residential units at Fernbank, Llanfairfechan;

c) Mineral permission Penmaenmawr Quarry;

d) Abergwyngregyn to Tair Meibion A55 improvements; and

e) A55 Junction 16 improvements.

5.6.7 In the' *in combination assessment'* the CEA, Chapter 19 identified several projects, but the separate A55 J16 Improvement Scheme has the most potential to generate effects which, cumulatively with the potential effects of the Scheme, could affect several environmental receptors. With additional refinements, dialogue and communication identified as part of the Schemes' overall mitigation measures, any potential cumulative effects can be either minimised and/or avoided.

5.6.8 Details of the developments identified to date which may have an in-combination effect are set out in Table 12.

Table 12: Developments Considered for In-combination Effects

Development type	Location / distance from scheme	Planning status	Potential in-combination effects	Potential Magnitude (in the absence of mitigation)
a) 45 Houses within LDP allocation - 2.43 hectares	On site	LDP Housing Contingency - west of Penmaen Park	The potential in-combination effects would result from land take and disturbance during construction. This habitat is used by over wintering birds which are a feature of the designated sites. There may also be additional stress on ecosystems via pollution incidences during construction and operation including air quality and drainage.	**Minor Adverse**
b) Land adjacent to Fernbank, Llanfairfechan erection of 8 apartments and 9 dwellings	Adjacent to new Junction	CCCBC Planning code 0/45160 – Refused due to insufficient information regarding surface water and foul drainage facilities	These properties have already been constructed, as such in-combination effects from construction of these properties are negligible. The main in-combination effect would be from increased surface water run-off during construction of the Junction 15 Scheme into a drainage system that has not adequately shown to be sufficient to support this new development, were they to outfall into the same location. This could cause stress upon marine ecosystems.	**Moderate Adverse – Coastal only**
c) Penmaenmawr Quarry, valid until 2042, requires review consent	500 m due east	CCCBC Planning code 0/39392 Minerals Permission, valid until 2042- approved, requires review consent	No in-combination effects envisaged	**Neutral**
d) Abergwyngregyn to Tair Meibion A55 improvements	2.60 km due west	Approved	Works have commenced on this Scheme. An Environmental Statement and Statement to Inform an Appropriate Assessment has been produced for this Scheme. The Assessment of Implications on European Sites concluded that no significant effects on the Natura 2000 sites were likely provided mitigation measures were followed.	**Neutral**

Development type	Location / distance from scheme	Planning status	Potential in-combination effects	Potential Magnitude (in the absence of mitigation)
			It is likely that this Scheme would be completed prior to the commencement on site of the Junction 15 Scheme.	
e) A55 Junction 16 improvements	5km due east	Key Stage 3 WelTAG	In-combination effects between this Scheme and Junction 15 improvements would occur were both Schemes to be implemented at the same time. These are considered to be the potential increase in pollution affecting air and water quality which could arise both during the construction and operation of the Scheme/s, especially where there are outfalls into the marine environment. Both Schemes result in land-take of habitat utilised by over wintering birds which are a feature of the designated sites. In terms of habitat connectivity, these Schemes are isolated from each other by Penmaenmawr Quarry, as such effects to habitat connectivity between these two Schemes are considered to be Neutral.	**Moderate Adverse**

Inter-relationships

5.6.9 Consideration of inter-relationships have also been discussed in Chapter 19 of the Environmental Statement. Inter-relationships refer to the combined effect on individual (or groups of) receptors or resources from more than one source or type of environmental effect (e.g. noise, Land-take, air quality, hydrology) for example, a small area of habitat loss coupled with increased noise disturbance in remaining habitat could together reduce the foraging or refuge habitat available to a species sufficiently to reduce the local population.

5.6.10 In identifying and assessing the likely impacts of the proposed Scheme on designated sites, the inter-relationships with the environmental impacts identified in other ES chapters has been considered. These include:

5.6.11 ***Chapter 6: Geology and Soils*** – Discharge of contaminated or sediment laden groundwater to the marine and/or riparian ecosystems following dewatering of excavations or foundations works. Contamination of soils, groundwater and surface water from accidental spills and leaks relating to construction plant and fuels/oils. A number of measures have been highlighted within this chapter as being suitable for mitigating the potential effects. These include the protection of soil structure and quality, the protection of controlled water from both general site works, and foundation works and to manage contamination risks.

5.6.12 ***Chapter 7: Road Drainage and Water Environment*** – This chapter focused on the construction and operational effects of the proposed Scheme on the water quality on nearby watercourses and marine habitats and associated habitats and species, including those listed as features of interest of the designated sites. No GWDTEs are present such that an assessment of the impact on GWDTEs has been scoped out.

5.6.13 ***Chapter 12: Air Quality*** – The modelling of changes in air quality has informed the assessment of the ecological effects on sensitive receptors, in particular the features associated with the designated sites. A qualitive assessment of potential dust effects for the proposed Scheme has been undertaken, based on the effects of receptors within 200m of the ARN. Potential dust impacts would be suitably controlled using best practice mitigation measures. The NOX concentrations are anticipated to be below the relevant AQS objective, and risks from construction dust deposition will be mitigated through the CEMP. Effects are not predicted to be significant.

5.6.14 ***Chapter 13: Noise and Vibration*** – No assessment of potential effects from noise upon features of interest of the designated sites (SPA birds) was carried out as part of the assessment, only upon human Noise Sensitive Receptors (NSRs). However, the main areas utilised by birds which are features of the SPA would not be affected (the marine habitats). In addition, assessment of significant vibration effects due to operational road traffic has been scoped out because the scheme does not introduce a new source of vibration closer than existing roads in relation to the features of interest. The approach for controlling construction noise will be to reduce source levels where possible. In some circumstances it may be preferable to use plant which generates a high level of noise if this significantly reduces the construction time. Noise barriers will be installed.

5.6.15 ***Chapter 15: Materials*** - During the construction and operational phase, materials and waste would be present close to the outfall system linked to the marine ecosystem, with potential for run off which could have ecological impacts on species and habitats and on water quality. Working methods to manage and limit these risks are set out in Chapter 20 Management of Environmental Effects.

6. POTENTIAL IMPACTS ON PROTECTED SITES

6.1 Traeth Lafan / Lavan Sands, Conway Bay SPA

6.1.1 There would be no direct impact upon the designated site and no direct loss of habitat area within the boundary of the designated site.

6.1.2 The over winter qualifying species for the designated site, oystercatcher and curlew, utilise the fields to the south of Junction 15 and Penmaen Park for refuge and foraging. Approximately 1.6% of the SPA population of oystercatcher were recorded (105 individuals) and 1.4% of the SPA population of curlew (28 individuals). A proportion of this habitat would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3 ha) though adjacent areas to the south would remain intact (an area of approximately 4.2 ha). However, these are to be disturbed are unlikely to be utilised during the construction of the new junction due to noise and potentially lighting which would displace and/or deter birds which are a feature of the SPA's from the construction area.

6.1.3 The site is subject to constant noise levels due to traffic and other anthropogenic activity and disturbance. The anticipated noise level change within the field utilised by the birds which are features of the SPA is +1 to +3Db. Current background noise in the vicinity of the field utilised by SPA birds is currently estimated to be 58 dB L_{Aeq}. Predicted construction noise within the vicinity of the fields range from 39 to 52 dB L_{Aeq} (Table 13.7 of Chapter 13 of the ES) which is less that the baseline.

6.1.4 The response of the species known to be present at the location of the scheme (oystercatcher and curlew) to noise disturbance has been characterised by the Waterbird Disturbance Mitigation Toolkit (TIDE, 2013[32]) from where the following information detailed in sections 6.1.5 -6.1.6 has been extracted.

6.1.5 Oystercatchers are relatively tolerant of disturbance stimuli and will habituate rapidly to ongoing activity. In undisturbed areas they will flush at great range (up to 500m) but in more disturbed locations, this figure reduces to between 25-200m dependent upon the stimuli (with people causing the most extreme reaction). Agricultural vehicles average a 60m threshold before they are seen to react (and a fair assumption would be that the figure for construction plant would be similar). Stationary people and plant can be assumed to create a lesser impact than those that are mobile. There is very little information on the effects of noise disturbance on Oystercatchers, but direct observation at a highly disturbed site (ambient noise level of 60dB) saw a reaction to only 9% of events with a degree of habituation assumed. Prior to the commencement of the works, Oystercatcher were observed foraging close to the works, but once activity commenced, birds foraged at 200m+ range with occasional venturing to within a radius of 100m from the activity.

6.1.6 Research evidence indicates that Curlew are an extremely wary species that does not habituate to works rapidly and are also particularly intolerant of people, allowing approach to a range of 120-300m before flushing when confronted with a lone walker. This figure may rise to 550m in a disturbed environment when facilitation effects occur. Disturbance responses from flood defence works of two moderately disturbed sites, one

[32] Cutts, N; Hemingway, K; Spencer, J. Version 3.2, March 2013. Waterbird Disturbance Mitigation Toolkit. University of Hull.

with highly disturbing works and one with moderately disturbing works both had Curlew foraging regularly within 100m. No reactions were observed to machinery operation. Earlier monitoring of impacts identified a general intolerance of the species to the presence of people on flood banks (in vehicle was OK).

6.1.7 No habitats within the designated site would be disturbed. The total site area of the SPA is 2700 ha. In terms of effect, it is considered not to be significant based on no effect to habitat which is a feature of the SPA, as well as retention of adjacent grassland habitat. The heatmaps as well as the individual maps (Figs 4 – 9 Appendix E) provide evidence of where Oystercatchers were recorded, which includes adjacent grassland habitat which would not be affected. Only a small percentage of birds were recorded within the construction footprint (up to 25 individuals, Fig 7, Appendix 8.2).

6.1.8 Within the wider context of the extent of available high tide refuge and foraging habitats, the proportion of habitat lost from land take from the Scheme is minimal and the species mentioned above are not heavily reliant on the habitats offered within the Scheme area.

6.1.9 Other SPA species noted during the wintering bird surveys are great crested grebe, red-breasted merganser and redshank. However, these species have not been recorded on site and are unlikely to utilise land within the Scheme footprint as they are aquatic specialists and do not generally utilise land for breeding and foraging.

6.1.10 Other potential impacts upon the features of interest of the SPA would be indirect disturbance as a result of potential pollution incidences and noise due to the proximity of the designated sites and mobility of species which are features of the SPA. However, it is likely that the impacts would not result in a significant effect so as to reduce the species population, the effect would be temporary, short-term and reversible or avoidable. The majority of over wintering birds, including those recorded on site, utilise the sandbanks during mid and low tide and as such are less likely to be disturbed.

6.1.11 There would be no fragmentation effects upon the designated sites qualifying species, since they are mobile species.

6.1.12 On completion of the Scheme the potential operational effects upon habitats and features of the designated sites include operational pollution incidences (e.g. fuel spills) and noise. It is anticipated that these would not be significant in normal circumstances during the operation of the road.

Impacts on Conservation Objectives

6.1.13 The potential of a likely significant effect on the Conservation Objectives for each feature of the SPA (where this information is available) is assessed in Table 13. Where appropriate the possible cumulative effects of other schemes identified in section 5.6 are also reported and considered.

Table 13: Effects on Conservation Objectives - Traeth Lafan / Lavan Sands, Conway Bay SPA

Qualifying features*	**Distance from Site**	**Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied**	**Potential Impact**
Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC: • A130 Oystercatcher *Haematopus ostralegus*, 4,931 individuals representing at least 0.5% of the wintering Europe & Northern/Western Africa population (5-year peak mean 1991/2 - 1995/6) *NB: Other species are listed on the Natura 2000 standard data entry but only Conservation Objectives for Oystercatcher are provided within the Core Management Plan for this site, as such only an assessment on conservation objectives of this species has been carried out.	Adjacent to Scheme (approximately 50m, coastal)	The 5-year mean peak of the number of wintering oystercatchers is at least 4,000.	**None envisaged/neutral**: The current 5 yr mean is 6306 which exceeds British National Importance threshold. The scheme is not likely to significantly impact upon the population of oystercatchers. The main areas for oystercatcher loafing and feeding are located offshore within the intertidal habitats.
		Oystercatchers are not disturbed in ways that prevent them spending enough time feeding for survival.	**None envisaged/neutral**: No foraging habitat would be directly affected such that it would prevent foraging by oystercatchers.
		Roost sites, including high tide roost sites, remain suitable for oystercatchers to roost undisturbed.	**Slight adverse impact** - A small proportion of this habitat would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3 ha) though adjacent areas to the south would remain intact. However, these are unlikely to be utilised during the construction of the new junction due to noise and potentially lighting which would displace and/or deter birds which are a feature of the SPA's from the construction area. All of the habitat within the SPA would not be disturbed, this equates to an area of 2700 ha.

Qualifying features*	Distance from Site	Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied	Potential Impact
		The management and control of activities or operations likely to adversely affect the oystercatchers, is appropriate for maintaining the feature in favourable condition and is secure in the long term	**None envisaged/neutral –** The Scheme will not adversely affect populations of oystercatchers. Disturbance would be short term and potential impacts avoidable and/or reversible. Most of the high tide refuge habitat (grassland) would be re-instated post construction and would be subject to a three-year establishment and aftercare period. Pollution and noise from construction activities would be mitigated for and controlled during the construction of an operation of the Scheme.
		The extent of intertidal flats and the broad-scale spatial distribution of their constituent sediment and community types is maintained	**None envisaged/neutral –** There would be no direct loss of intertidal habitat and communities.
		Disturbance of roosting or feeding oystercatcher is not significant. Activities and developments which could cause significant disturbance should be controlled as far as is possible.	**Slight adverse impact** - A small proportion of roosting habitat would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3 ha) though adjacent areas to the south would remain intact and the loss is not significant. These areas are unlikely to be utilised during the construction of the new junction due to noise and potentially lighting which would displace and/or deter birds which are a feature of the

Qualifying features*	Distance from Site	Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied	Potential Impact
			SPA's from the construction area into adjacent grassland habitats. Measures would be put in place to control noise and pollution incidences as part of the Scheme (PEU mitigation). All of the habitat within the SPA would not be disturbed, this equates to an area of 2700 ha.
		High tide roost sites do not deteriorate in habitat quality and suitability for birds. Grazed fields adjacent to the shore used as high tide roosts should be maintained and sightlines for the oystercatchers retained.	**Slight adverse impact –** The majority of high tide roost habitat will remain intact and would not be impacted as a result of the Scheme. All of the habitat within the SPA would not be disturbed, this equates to an area of 2700 ha. A small proportion of roosting habitat located outside of the SPA would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3 ha) though adjacent areas to the south would remain intact and the loss is not significant. Most of the high tide refuge habitat would be re-instated post construction and would be subject to a three-year establishment and aftercare period. The new slip road would be greater in height than the existing A55 and may affect the sightlines for oystercatchers to adjacent fields. However, grazed

Qualifying features*	**Distance from Site**	**Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied**	**Potential Impact**
			fields closer to the shore and utilised by oystercatchers would be retained.

Cumulative Impacts

6.1.14 The plans and projects considered within this cumulative assessment are presented in Table 14. It is difficult to undertake an in-combination assessment due to insufficient details on the schemes, including the timing and duration of the projects. The main potential for cumulative effects arises from the construction period and so would be relevant if a number of these projects were to overlap.

6.1.15 In terms of the impacts from the in-combination effects with other plans and projects, these includes development a) housing development which could result in the loss of high tide roosting habitat and potential pollution incidences, b) and e). However, considering that the main habitat used by oystercatchers (and other birds which are a feature of the SPA) for foraging and refuge would be unaffected and assuming that the projects adopt good-practice mitigation measures to avoid pollution and control effects on water quality, noise and other aspects of the environment, then there are unlikely to be significant in-combination adverse effects on the conservation objectives of these species.

6.1.16 Inter-relationships with other environmental disciplines would be managed and controlled by PEU mitigation including noise and pollution prevention.

6.2 Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC

6.2.1 The results of the air quality assessment completed for the Scheme demonstrate that there would not be significant air quality impacts on receptors from construction or operational traffic and that NOx and Nitrogen Deposition levels (from APIS) are within the objective / Critical Level / Critical Load.

6.2.2 There will be no direct land take effects upon habitats within the designated site.

6.2.3 Those habitats which are features of the Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC are not evident in close proximity to the Scheme. Annex I Habitats which are a feature of interest generally tend to occur to the west towards the Menai Strait.

6.2.4 Run-off from the Scheme would be discharged into the Marine environment via three existing outfalls. This drainage, along with attenuation storage, would be designed to store surface water and then discharge it to the existing network, under the North Wales coastal railway line and then into the sea via existing sea outfalls.

6.2.5 The HEWRAT assessment concludes that, with respect to dissolved contaminants, the respective quality thresholds are met for almost 90 % of rainfall events without the need for the dilution that would occur upon discharge to the sea. For the remaining rainfall events routine runoff from the Scheme requires only a small volume of seawater to dilute dissolved contaminants to concentrations below the thresholds given in HEWRAT/LA113. Dilution of runoff is anticipated to take place within a short distance of each sea outfall (Refer to Appendix 7.3 of the Environmental Statement for details). Following this, the run-off would be subject to further, significant, dispersion within the coastal water body. Taking the above into account, the water volume with contaminant concentrations above is considered to be insignificant.

6.2.6 The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments.

6.2.7 A spillage risk assessment has been completed and is presented in Appendix 7.3 of the Environmental Statement. The assessment concludes that the annual probability of a spillage that could cause a Category 1 or 2 incident is less than 0.5% and thus that no specific pollution control measures would be required[33]. It should be noted that the removal of the roundabout will decrease the risk of spillage when compared to the current situation and thus will provide betterment in that respect. The risk of a pollution incident at J15 is 1 in ~1300 years. Where discharge is to a sensitive waterbody (such as an SAC, SPA etc), a return period less frequent than 1 in 200 years is acceptable

6.2.8 On completion of the Scheme the potential operational effects upon habitats and features of the designated sites include operational pollution incidences (e.g. fuel spills) and noise. It is anticipated that these would not be significant in normal circumstances during the operation of the road.

Impacts on Conservation Objectives

6.2.9 The potential of a likely significant effect on the Conservation Objectives for each feature of the SPA (where this information is available) occurring is assessed in Table 14. Where appropriate the possible cumulative effects of other schemes identified in section 5.6 are also reported and considered.

[33] 1 Highways England, Design Manual for Roads and Bridges LA113 Road Drainage and the Water Environment

Table 14: Effects on Conservation Objectives - Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC

Qualifying features	Distance from Site	Conservation Objectives and Vision Statement for the site[34]:	Potential Impact
Annex I habitats that are a primary reason for selection of this site: • 1110: Sandbanks which are slightly covered by sea water all the time • 1140: Mudflats and sandflats not covered by seawater at low tide • 1170: Reefs Annex I habitats present as a qualifying feature, but not a primary feature for site selection: • 1160: Large shallow inlets and bays • 8330: Submerged or partially submerged sea caves	Adjacent to Scheme (approximately 50m, coastal)	The intertidal mudflats and sandflats feature should continue to comprise an array of sediment habitats and their associated biological communities, ranging from wave-exposed sands, through to sheltered muds and tide-swept muddy gravels.	**None envisaged/neutral:** No direct or indirect effects envisaged. The most significant areas are at Traeth Lafan and in Foryd Bay. The Scheme would not affect the extent or distribution, structure and / or function of the habitats or conservation status of species. The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments. There would be no risk of the introduction of INNS as a result of the Scheme as there would be no vehicular movement within these habitats.
		The reef feature should continue to comprise a variety of habitats and their associated biological communities, occurring on hard substrate of different types throughout the site.	**None envisaged/neutral:** The most significant areas of intertidal reef occur around Menai Bridge, between Beaumaris and Penmon, and between Penmon and Red Wharf Bay. The Scheme would not affect the extent or distribution, structure and / or function of the habitats or conservation status of species.

[34] Full details are provided in the Natural Resources Wales (NRW) (March 2018) Menai Strait & Conwy Bay / Y Fenai a Bae Conwy Special Area of Conservation (SAC) Advice provided by NRW in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulations 2017.

Qualifying features	Distance from Site	Conservation Objectives and Vision Statement for the site[34]:	Potential Impact
			The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments. There would be no risk of the introduction of INNS as a result of the Scheme as there would be no vehicular movement within these habitats.
		The subtidal sandbanks feature should continue to comprise mobile or highly mobile sediment habitats and their associated communities.	**None envisaged/neutral:** None envisaged/neutral: The Scheme would not affect the extent or distribution, structure and / or function of the habitats or conservation status of species. The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments. There would be no risk of the introduction of INNS as a result of the Scheme as there would be no vehicular movement within these habitats.
		The large shallow bay feature should continue to comprise a variety of sediment and hard substrate	**None envisaged/neutral:** The Scheme would not affect the extent or distribution, structure and / or

Qualifying features	Distance from Site	Conservation Objectives and Vision Statement for the site[34]:	Potential Impact
		habitats and their associated biological communities.	function of the habitats or conservation status of species. The large shallow inlet and bay feature of the SAC incorporates an extensive. The types of habitats within large shallow inlets and bays are largely determined by the underlying geology and sedimentology, along with orientation and aspect and the influence of the prevailing physical conditions such as the degree of exposure to wave action and tidal currents. These factors, combined with the influence of others, such as water quality (including turbidity) and sediment chemistry, influence the assemblages of marine species associated with the different habitats. None of these would be significantly affected by the Scheme.
		The sea caves feature should continue to comprise intertidal and subtidal caves, clefts, crevices and tunnels in the limestone substrate around the Great and Little Ormes and the north-east coast of Anglesey.	**None envisaged/neutral:** The Scheme would not affect the extent or distribution, structure and / or function of the habitats or conservation status of species. Sea caves are present in areas of limestone throughout the SAC, with the main concentrations in the north-facing cliffs of the Great and Little Ormes and the north-east coast of Anglesey between and Penmon and Red Wharf Bay, including the offshore islands. There is one indicted on the SAC map in close proximity to the

Qualifying features	Distance from Site	Conservation Objectives and Vision Statement for the site[34]:	Potential Impact
			Scheme area, though this would not be affected. The feature is considered to be in favourable condition.
		The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing.	**None envisaged/neutral:** The Scheme would not directly affect the extent or distribution, structure and / or function of the habitats or conservation status of species.
		The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded	**None envisaged/neutral:** The Scheme would not directly affect the extent or distribution, structure and / or function of the habitats or conservation status of species. The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments.
		The presence, abundance, condition and diversity of typical species is such that habitat quality is not degraded.	**None envisaged/neutral:** The Scheme would not directly affect the extent or distribution, structure and / or function of the habitats or conservation status of species. The coastal environment where runoff would discharge is dynamic and subject to currents, waves and tides which would disperse the intermittently discharged fine sediments such that they would not be sufficiently concentrated to be toxic to aquatic organisms living in or near bed sediments.

Cumulative Impacts

6.2.10 The plans and projects considered within this cumulative assessment are presented in Table x. It is difficult to undertake an in-combination assessment due to insufficient details on the schemes, including the timing and duration of the projects. The main potential for cumulative effects arises from the construction period and so would be relevant if a number of these projects were to overlap.

6.2.11 In terms of the impacts from the in-combination effects with other plans and projects, these includes development a) housing development, b) and e) which could result potential pollution incidences. However, assuming that the projects adopt good-practice mitigation measures to avoid pollution and control effects on water quality, including discharges to the marine environment, then there are unlikely to be significant in-combination adverse effects on the conservation objectives of these species.

6.2.12 Inter-relationships with other environmental disciplines would be managed and controlled by PEU mitigation including noise and pollution prevention.

6.3 Liverpool Bay / Bae Lerpwl (Wales) SPA

6.3.1 There will be no direct land take effects upon habitats within the designated site.

6.3.2 Great crested grebe were recorded forging on the sea during four survey months, with a maximum of two birds present (high tide, January 2018). Single Red-breasted merganser were recorded during mid and low tide surveys in October 2017. One cormorant was logged in flight during the low tide survey in October 2017. No direct effects to habitats utilised by these birds would be impacted by the Scheme. Within the wider context of the extent of available high tide refuge and foraging habitats, the proportion of habitat lost from land take from the Scheme is minimal and the species mentioned above are not heavily reliant on the habitats offered within the Scheme area.

6.3.3 Other potential impacts upon the features of interest of the SPA would be indirect disturbance as a result of potential pollution incidences and noise due to the proximity of the designated sites and mobility of species which are features of the SPA. However, it is likely that the impacts would not result in a significant effect so as to reduce the species population, the effect would be temporary, short-term and reversible or avoidable. The majority of over wintering birds utilise the intertidal habitats during mid and low tide.

6.3.4 There would be no fragmentation effects upon the designated sites qualifying species, since they are mobile species.

6.3.5 On completion of the Scheme the potential operational effects upon habitats and features of the designated sites include operational pollution incidences (e.g. fuel spills) and noise. It is anticipated that these would not be significant in normal circumstances during the operation of the road.

Impacts on Conservation Objectives

6.3.6 The potential of a likely significant effect on the Conservation Objectives for each feature of the SPA (where this information is available) occurring is assessed in Table 15. Where

appropriate the possible cumulative effects of other schemes identified in section 5.6 are also reported and considered.

Table 15: Effects on Conservation Objectives -Liverpool Bay / Bae Lerpwl (Wales) SPA

Qualifying features*	**Distance from Site**	**Conservation Objectives for red throated diver, common scoter, non-breeding assemblage of waterbirds and Vision Statement for the site[35]:**	**Potential Impact**
Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC: • A065 Common scoter *Melanitta nigra* 56,679 individuals representing at least 10.31% of the wintering NW Europe population (2004/05 – 2010/11). • A193 Common tern *Sterna hirundo** (breeding 360 individuals representing 1.80% of the breeding population in Great Britain (2011 – 2015). • A195 Little tern *S. albifrons** (breeding 260 individuals representing 6.84% of the breeding population in Great Britain (2010 - 2014)	Approximately 295 m due north	Subject to natural change, maintain or enhance the populations and its supporting habitats in favourable condition The interest feature will be considered to be in favourable condition only when both of the following two conditions are met: (i) The size of the population is at or shows only non-significant fluctuation around the mean population at the time of designation of the SPA. to account for natural change; (ii) The extent of the supporting habitat within the site is maintained.	**None envisaged/neutral:** Species which are features of this SPA recorded within the Scheme area during the TTTC were cormorant (flying overhead), red breasted merganser and great crested grebe, each of these were recorded in low numbers (1 or 2 individuals) as such not in significant numbers. These species have not been recorded on site and are unlikely to utilise land within the Scheme footprint as they are aquatic specialists and do not generally utilise land for breeding and foraging. The Scheme would not affect the size of the populations of wintering bird assemblages and would not affect the extent of the supporting habitat.

[35] Full details are provided in the Natural Resources Wales (NRW) (March 2018) Menai Strait & Conwy Bay / Y Fenai a Bae Conwy Special Area of Conservation (SAC) Advice provided by NRW in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulations 2017.

Qualifying features*	**Distance from Site**	**Conservation Objectives for red throated diver, common scoter, non-breeding assemblage of waterbirds and Vision Statement for the site[35]:**	**Potential Impact**
• A001 Red throated diver *Gavia stellata* (North-western Europe - wintering) 5.4% of the GB population 5-year peak mean 2001/02 - 2006/07. Population in the SPA 1171. • A177 Little gull* *Hydrocoloeus minutus* (non-breeding 319 individuals (2004/05 – 2010/11). Population in the SPA 319. Over winter, the area regularly supports 69,687 individual waterbirds (5 year peak mean 2004/05 - 2010/11) including species exceeding 1% of the GB total or 2,000 individuals: common scoter *Melanitta nigra*, red-throated diver *Gavia stellata*, little gull *Hydrocoloeus minutus*, red- breasted merganser *Mergus serrator* and great cormorant *Phalacrocorax carbo*. (less than 1% GB or less than 2000 Individuals) black headed gull *Chroicocephalus ridibundus*, common gull *Larus canus*, common eider *Somateria mollissima*, Northern fulmar *Fulmarus* glacialis, great black-backed gull *Larus marinus*,			

Qualifying features*	**Distance from Site**	**Conservation Objectives for red throated diver, common scoter, non-breeding assemblage of waterbirds and Vision Statement for the site[35]:**	**Potential Impact**
great crested grebe *Podiceps cristatus*, common murre *Uria aalge*, Northern gannet *Morus bassanus*, Atlantic puffin *Fratercula arctica*, European herring gull *Larus argentatus*, black-legged kittiwake Rissa tridactyla, lesser black-baked gull *Larus fuscus*, great Northern diver *Gavia immer*, European shag *Phalacrocorax aristotelis*, razor bill *Alca torda*, velvet scoter *Melanitta fusca*..			

Cumulative Impacts

6.3.7 The plans and projects considered within this cumulative assessment are presented in Table x. It is difficult to undertake an in-combination assessment due to insufficient details on the schemes, including the timing and duration of the projects. The main potential for cumulative effects arises from the construction period and so would be relevant if a number of these projects were to overlap.

6.3.8 In terms of the impacts from the in-combination effects with other plans and projects, these includes development a) housing development, b) and e) which could result potential pollution incidences. However, assuming that the projects adopt good-practice mitigation measures to avoid pollution and control effects on water quality, including discharges to the marine environment, then there are unlikely to be significant in-combination adverse effects on the conservation objectives of these species.

6.3.9 Inter-relationships with other environmental disciplines would be managed and controlled by PEU mitigation including noise and pollution prevention.

The use of professional judgement

6.3.10 Professional judgement has been applied where there was insufficient information regarding the likelihood of qualifying interests being present, using the following criteria:

a) The vulnerability/sensitivity of the receiving environment/features of interest;

b) When the risks of effects are likely to occur (e.g. construction and/or operation)

c) The likely geographical extent of the effects; and

d) Likelihood of significant effects (e.g. those above negligible in magnitude) occurring.

6.3.11 Where there was insufficient information regarding the likelihood of qualifying features being present, or of the risks of impacts, the assessment used the precautionary principle. The precautionary principle has been applied to ensure that any assessment errs on the side of caution, without being overly cautious. This principle means that the conservation objectives should prevail where there is uncertainty or that harmful effects will be assumed in the absence of evidence to the contrary.

7. MITIGATION

7.1 Measures to avoid, reduce or remediate any potential significant effects

7.1.1 The following mitigation measures will be implemented to ensure the project does not have the potential to adversely affect the conservation objectives of the designated sites and the features of interest. Mitigation has been considered as an intrinsic and iterative part of the Scheme design process including measures to reduce adverse effects which include 'mitigation by design' which are integral to the Scheme (PEU mitigation). The 'mitigation hierarchy' of avoid, mitigate/reduce, compensate/remediate and enhance has been adopted as part of the process.

7.1.2 Chapter 7 Road Drainage and Water Environment of the Environmental Statement describes the pollution control for works associated with the Scheme to avoid contamination to the marine environment. Information is also given in the CEMP, identifying the measures proposed to minimise risks of contamination. The pre-CEMP details the Outline Ground and Surface Water Management Plan which would be developed in consultation with Natural Resources Wales (NRW). It describes the design of each element of surface water management system required to manage surface water runoff during construction and potential risks to surface waters. It would include, consideration of temporary storage and settlement requirements to manage waterborne sediment, water quality criteria to ensure any discharge to receiving watercourses and marine environments meets regulatory requirements. The mitigation to alleviate potential effects to the watercourse and the marine environment include:

a) Following best practice guidelines including GPPs and CIRIA guidance;

b) The installation of pre-earthworks drainage ditches which would be installed along the periphery of excavated slopes. These would ensure that surface run-off entering the site is directed away from the construction operations to suitable discharge points (one of which is out to sea); and

c) Construction of permanent attenuation ponds which would be carried out as part of the pre-earthworks process in order to serve as temporary settlement lagoons, to prevent silt entering watercourses or marine/coastal habitats.

7.1.3 Water quality assessments for routine runoff (to surface water and groundwater) and spillage risk conclude that the impact of the Scheme is negligible such that no net deterioration in water quality would occur. It is concluded that, overall, the operational discharge of surface water runoff from the Scheme into the marine environment would result in a negligible magnitude of effect with respect to chemical quality, effects on aquatic ecosystems and bathing water quality. The Scheme would thus be in compliance with the WFD. As such no further mitigation beyond that which is integral to the Scheme is required.

7.1.4 No pollution pathways would be created between the construction site and outfalls into the marine environment, as measures would be implemented to prevent surface water runoff containing suspended sediment reaching watercourses through overland flow in

rainfall events. Construction phase operations would be carried out in accordance with the Environment Agency's Groundwater Protection Technical Guidance[36].

7.1.5 Mitigation during the operation of the Scheme (upon opening and the Design year) includes advanced planning of emergency response developed in liaison with emergency services and civil emergency planners to ensure good access and egress from site for police, fire brigade and ambulance to recover vehicles, casualties and reopen road efficiently. The application of measures to contain and control spillages will be implemented to avoid pollutants coming into contact with potential pathways to the marine / coastal environment (via outfalls or drainage systems).

7.1.6 Chapter 12 Air Quality of the ES describes the Pollution Control measures for the Scheme, which will be implemented by the Contractor through a Construction Environment Management Plan (CEMP). Mitigation forming part of the Scheme include the development and implementation of a Dust Management Plan and Prevention Plan.

7.1.7 The results of the air quality assessment completed for the Scheme demonstrate that there would not be significant air quality impacts on receptors from construction or operational traffic and that NOx and Nitrogen Deposition levels (from APIS) are within the objective / Critical Level / Critical Load. The effects of development traffic on local air quality are judged to be not significant with an overall improvement in air quality concentrations.

7.1.8 No additional traffic mitigation is therefore required to reduce the direct effects of the development on local air quality beyond that which is integral to the Scheme. The walking and cycling infrastructure improvements associated with the Scheme are expected to reduce the number of vehicle movements associated with the J15 Scheme and subsequent emissions by encouraging sustainable transport.

[36] Environment Agency: Groundwater Protection Technical Guidance (https://www.gov.uk/government/publications/groundwater-protection-technical-guidance/groundwater-protection-technical-guidance).

7.1.9 Mitigation measures to control noise and vibration are described in Chapter 13 of the Environmental Statement. These include noise barriers which would be installed along the eastbound and westbound carriageway, mainly to mitigate the effects upon residential occupants rather than nature conservation. None are required to mitigate the effects of noise upon bird assemblages due to the existing noise associated with the road network to which birds have become accustomed. No significant adverse effects are predicted as a result of operation of the Scheme, so no additional mitigation or monitoring is proposed.

7.1.10 Oystercatcher are relatively tolerant of moderate and high-level visual disturbance. Birds that are closer than 200m to a potential disturbance source would be considered when commencing works and efforts would be made to avoid high level disturbance events. Oystercatcher are not thought to be particularly sensitive to noise stimuli but there is little evidence for this, so as such a standard approach would be applied, with noise up to 72dB acceptable at the bird but with caution used at levels of above 55dB (60dB in a highly disturbed area). As Oystercatcher will forage up to within 50m of plant, this means that a source noise threshold of 105-110dB may be possible but applied with caution at levels above 87-92dB. Oystercatchers are likely to be present in lower densities in highly disturbed areas and those that are present are likely to be highly stressed, so if birds are closer than 200m to works, then high-level disturbance activities would be avoided. Predicted construction noise within the vicinity of the fields utilised by oystercatchers range from 38 to 60 dB L_{Aeq} (Table 13.7 of Chapter 13 of the ES) which is within the acceptable noise levels.

7.1.11 Curlew are wary of moderate and high-level visual disturbance. Birds that are closer than 300m should be considered when commencing works and efforts should be made to avoid high level disturbance. Similarly, whilst they may tolerate vehicle movements, once a person gets out of a vehicle then flight can occur. Curlew are moderately sensitive to noise stimuli but due to their wary nature the minimum approach distance can be expected to be no less than 100m. At this distance using the noise response table, noise required to create high level disturbance would be 107- 112dB at source and thus not particularly prohibitive and increasing to 117-122dB at 300m. If birds should approach closer than 100m, then highly disturbing activities should be avoided. Predicted construction noise within the vicinity of the fields utilised by curlew range from 38 to 60 dB L_{Aeq} (Table 13.7 of Chapter 13 of the ES) which is within the acceptable noise levels.

7.1.12 Abundant similar habitat occurs within close proximity to the scheme and includes Penmaen Park and habitats associated with the designated sites which displaced birds could use. Once habitat is reinstated, this could be utilised by overwintering bird species.

7.1.13 A CEMP would be prepared in advance of construction which would define all mitigation measures to be adopted to minimise noise and vibration emissions at surrounding sensitive receptors. This would incorporate specific measures within all phases of the works where noise and vibration may give rise to disturbance. It is expected that the CEMP would be secured by means of an appropriately worded planning condition.

7.1.14 In order to minimise the potential effects of INNS, biosecurity measures designed to manage and control the spread of INNS would be a contractual requirement for construction. Information would be set out and presented within the CEMP. Contractors to be made aware of INNS which may be encountered on site by way of 'toolbox' talks and posters.

7.2 Mitigation delivery

7.2.1 The appointed contractor will use the CEMP to assist in recording how mitigation measures and the environmental design are implemented with evidence of completion in the Register of Environmental Actions and Commitments (REAC).

7.2.2 A draft REAC has been created and a copy included in ES Volume 3, Appendix 2.3. The REAC is a record of the specific environmental actions and commitments to be implemented and managed through all stages of the Scheme. The draft REAC lists commitments made within the ES.

7.2.3 The draft REAC is critical to the success of an EMP and subsequently the environmental performance of the Scheme. The REAC would be implemented through the CEMP and the Environmental, Landscape and Ecology, Monitoring, Aftercare and Management Plan.

7.3 Assessment of likely significant effects

7.3.1 The potential for a likely significant effect on the Conservation Objectives for each feature occurring is assessed in Table 16, taking into consideration the mitigation proposed. Where it has been assessed that there is no potential impact (i.e. non envisaged / neutral impact Tables 13 – 15) and no mitigation is required, then no further assessment is required as there the qualifying feature is not affected from the Schemes proposals.

7.3.2 No impacts upon the conservation objectives for the features of interest of the Liverpool Bay / Bae Lerpwl (Wales) SPA or Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC were identified, as such no additional mitigation is required, no further assessment is required as the qualifying features are not affected from the Schemes proposals.

7.3.3 To assess the relative effects on the assemblages of birds, historic data obtained from WeBS counts was reviewed against the percentage assemblages recorded during the over-wintering bird surveys within the study area, as detailed within Chapter 8 of the ES and section 4.3.9 and Table 9.

Table 16: Likely significant effects on Conservation Objectives and features of interest of the designated sites

Designated site	**Qualifying features***	**Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied**	**Potential Impact**	**Mitigation**	**Likely significant effect**
Traeth Lafan / Lavan Sands, Conway Bay SPA	Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC: A130 Oystercatcher *Haematopus ostralegus*, 4,931 individuals representing at least 0.5% of the wintering Europe & Northern/Western Africa population (5-year peak mean 1991/2 - 1995/6) *NB: Other species are listed on the Natura 2000	Roost sites, including high tide roost sites, remain suitable for oystercatchers to roost undisturbed.	**Slight adverse impact** - A small proportion of this habitat would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3ha) though adjacent areas to the south would remain intact. However, these are unlikely to be utilised during the construction of the new junction due to noise and potentially lighting which would displace and/or deter birds which are a feature of the	No specific targeted mitigation. Effects are short term and reversible. Much of the habitat would be reinstated post construction and would be available within the first year, after habitat reinstatement..	**No:** The loss of this habitat would not delay the achievement of reaching the conservation objectives for the site, nor the FCS of the species. Key habitat within the designated site boundary would not be reduced and there would be no fragmentation of habitats.

Designated site	**Qualifying features***	**Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied**	**Potential Impact**	**Mitigation**	**Likely significant effect**
	standard data entry but only Conservation Objectives for Oystercatcher are provided within the Core Management Plan for this site, as such only an assessment on conservation objectives of this species has been carried out.		SPA's from the construction area.		
		Disturbance of roosting or feeding oystercatcher is not significant. Activities and developments which could cause significant disturbance should be controlled as far as is possible.	**Slight adverse impact** - A small proportion of roosting habitat would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3ha) though adjacent areas to the south would remain intact and the loss is not significant. These areas are unlikely to be utilised during the construction of the new junction due to noise and potentially lighting which would displace and/or deter birds which are a	No specific targeted mitigation. Effects are short term and reversible. Much of the habitat would be reinstated post construction and would be available within the first year, after habitat reinstatement. Measures would be put in place to control noise and pollution incidences as part of Scheme.	**No:** The loss of this habitat would not delay the achievement of reaching the conservation objectives for the site, nor the FCS of the species. Key habitat within the designated site boundary would not be reduced and there would be no fragmentation of habitats.

Designated site	**Qualifying features***	**Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied**	**Potential Impact**	**Mitigation**	**Likely significant effect**
			feature of the SPA's from the construction area into adjacent grassland habitats. Measures would be put in place to control noise and pollution incidences as part of Scheme.		
		High tide roost sites do not deteriorate in habitat quality and suitability for birds. Grazed fields adjacent to the shore used as high tide roosts should be maintained and sightlines for the oystercatchers retained.	**Slight adverse impact –** The majority of high tide roost habitat will remain intact and would not be impacted as a result of the Scheme. A small proportion of roosting habitat would be lost and/or temporarily disturbed to land take (permanent 0.61 ha and temporary 0.55 ha of a total area of 2.3ha) though	No specific targeted mitigation. Effects are short term and reversible. Much of the habitat would be reinstated post construction and would be available within the first year, after habitat reinstatement. Measures would be put in place to control noise and pollution	**No:** The loss of this habitat would not delay the achievement of reaching the conservation objectives for the site, nor the FCS of the species. Key habitat within the designated site boundary would not be reduced and there would be no fragmentation of habitats.

Designated site	Qualifying features*	Conservation Objectives The vision for this oystercatcher is for it to be in a favourable conservation status (refer to Box 1), where all of the following conditions are satisfied	Potential Impact	Mitigation	Likely significant effect
			adjacent areas to the south would remain intact and the loss is not significant. The new slip road would be greater in height than the existing A55 and may affect the sightlines for oystercatchers to adjacent fields. However, grazed fields closer to the shore and utilised by oystercatchers would be retained.	incidences as part of Scheme.	

8. MONITORING AND REPORTING

8.1 Monitoring

8.1.1 Monitoring for birds which are a feature of the SPAs would be undertaken during construction by the appointed ECOW and any occurrences and behaviour would be noted and reported. It is likely that birds would be deterred by and displaced from utilising the fields due to construction activities. Key habitats associated with the designated sites would be retained and left undisturbed, and as such these would not be subject to monitoring. It is recommended that the disturbed areas are subject to monitoring based on six 'Through The Tide Counts' (TTTC) with monthly surveys between October and March during the three-year aftercare period.

8.1.2 During the construction phase, monitoring of the works to identify impacts on the water environment would be undertaken. Full details would be included in the pre-CEMP. Monitoring would include, but would not be limited to:

a) Regular visual inspection of all discharges into the existing drainage system and into the sea;

b) Regular inspection of surface water runoff control measures to ensure that sediment is not transported off site; and

c) Regular inspection of plant that contain fuels or chemicals to ensure there is no risk of spillage.

8.1.3 No air quality or noise pollution monitoring would be required.

8.2 Reporting

8.2.1 During the construction phase survey results in respect or water quality will be reported annually and discussed with NRW and Welsh Government. Any issues that are identified as part of these surveys will be discussed and addressed as and when they arise.

8.2.2 During the contractor's aftercare period (three years) regular monitoring visits (as a minimum at least one visit per year) would be undertaken to monitor the performance of the mitigation, including the establishment of tree, shrub and hedgerow planting.

8.2.3 Reports would then be prepared for the Project Manager giving the results of each visit, any requirements for additional maintenance work and indicating how the scheme of mitigation is performing against agreed indicators. An annual report will bring these together at the end of each year of aftercare. At the end of the aftercare period a Handover Environmental Design Performance Report (HEDPR) will be prepared. The HEDPR will accompany the Handover Environmental management Plan to assist NMWTRA in taking on the long-term maintenance.

8.2.4 The results and detailed analysis from the post construction monitoring in respect of wintering birds will be reported annually and discussed with NRW and WG.

8.2.5 Monitoring reports would be issued to NRW for review and to ensure SIAA compliance. Monitoring results will be reviewed against the conclusions of the SIAA to ensure compliance.

9. CONSULTATION

9.1 Summary

9.1.1 During development of the Scheme, consultation has been undertaken with, or information requested from, several organisations including (but not limited to) Statutory and non-statutory consultees, interest groups, commercial, industrial and business operators, The general public (mainly from the local and surrounding communities).

9.1.2 A Public Information Exhibition (PIE) was undertaken during three days in December 2017, based in community buildings in Llanfairfechan, Penmaenmawr and Dwygyfylchi. A bilingual Information Leaflet about the Scheme was delivered in advance to the relevant communities. Exhibition boards were displayed and members of the project team, including technical experts, were available to answer any questions and explain how the public could express their opinions formally.

9.1.3 Feedback at the exhibition was invited from those who attended the exhibition through a questionnaire survey and enquiry form. The feedback was taken into consideration during subsequent selection and development of the route options.

9.1.4 The options were then shown to the community during a 12-week Public Consultation in June, July and August 2018. A Public exhibition was held between the 12th and 14th of June 2018, with a viewing held for local politicians in Conwy Business Centre in the evening of Monday the 11th Ramboll - A55 Junction 15 Environmental Statement Chapter 4 Methodology 4-18 June 2018. Subsequent day-long exhibitions were held in Llanfairfechan, Dwygyfylchi and Penmaenmawr in June 2019. Once again feedback was invited and received using questionnaires.

9.1.5 The first Environment Liaison Group (ELG) meeting was held in May 2018 with the second held in May 2019. These meetings were attended by representatives of Natural Resources Wales (NRW), Conwy County Council (CCC), Cadw, Welsh Government and North and Mid Wales Trunk Road Agency (NMWTRA).

9.1.6 Natural Resources Wales (NRW) and the County Council Ecologist have been engaged in discussions over the methods and extent of ecological surveys (13th June 2018).

9.1.7 An Environmental Impact Assessment Scoping Report was issued to the Welsh Government and the Environmental Liaison Group in February 2019.

9.1.8 The AIES screening report was submitted to the Employers Agent in March 2019.

9.1.9 Consultation was sought from NRW in order to obtain their opinion on the result of the SIAA. A response was received on the 22nd May 2020. The response is provided as Appendix H.

10. CONCLUSIONS

10.1 Integrity of sites checklist

10.1.1 LA 115 recommends that clear answers to the following four questions (a to d) should be provided (based on the information presented) when conducting an SIAA. These are addressed in turn here, in relation to the sites that were considered in the Appropriate assessment.

a) Is the proposal directly connected with or necessary to site management for nature conservation?

10.1.2 The Scheme is neither connected with or necessary to site management for any of the European sites considered within this document.

b) Is the proposal likely to have a significant effect on features on the site of European Importance, alone or in combination with other plans or projects?

10.1.3 An assessment of effects on features of interest of the site in combination with other plans and projects has been carried out (cumulative impacts). This identified that potential pollution incidences may affect features of interest. However, assuming that the projects adopt good-practice mitigation measures to avoid pollution and control effects on water quality, noise and other aspects of the environment, then there are unlikely to be significant in-combination adverse effects on the conservation objectives of designated sites. Inter-relationships with other environmental disciplines would be managed and controlled by PEU mitigation including noise and pollution prevention. No significant effects are envisaged.

c) What are the implications of the effects of the proposal on the sites conservation objectives and will it delay or interrupt progress towards achieving the objectives?

10.1.4 The potential of a likely significant effect on the Conservation Objectives for each feature of the designated sites (where this information is available) has been assessed. It has been concluded that assuming the implementation of the mitigation measures integral to the scheme and as outlined in 7.1 that the Scheme will not adversely affect the conservation objectives nor delay or interrupt progress towards achieving these for each feature of interest.

d) Can it be ascertained that the proposal will not adversely affect the integrity of the site beyond reasonable scientific doubt.

10.1.5 Whether the Scheme would have an adverse effect on the integrity of the sites has been determined whether, following the implementation of and required mitigation measures, the Scheme would affect the achievement of the conservation objectives for the European sites. Each of these have been assessed, where required in Section 7.3. The assessment concluded that the residual effects of the Scheme would not affect the achievement of any of the conservation objectives for the site.

10.1.6 There would be no direct effects to habitats associated with the SAC.

10.1.7 No effects on the conservation objectives of the qualifying bird species of the SPAs are expected. There will be no direct land take effects upon habitats within the designated sites. However, habitats outside of the designated sites are used by birds which are features of interest of the Traeth Lafan / Lavan Sands, Conwy Bay SPA Lavan Sands (oystercatcher and curlew). These species utilise the fields to the south of Junction 15 and Penmaen Park for refuge and foraging. Approximately 1.6% of the SPA population of oystercatcher were recorded (105 individuals) and 1.4% of the SPA population of curlew (28 individuals). Within the wider context of the extent of available habitats, the proportion of habitat lost from land take from the Scheme is minimal and the species mentioned above are not heavily reliant on the habitats offered within the Scheme area.

10.1.8 The 'Integrity of Site Checklist and other indicators provided in Table C.1 and C.2 of LA 115 was used to ascertain whether the proposed Scheme would not adversely affect the integrity of any of the sites considered in the Appropriate Assessment. Table 17 provides a summary.

10.1.9 Best professional judgement was used to answer the questions, supported by information outlined in this SIAA and accompanying ES and Wintering Bird Survey Report.

Table 17: Integrity of site checklist and other indicators

European site	Traeth Lafan / Lavan Sands, Conway Bay SPA	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC	Liverpool Bay / Bae Lerpwl (Wales) SPA
Cause delays in progress towards achieving the conservation objectives of the site?	No	No	No
Interrupt progress towards achieving the conservation objectives of the site?	No	No	No
Disrupt those factors that help to maintain the favourable conditions of the site?	No	No	No
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	No	No	No
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	No	No	No
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No	No	No
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No	No	No
Reduce the area of key habitats?	No	No	No
Reduce the population of key species?	No	No	No
Change the balance between key species?	No	No	No
Reduce the diversity of the site?	No	No	No
Result in disturbance that could affect population size or density of the balance between key species?	No	No	No
Result in fragmentation?	No	No	No
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc)?	No	No	No

10.1.10 The answers to these questions is 'no', therefore it is considered that the Scheme would not adversely affect the integrity of any of the sites.

10.1.11 Therefore, for the purposes of Regulations 63 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, based on the information provided in this assessment, it is concluded that no adverse effect on the integrity of the designated sites or their features of interest is predicted as a result of the Scheme, either alone or in combination with other plans or projects.

11. REFERENCES

Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Countryside Council for Wales (March 2008) *Core Management Plan including Conservation Objectives for Traeth Lafan/Lavan Sands, Conwy Bay SPA (incorporating a section of Y Fenai a Bae Conwy/Menai Strait and Conwy Bay SAC*

DMRB (2019) Sustainability & Environmental Appraisal LA 115 Habitat Regulations assessment (formerly HD 44/09) Revision 0

European Commission, (2000) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC

HMSO, Statutory Instrument 2019 No 579. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 No. 579

JNCC (July 2018) UK Protected Sites. Retrieved from http://jncc.defra.gov.uk/ProtectedSites/SACselection

Natural Resources Wales. Menai Strait & Conwy Bay / Y Fenai a Bae Conwy SAC. *Advice Under Regulation 37 of The Conservation of Habitats and Species Regulations 2017.* NRW.

Nisbett, K., & Murphy, M. (2012) *Liverpool Bay / Bae Lerpwl SPA Advice Under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended) Version 6.5.* NE, CCW, WG

Owen M. (2017) *A55 Junctions 15 & 16 Wintering Bird Survey Report 2017/1018*

Planning Policy Wales (Edition 10 – December 2018)

SIAA - APPENDIX A
SCHEME OPTION – LAYOUT APPROVAL

Notes

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.
3. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.

KEY

NON MOTORISED USERS (NMU) ROUTES:
- PUBLIC RIGHT OF WAY
- PUBLIC RIGHT OF WAY (TO BE DIVERTED)
- CYCLE ROUTE

VEHICLE RESTRAINT SYSTEMS:
- PROPOSED TERMINAL
- PROPOSED STEEL VRS
- PROPOSED CONCRETE STEP BARRIER
- PROPOSED BARRIER GATE
- PROPOSED PARAPET

LIGHTING:
- PROPOSED LIGHTING COLUMN
- EXISTING LIGHTING COLUMN TO REMAIN
- EXISTING LIGHTING COLUMN TO BE REPLACED

ROAD SIGNAGE:
- PROPOSED ROAD SIGN

STRUCTURES:
- PROPOSED RETAINING WALL / STRUCTURE

ACCESS:
- PMA
- MAINTENANCE ROUTE
- 1 STOCK PROOF FENCING
- 2 TIMBER POST & RAIL FENCING
- 3 ENVIRONMENTAL FENCING
- ACCESS GATE
- CONSTRUCTION COMPOUND

DRAINAGE:
- PROPOSED DRAINAGE DITCH
- PROPOSED DRAINAGE PIPE / CULVERT
- FD PROPOSED FILTER DRAIN
- PROPOSED ATTENUATION

EXISTING UTILITIES:
- TAKEN FROM RECORDS

CONNECTIVITY OF EXISTING DRAINAGE OUTFALLS TO BE CONFIRMED BY SURVEY

CYCLEWAY IMPROVEMENT THROUGH SEAWALL TO SHORE ROAD EAST

EXISTING ACCESS TRACK RESURFACED TO PROVIDE IMPROVED PEDESTRIAN / CYCLE ROUTE TO REPLACED BRIDGE

PROPOSED CULVERT CONNECTING TO EXISTING DRAINAGE NETWORK

SHARED ACCESS

BUS STOP LAY-BY

BUS STOP LAY-BY

REPLACEMENT HEADWALL AND NEW CASCADE TO CONVEY EXISTING WATERCOURSE DOWN PROPOSED EARTHWORK SLOPE

NCN ROUTE 5 REALIGNED TO NEW ROAD ALIGNMENT

PROPOSED CULVERT CONNECTING TO EXISTING DRAINAGE NETWORK

SHARED ACCESS

LOW RETAINING WALL

POSSIBLE WATER MAIN DIVERSION ROUTE

EXISTING STEPPED ACCESS RENEWED

CYCLE ROUTE PROVIDED IN SOUTHERN VERGE INTO LLANFAIRFECHAN

METRES @ 1:1250 0 10 25 50 125

INSET A
(JUNCTION 14 IMPROVEMENTS)

EXISTING SLIPS INCREASED IN LENGTH AND WIDTH

EXISTING SLIPS INCREASED IN LENGTH AND WIDTH

SHEET LOCATION PLAN

Rev	Description	Date	By	Chk	App
P04	PRELIMINARY ISSUE	xx/xx 2019	DB	NB	RG
P03	PRELIMINARY ISSUE	06/08 2019	DB	NB	RG
P02	PRELIMINARY ISSUE	30/07 2019	DB	NB	RG
P01	DRAFT ISSUE	12/07 2019	DB	NB	SC

PRELIMINARY

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru
Welsh Government

RML YGC PERSONA ASSOCIATES

RAMBOLL

tel 01224 652 200 fax 01224 652 244 info@altra.co.uk
www.ramboll.co.uk

JUNCTION 15 LAYOUT APPROVAL PLAN

SHEET 1 OF 2

Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:1250	DB	JULY 19

Drawing No: A55J15J16-RAM-XX-15-DR-J-2000 Rev: P03

16/10/2019 17:03:43

Notes

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.
3. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.

EXISTING ACCESS TRACK RESURFACED TO PROVIDE IMPROVED PEDESTRIAN / CYCLE ROUTE TO REPLACED BRIDGE

EXISTING FOOTBRIDGE REPLACED

NCN ROUTE 5 DIVERTED ON TO NEW ROUTE

NCN ROUTE 5 DIVERTED ON TO NEW ROUTE

SOUTHERN FOOTWAY WIDENED TO PROVIDE IMPROVED CYCLE ROUTE

PENMAENMAWR RD

SOUTH STREET

TYDDYN DRYCIN

Mean High Water

Sloping masonry

Rock and Boulders

Shingle and Boulders

Sand

Track

Path (um)

Incline (Dis)

Gantry

MP 5

METRES @ 1:250 0 10 25 50 125

SHEET LOCATION PLAN

KEY

NON MOTORISED USERS (NMU) ROUTES:
- PUBLIC RIGHT OF WAY
- PUBLIC RIGHT OF WAY (TO BE DIVERTED)
- CYCLE ROUTE

VEHICLE RESTRAINT SYSTEMS:
- PROPOSED TERMINAL
- PROPOSED STEEL VRS
- PROPOSED CONCRETE STEP BARRIER
- PROPOSED BARRIER GATE
- PROPOSED PARAPET

LIGHTING:
- PROPOSED LIGHTING COLUMN
- EXISTING LIGHTING COLUMN TO REMAIN
- EXISTING LIGHTING COLUMN TO BE REPLACED

ROAD SIGNAGE:
- PROPOSED ROAD SIGN

STRUCTURES:
- PROPOSED RETAINING WALL / STRUCTURE

ACCESS:
- PMA
- MAINTENANCE ROUTE
- STOCK PROOF FENCING
- TIMBER POST & RAIL FENCING
- ENVIRONMENTAL FENCING
- ACCESS GATE
- CONSTRUCTION COMPOUND

DRAINAGE:
- PROPOSED DRAINAGE DITCH
- PROPOSED DRAINAGE PIPE / CULVERT
- PROPOSED FILTER DRAIN
- PROPOSED ATTENUATION

EXISTING UTILITIES:
- TAKEN FROM RECORDS

Rev	Description	Date	By	Chk	App
P04	PRELIMINARY ISSUE	xx/xx 2019	DB NB		RG
P03	PRELIMINARY ISSUE	06/08 2019	DB NB		RG
P02	PRELIMINARY ISSUE	30/07 2019	DB NB		RG
P01	DRAFT ISSUE	12/07 2019	DB NB		SC

PRELIMINARY

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru
Welsh Government

RML YGC PERSONA ASSOCIATES

RAMBOLL

tel 01224 652 200 fax 01224 652 244 info@altra.co.uk
www.ramboll.co.uk

JUNCTION 15 LAYOUT APPROVAL PLAN

SHEET 2 OF 2

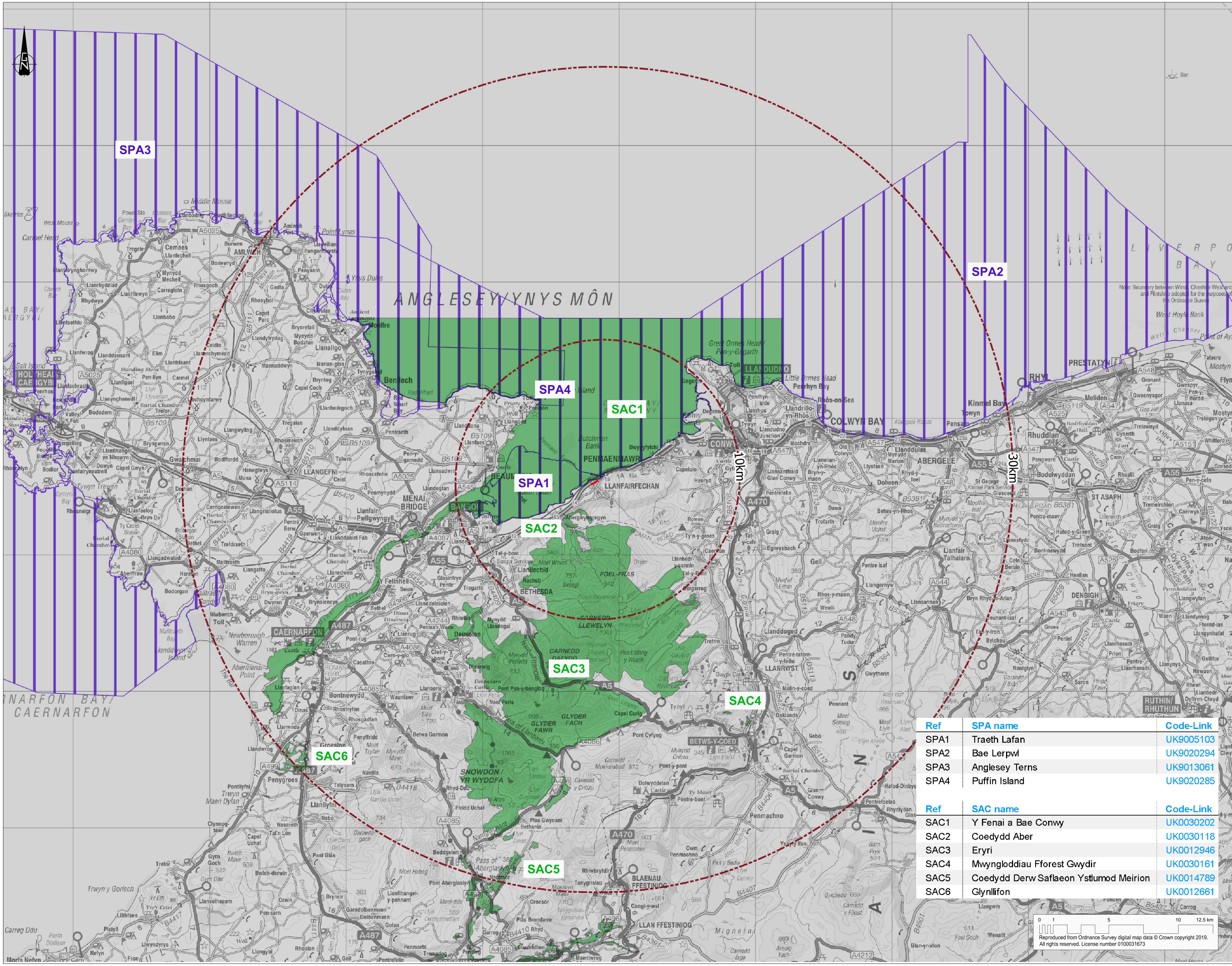
Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:1250	DB	JULY 19

Drawing No: A55J15J16-RAM-XX-15-DR-J-2001

Rev: P03

16/10/2019 17:05:19

SIAA - APPENDIX B
DESIGNATED SITES LOCATION PLAN



Ref	SPA name	Code-Link
SPA1	Traeth Lafan	UK9005103
SPA2	Bae Lerpwl	UK9020294
SPA3	Anglesey Terns	UK9013061
SPA4	Puffin Island	UK9020285

Ref	SAC name	Code-Link
SAC1	Y Fenai a Bae Conwy	UK0030202
SAC2	Coedydd Aber	UK0030118
SAC3	Eryri	UK0012946
SAC4	Mwyngloddiau Fforest Gwydir	UK0030161
SAC5	Coedydd Derw Saflaeon Ystlumod Meirion	UK0014789
SAC6	Glynllifon	UK0012661

Notes

- Scheme location
- Fixed distance buffer (10 and 30 km)
- Special Protection Area
- Special Area of Conservation

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru Welsh Government

tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

JUNCTION 15
FIGURE 8.1
INTERNATIONALLY DESIGNATED NATURE CONSERVATION SITES

Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:250,000	RLJ	FEB 20

Drawing No:	Rev:
A55J15J16-RML-30-15-DR-X-0801	01

20/02/2020 15:58:46

SIAA - APPENDIX C
SCREENING REPORT

Intended for
Welsh Government

Document type
Report

Date
February 2019

A55 JUNCTION 15

ASSESSMENT OF IMPLICATIONS FOR EUROPEAN SITES (AIES) INITIAL SCREENING ASSESSMENT

Llywodraeth Cymru
Welsh Government

RAMBOLL

RICHARDS MOOREHEAD & LAING LTD
ENGINEERING, ENVIRONMENTAL and LANDSCAPE CONSULTANTS

CYNGOR GWYNEDD COUNCIL

A55 JUNCTION 15
ASSESSMENT OF IMPLICATIONS FOR EUROPEAN SITES (AIES) INITIAL SCREENING ASSESSMENT

Project name	**A55 Junctions 15 & 16**
Project no.	**RML 3066**
Recipient	**Welsh Government**
Document type	**Report**
Version	**P03**
Date	**19/03/2019**
Prepared by	**Donna Hall**
Checked by	**Andrew Sumner [RML Approved: IG Richards]**
Approved by	**Rob Griffiths**
Description	**Habitats Regulations Initial Screening Assessment**

Ref A55J15J16-RML-30-ZZ-RP-X-0015

Ramboll
2nd Floor, The Exchange
St. John Street
Chester
CH1 1DA
United Kingdom

T +44(0)1244 311855
https://uk.ramboll.com

Ramboll UK Limited
Registered in England & Wales
Company No: 03659970
Registered office:
240 Blackfriars Road
London
SE1 8NW

CONTENTS

APPENDICES

1. THE PROJECT

1.1 Context

1.1.1 The A55 trunk road is a key element of the UK and European strategic road network and provides the main economic artery for the whole of North Wales. The A55 forms part of Euroroute 22, which is the Trans European Route from Dublin in Ireland to Ishim in Russia. Of the 235 miles of E22 in the UK, the two at-grade roundabouts at Junction 15 at Llanfairfechan, and Junction 16 between Penmaenmawr and Dwygyfylchi, are the only roundabouts on the route from Holyhead to Hull and hence are a constraint to the smooth flow of traffic on this strategic route and this has led to increased journey times and poor journey time reliability.

1.1.2 Improvement schemes are proposed for both the existing junctions 15 and 16, but this AIES Initial Screening Assessment Report covers only Junction 15. The Welsh Government appointed Ramboll, Richards Moorehead & Laing (RML) and Ymgynghoriaeth Gwynedd Consultancy (YGC) as their technical and environmental advisors and appointed Corderoy with WSP and TACP as Employer's Representative, to develop and consider a range of options with the intention of identifying a preferred solution for the junction and then developing the design up to publication of draft Orders.

1.1.3 Junctions 15 and 16 of the A55 have been subject to a number of recent studies as they are the only at-grade roundabout interchanges on this major North Wales trunk road. An initial study and assessment was carried out by Capita Symonds and completed in 2005. This developed three options for junction 15. In February 2008 Atkins was commissioned by the North and Mid-Wales Trunk Road Agency (NMWTRA) to examine road safety improvements along the A55 in the vicinity of Llanfairfechan and Penmaenmawr, with a focus on considering options for removing the at-grade roundabout.

1.1.4 The study included a stakeholder workshop on the options, traffic data collection and modelling, some local topographical survey, preliminary environmental assessments and an initial Stage 1 WelTAG appraisal. This study which was completed in April 2009 concluded that new grade-separated options should be progressed to provide safety improvements.

1.1.5 In February 2011 following inclusion of the scheme in the Welsh Government's National Transport Plan, Atkins was instructed again to review options, address potential alternatives and hold an Options Workshop. The scheme options and cost estimates developed to date were reviewed and new options developed and priced at the two junctions.

1.1.6 In October 2017 the current project team were commissioned to undertake the Stage 2 appraisal in accordance with the new WelTAG 2017 guidance. A review of Stage 1 was carried out first, and a range of options for further consideration was selected from those previously developed. A Public Information Exhibition (PIE) was held in December 2017 and the views of those who responded in the questionnaire were taken into consideration in the WelTAG Stage 2 Appraisal.

1.1.7 In the Stage 2 Appraisal five options for Junction 15 were considered. These were taken to the statutory 12-week Public Consultation which commenced in June 2018. The public response in questionnaires was taken into consideration in the appraisal to identify an option that could be recommended to Ministers as a possible Preferred Route.

1.1.8 At the completion of the Weltag Stage 2 process and subject to Welsh Government acceptance of the recommendations, we have been able to advise on a route option for junction 15. The formal public consultation process on the options was extended by several weeks to allow the Local Authority to respond to the consultation. At the time of writing the WG have not made a formal Preferred Route Announcement. It is expected that in February, the Minister will make a formal Preferred Route Announcement. In the meantime, the WG have advised to continue to develop the Scheme and EIA process in advance of the Preferred Route Announcement.

1.1.9 The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15).

1.2 Scheme Objectives

1.2.1 A number of transport planning objectives have been developed iteratively during previous development work and engagement on the A55 Junctions Improvement Scheme project, aiming to address one or more of the identified problems. Between October 2017 and June 2018, the project objectives developed in 2009 were refreshed during a focused workshop to take into account the WelTAG 2017 guidance and the Well-being of Future Generations (Wales) Act well-being goals.

1.2.2 The scheme objectives are:

OBJ1 Improve access to regional, national and international markets and improve access to employment opportunities

OBJ2 Improve road safety on the A55 from Junction 14 to Junction 16A

OBJ3 Improve journey times and journey time reliability on the A55 from Junction 14 to Junction 16A

OBJ4 Improve resilience on the A55 for strategic and local traffic

OBJ5 Improve journey times, journey time reliability and safety for access onto the A55 from Llanfairfechan and Penmaenmawr

OBJ6 Reduce severance with coastal areas for the Non-Motorised Users and enhance provision made for walkers and cyclists

OBJ7 To take reasonable steps to build healthier communities and better environments

OBJ8 Opportunities to provide integrated transport are increased

TECH OBJ Minimising technical departures from standards

TECH OBJ Minimising need to reduce speed limits

TECH OBJ Minimising disruption during construction

1.3 Purpose of This Report

1.3.1 This report has been prepared to provide initial information to the Welsh Ministers ("the Competent Authority") on the implications of the Scheme on European Sites as required by Regulation 61 of the Conservation of Habitats and Species Regulations 2017 (the "Habitats Regulations"). European Sites are those sites which support habitat types and species which are considered to be most in need of conservation at a European level and are more broadly referred to as Natura 2000 sites. Within the UK, sites supporting the most representative or best example of habitats and non-bird species are designated as Special Areas of Conservation (SAC). Those sites supporting significant numbers of birds at a European level, including wintering, breeding and migratory populations, are designated as Special Protection Areas (SPA).

1.3.2 This report covers Stage 1 (Test of Likely Significant Effects) of the Assessment of the Implications on European Sites (AIES) process as set out in HD44/09, Volume 11, Section 45 of the Design Manual for Roads and Bridges (2009) (DMRB).

1.3.3 While the Design Manual for Roads and Bridges (2008) (DMRB) has been withdrawn, the Guidance outlined in Volume 11 (HD44/09) still provides relevant direction in relation to the Assessment of the Implications on European Sites process. It is the intention of the project team to continue to use DMRB Volume 11 (2009) as the basis for this project AIES.

1.4 Requirements of the Habitats Regulations

1.4.1 The Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna provides legal protection for habitats and species of European importance. The Directive is transposed into UK law by the Conservation of Habitats and Species Regulations 2017 SI 2017/1012 (hereafter referred to as the 'Habitats Regulations'). Regulation 63 of the Habitats Regulations requires the competent authority, to consider whether the plan or project:

a) Is likely to have a significant effect on a European site (either alone or in combination with other plans or projects)
b) Is not directly connected with or necessary to the management of that site, and in such cases, they must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

1.4.2 Where there is a Likely Significant Effect (LSE), (or such an effect cannot be discounted) and the plan or project is not connected with or necessary to the management of the site then the competent authority must make an 'appropriate assessment' of the implications for that site in view of its conservation objectives.

1.4.3 In the light of the conclusions of the assessment, the competent authority may agree to the plan or project only after having ascertained that the project will not, alone or in-combination with other plans and projects, adversely affect the integrity of the European site. The only exceptions are where there are no alternatives and there are imperative

reasons of overriding public interest, in which case compensatory measures must be adopted if the Scheme is to proceed.

1.4.4 Under the contract the project team are required to undertake an Assessment of Implications for European Sites (AIES) which will include Natura 2000 sites identified previously, and newly-designated and candidate sites. The assessment is carried out in stages which commence with Stage 1, the Test of Likely Significance of the Assessment of the Implications on European Sites (AIES). If required, a Stage 2 Statement to Inform an Appropriate Assessment (SIAA) will be prepared.

1.5 Aims for This Document

1.5.1 The aims of this document are to provide information on:

a) Identification of which European Sites are in the potential range of influence of the Scheme
b) Identification of the potential of the Scheme to give rise to effects on European Sites
c) Identification of the relevant qualifying interests/interest features of each European Site being considered
d) Identification of the relevant Conservation Objectives of these features and European Sites
e) Identification and characterisation of the potential impacts of the Scheme before mitigation
f) Identification of other plans or projects which may cause effects on the European sites and the features of interest of the sites
g) Characterisation of the significance of the potential in-combination effects with other plans and projects
h) Consideration of effects in relation to Conservation objectives.

1.6 Personnel and Quality Assurance

1.6.1 This report has been authored by Donna Hall, Principal Ecologist to RML, who is the ecology lead for this scheme. She is a full member of CIEEM with over 13 years of experience working within multi-disciplinary consultancies. Donna holds Natural England survey licenses (all counties) for bats (Class 2), great crested newts and the white-clawed crayfish and survey licenses for great crested newts and bats which cover all counties in Wales.

2. THE PROPOSED DEVELOPMENT

2.1 Description of the scheme

2.1.1 The A55 expressway is a dual carriageway between Chester and Holyhead which generally runs east to west in parallel with the north Wales coast. Between Conwy and Llanfairfechan the A55 follows a tightly constrained corridor to pass the northern extreme of the Snowdonia massif where the mountainous terrain abuts the coast and splits the coastal plain. Tunnels carry the road through the headlands at Penmaenbach and Pen-y-Clip. Junction 15, along with Junction14a, serves the settlement of Llanfairfechan to the west of Penmaenbach tunnel, while Junction 16, along with Junction 16a, serves the town of Penmaenmawr and village of Dwygyfylchi.

2.2 Junction 15 – Options appraisal

2.2.1 There were five options for consideration at Junction 15. All the options under consideration replace the existing roundabouts with a different form of junction that will allow free-flowing traffic on the A55 dual-carriageway. These are detailed in Appendix A.

2.2.2 Option A: Of all the options being proposed at junction 15, this option has the smallest footprint and would have the least immediate impact on the surrounding land. However, the option only allows for two-way movement of traffic. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting.

2.2.3 Option B: This option provides four-way movement by utilising an overbridge. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting, as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).

2.2.4 Option C: This option provides two-way movement, with slip roads on and off the A55 for traffic travelling towards and from the east. Traffic travelling to and from the west would need to be diverted to Junction 14, where minor improvements would be required. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road.

2.2.5 Option D: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).

2.2.6 Option E: This option is similar to D, in that it provides four-way movement by utilising an overbridge with a T-Junction to the north of the A55. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of The Heath building which will need to be demolished. This building is considered to have moderate potential to support bats, as well as occupation by nesting swifts which would return each year.

2.3 Preferred Option

2.3.1 At the time of writing the WG be making a formal Preferred Route Announcement during early 2019. The option that has been recommended to Welsh Government is Option D, which is illustrated and briefly described in Appendix A (a scheme which keeps the proposed junction in the area of the existing J15), this is the option which will be assessed under Regulation 63.

3. METHODOLOGY

3.1 AIES methodology

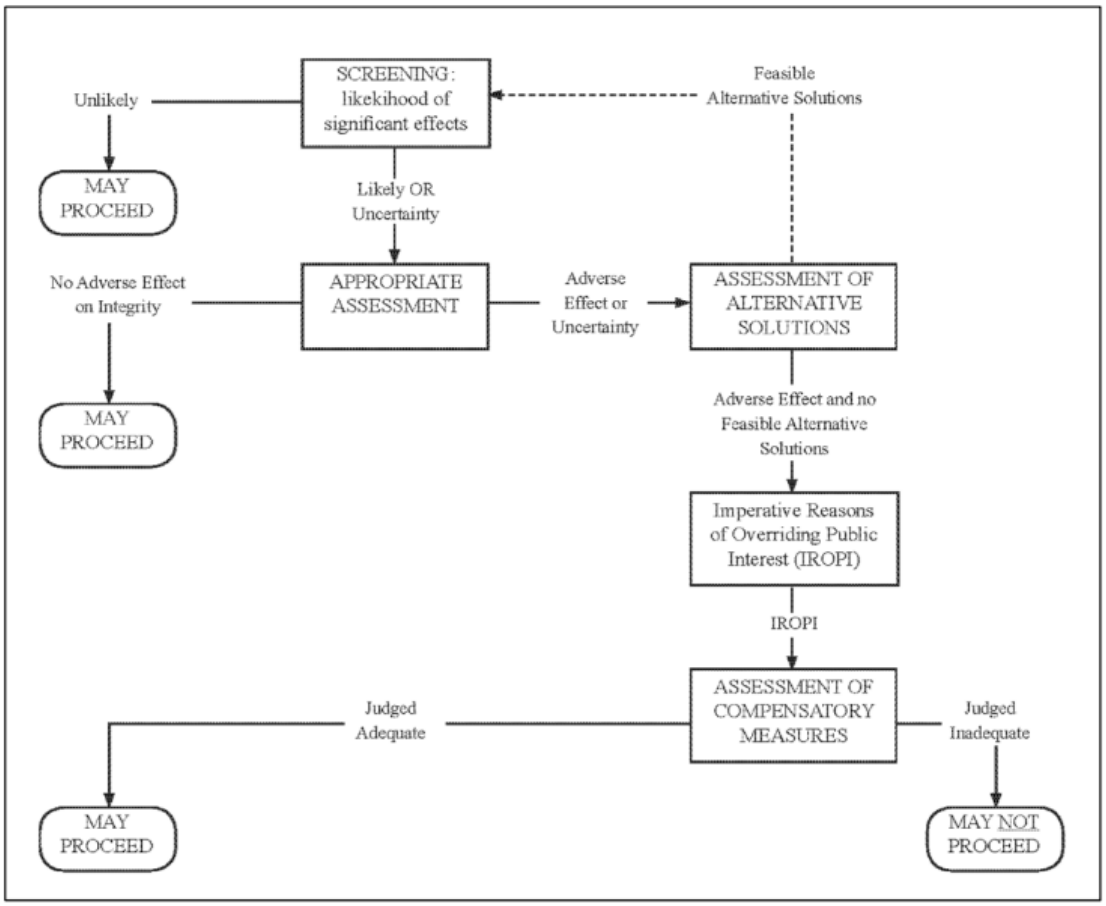
3.1.1 This section sets out the applicable methodologies and assumptions for the consideration of the Junction 15 improvement works with regard to the requirements of the Habitats Regulations (2017) and the AIES process as set out in DMRB HD44/09 guidance (Highways Agency, 2009).

3.1.2 This report covers the first of five stages which constitute an AIES process. The first stage is Screening; this and the remaining stages are shown as follows:

a) Stage 1: Screening
b) Stage 2: Appropriate Assessment
c) Stage 3: Alternative Solutions
d) Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)
e) Stage 5: Compensatory Measures

3.1.3 The relationship between the five stages is shown on the flowchart below:

Figure 1: Stages of Assessment



(*Source: DMRB, Volume 11 Environmental Assessment, HD 44/09 Assessment of Implications (of highways and/or roads projects) on European sites (including appropriate assessment*)

3.2 Policy and guidance

3.2.1 The following relevant policy and guidance documents have been considered in this screening assessment:

a) Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora

b) Design Manual for Roads and Bridges (DMRB), Volume 11, Section 4, Part I, HD44/09 Assessment of implications (of highways and/or roads projects) on European Sites (including appropriate assessment) (Highways Agency, 2009)

c) HMSO, Statutory Instrument 2017 No 1012. The Conservation of Habitats and Species Regulations 2017

d) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC (European Commission, 2000)

e) Planning Policy Wales (Edition 10 – December 2018)

f) The Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission, 20011)

g) Tyldesley, D. (2011). Assessing projects Under the Habitats Directive: Guidance for Competent Authorities. Bangor: Countryside Council for Wales

h) Tyldesley, D., & Chapman, C. (2013). The Habitats Regulations Handbook. DTA Publications

i) Well-being of Future Generations (Wales) Act 2015;

j) Welsh Government Technical Advice Note (TAN) 5 Nature Conservation and Planning, in particular Section 5: Development affecting designated sites and habitats (Welsh Government, 2009).

3.2.2 The Well-being of Future Generations Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.

3.3 Evidence Base

3.3.1 The following organisations' websites were used to gather information on the European protected sites that may be potentially affected by the Junction 15 improvement works.

a) European Nature Information System (EUNIS)
b) Natural Resources Wales (NRW)
c) Joint Nature Conservation Committee (JNCC)

[1] http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf

3.3.2 Core Site Management Plans published by NRW were used to gather information on European Sites. These documents provide the main elements of NRW's management plan for protected sites and sets out what needs to be achieved on the sites, the results of monitoring and the actions required.

3.3.3 A desk study has been undertaken on the 27th September 2017 and updated on the 15th October 2018 to review records of species from Cofnod (the north Wales Environmental Records Centre).

3.3.4 Ecological surveys have been undertaken as part of the Environmental Impact Assessment (EIA) process and to date have included:

a) Extended Phase 1 Habitat surveys conducted in November 2017 and updated in June 2018
b) Bat activity surveys which included five transect surveys conducted in June 2018 - September 2018 (inclusive) and the deployment of static bat detectors at suitable locations within the scheme options footprint. These were deployed each month and left in situ for five nights. Emergence and return to roost surveys were conducted at properties which may be demolished. This included two surveys at the Heath, one dusk survey conducted on the 31st July 2018 and one dawn conducted on the 14th August 2018, an internal inspection was also conducted to the Heath building on the 3rd September 2018, static detectors were deployed in the roof void and left in situ for one week. An emergence survey was conducted to the flats which may be demolished located on Penmaenmawr Rd on the 17th July 2018
c) Over wintering bird surveys. A total of six Through The Tide Count (TTTC) surveys was completed, with monthly surveys between October 2017 and March 2018 (inclusive)

3.4 Identifying Sites

3.4.1 The first step of the AIES (Stage 1: Screening Assessment) is to identify all of the European sites that could potentially be affected following DMRB HD44/09 guidance.

3.4.2 DMRB Guidance (HD44/09) states that consideration should be given to any European Sites within 2km of the route corridor or project boundary. In addition, consideration should be given to any SACs within 30 km where bats are noted as one of the qualifying interests. Similarly, where a project will potentially cross or will lie adjacent to, upstream of, or downstream of, a watercourse which is designated in part or wholly as a SAC or Special Protection Areas (SPA), consideration should be given to potential impacts on European Sites within the same river, lake or reservoir catchment, or at greater distance if an effect pathway exists.

3.4.3 In line with HD44/09 professional judgement has been exercised when considering the effect pathways on mobile species which occupy land outside of the designated site boundary, but which are qualifying features of the sites.

3.4.4 The sites which need to be considered for assessment in terms of air quality effects are those within very close proximity (normally within 200m) of the affected road network as set out in HA207/07 (HA, 2007).

3.5 Conservation Objectives

3.5.1 Conservation objectives of each feature of interest of the European Sites potentially affected were reviewed. In Wales, conservation objectives are considered to consist of the vision and performance indicators stated in the relevant Core Management Plan available from Natural Resources Wales website. For each of the sites the relevant qualifying features of interest were also collated and examined.

3.6 Identification of Plans or Projects Considered for in-Combination Effects

3.6.1 A requirement of the Habitat Regulations is to also examine the potential for a plan or project to have a significant effect either alone or in combination with other plans and projects. These include those with spatial and/or temporal overlap with Junction 15 (based on DMRB HD44/09), namely:

a) Trunk road and motorway plans or projects which have been confirmed
b) Developments and other projects which are currently under construction
c) Proposed developments which are currently under consideration with the local planning authority or other determining bodies
d) Local Plan commitments and indicative timescales for implementation

3.6.2 Following guidance in Tyldesley (2011), the following criteria were also used to confirm the types of projects to be considered in the in-combination assessment:

a) All projects started but not yet completed
b) All projects with consent but not yet started
c) All projects subject to ongoing review e.g. annual licences
d) All applications lodged but not yet determined
e) All refusals subject to appeal procedures not yet completed
f) All known projects that do not need consent
g) All proposals in adopted plans
h) All proposals in draft plans formally published for consultation.

3.6.3 It was therefore not considered appropriate to include projects which have not yet been submitted for consent. In some instances, however, it may be the case that there are known to be projects that will inevitably and necessarily follow on from other projects which have been formally proposed, and in such cases, it is necessary to consider these where they are necessary future requirements of the original development.

3.6.4 Following a judgment of the European Court of Justice (ECJ) in October 2005, it is also necessary to include as part of in-combination checks, the following proposals:

a) Allocations or other forms of proposals in adopted development plans; and
b) Allocations or other forms of proposals in draft development plans which have been published for consultation purposes.

3.6.5 When considering in-combination effects in the assessments for each site, the potential impact of the measure on the feature is the key consideration. A plan or project could have an effect on water quality which in isolation would not be a significant effect, however in-combination with other impacts, could be significant.

3.7 Identification of Impacts

3.7.1 Site clearance, construction and the operation of the scheme has the potential to give rise to the following impacts on European Sites:

a) Habitat loss and/or fragmentation
b) Reduction in air quality
c) Changes in water quality
d) Changes in hydrological conditions
e) Changes to structure/composition of the habitat
f) Increased noise and vibration
g) Increased lighting
h) Increased human presence
i) Barrier to movement of species
j) Mortality or injury of species form increased traffic (RTC)
k) Introduction and/or spread of Invasive Non-native Species (INNS)

3.7.2 The list above has formed the basis for considering the potential effect on the European Sites by identifying the sources or impacts and the pathways that could link those sources to the features of interest of the site (receptors).

3.7.3 The consideration of the potential impacts has also been informed by the conservation objectives for the features of interest of the European Sites.

3.8 Test of Likely Significant Effects (LSE)

3.8.1 The screening stage assesses the potential effects produced by the proposed scheme against the interest features of each European site, to determine whether there is an LSE. This is essentially a risk-based process to decide whether a more detailed assessment is required (alone and in-combination).

3.8.2 The screening for LSE involves identifying whether the proposed development is a source of potential effects that might affect any of the interest features of the relevant European sites. If there is such an effect, it is then necessary to determine whether there is a potential pathway through which the proposed development could affect the interest features of relevant European sites, the length of those pathways and what may reduce or prevent the potential effect reaching the relevant European sites. Where there is a source, a pathway and an effect that reaches the interest feature, it is judged that there is an LSE that requires more detailed assessment (i.e. appropriate assessment stage).

3.9 Professional Judgement

3.9.1 Professional judgement was used in the carrying out of this work where specific guidance was not available, and in the interpretation of results. Where there was insufficient information regarding the likelihood of qualifying interests being present, or of the risk of impacts, the assessment used the precautionary principle to inform the judgement. The precautionary principle has been applied to ensure that any assessment errs on the side of caution, without being overly cautious. This principle means that the conservation objectives should prevail where there is uncertainty or that harmful effects will be assumed in the absence of evidence to the contrary.

4. IDENTIFICATION OF EUROPEAN SITES

4.1 Sites

4.1.1 Seven sites have been identified within the 30km search area. These are detailed in Table 4 below and those closest to the site are provided on the figure in Appendix B.

Table 1 Relevant statutory designated sites

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC	Annex I habitats that are a primary reason for selection of this site: • 1110: Sandbanks which are slightly covered by sea water all the time • 1140: Mudflats and sandflats not covered by seawater at low tide • 1170: Reefs Annex I habitats present as a qualifying feature, but not a primary feature for site selection: • 1160: Large shallow inlets and bays • 8330: Submerged or partially submerged sea caves	Approximately 50m	The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing. The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. The conservation objectives do not aim to prevent all change to the habitat and species features, or to achieve an indefinable, abstract natural or pristine state, since these would be unrealistic and unattainable aspirations. Rather, they seek to prevent further negative modification of the extent, structure and function of natural habitats and species' populations by human activity and to ensure that degradation and damage to the features that is attributable to human activities or actions is prevented. Consequently, in order to meet the requirements of the Directive and ensure the site makes its appropriate contribution to conservation of biodiversity, the conservation objectives seek to; • Encompass inherent dynamism rather than to work against it • Safeguard features and natural processes from those impacts of human activity that cause damage

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			to the features through the degradation of their range, extent, structure, function or typical species; • Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.
Liverpool Bay / Bae Lerpwl (Wales) SPA	Over winter the area regularly supports; • A001 Red throated diver Gavia stellata (North-western Europe - wintering) 5.4% of the GB population 5-year peak mean 2001/02 - 2006/07 • A065 Common scoter Melanitta nigra (Western Siberia/Western & Northern Europe/North-western Africa) 3.4% of the population 5-year peak mean 2001/02 - 2006/07 • A117 Little gull Hydrocoloeus minutus (non-breeding) • A193 Common tern Sterna hirundo (breeding) • A195 Little tern S. albifrons (breeding)	Approximately 295 m	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring; • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site
Traeth Lafan / Lavan Sands,	Over winter the area regularly supports; • A130 Oystercatcher Haematopus ostralegus, 4,931 individuals representing at least 0.5% of the wintering	Approximately 50m	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied;

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
Conway Bay SPA	Europe & Northern/Western Africa population (5 year peak mean 1991/2 - 1995/6)		• The 5 year mean peak of the number of wintering oystercatchers is at least 4,000. • The abundance and distribution of cockles of 15mm or larger and other suitable food are maintained at levels sufficient to support the population with a 5 year mean peak of 4,000 individuals. • Oystercatchers are not disturbed in ways that prevent them spending enough time feeding for • survival. • Roost sites, including high tide roost sites, remain suitable for oystercatchers to roost undisturbed. • The management and control of activities or operations likely to adversely affect the oystercatchers, is appropriate for maintaining the feature in favourable condition and is secure in the long term.
Coedydd Aber SAC	Annex I habitats that are a primary reason for selection of this site; • 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site; • 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excels (Alno-Padion, Alnion incanae, Salicion albae)	2.1 km south west	Conservation objectives for 91A0; The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: • The woodland is maintained as far as possible by natural processes. • The location of open glades or gaps varies over time.

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			• Trees and shrubs are locally native, and neither beech nor conifers are dominant anywhere in the canopy or understorey. • Trees and shrubs of a wide range of ages and sizes are present. • Tree seedlings are plentiful throughout the site and where occurring in open glades develop into viable saplings. • Field and ground layers are a patchwork of various vegetation communities characteristic of local soil and humidity conditions. • There are abundant dead and dying trees (with holes and hollows, rot columns, torn off limbs and rotten branches) with associated dead wood dependent species present. • Humidity levels are high enough to favour the presence of ferns, mosses and liverworts. • The woodland continues to support populations of birds and mammals. • All factors affecting the achievement of these conditions are under control. Conservation objectives for 91E0; The vision for this feature is for it to be in favourable conservation status, where all of the following conditions are satisfied:

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			• The woodland is maintained as far as possible by natural processes. • The trees and shrubs will be locally native broadleaved species with alder dominating the canopy. • The sparse shrub layer will comprise a scattering of hazel, willow and rowan. • Seedlings will be relatively sparse throughout the site with only a few native seedlings from non-self-coppicing trees developing into saplings. • The majority of regeneration will be from the base of the alders by means of self-coppicing. • There will be abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches throughout the woodland. Dead wood, both standing and fallen, will be retained to provide habitats for other species. • Veteran trees will be favoured during any silvicultural management because they support a wide variety of species, including lichens. Old forest lichen species will be found throughout the sites, especially on well-lit trees around woodland edges and glades. • All factors affecting the achievement of these conditions are under control.

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
Mwyngloddi au Fforest Gwydir/ Gwydyr Forest Mines SAC	This SAC is a composite of numerous sites to the south of the site. Annex I habitats that are a primary reason for selection of this site; • 6130 Calaminarian grasslands of the Violetalia calaminariae Annex II species present as a qualifying feature at this site, but is not a primary reason for site selection: • 1303 Lesser horseshoe bat *Rhinolophus hipposideros*	20 km south	Conservation objectives for 6130: The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied; • The area of calaminarian grassland must be stable (based on the extent at the time of SAC notification), or increasing in the long term, and will occur in all management units. • The remainder of the management units not highlighted for calaminarian grassland will be maintained in a favourable condition for lesser horseshoe bat. • The calaminarian grassland can be described as either “calaminarian grassland with Ditrichum plumbicola” or “calaminarian grassland (metal spoil) without Ditrichum plumbicola”. • Broadleaf, coniferous, exotic and scrub species should be absent from the calaminarian grassland stands, because the above plants will shade out the slower growing moss and lichen species, and in time will smother the lower plants with litter material. • A 10m buffer, clear of coniferous vegetation, will be maintained around the stands of calaminarian grassland with D. plumbicola.

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			• Disturbance through human impact and recreation will be absent from the calaminarian grassland. • All factors affecting the achievement of these conditions are under control.
Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites SAC	This large composite site includes most of the known maternity roosts in Meirionnydd and some hibernacula and comprises the centre of distribution for lesser horseshoe bats in Wales. The sheltered river valleys provide excellent tree cover and numerous suitable maternity roosts. The presence of Lesser horseshoe bats at this site is a primary reason for its selection as a SAC. Annex I habitats that are a primary reason for selection of this site: • 91A0 Old Sessile oak woods with Ilex and Blechnum in the British Isles • 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Ano-Padion, Alnion incanae, Salicion albea) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • 3260 Water courses of plain to montane levels • with the Ranunculion fluitantis and • Callitrcho-Batrachion vegetation • 4010 North Atlantic wet heaths with Erica • tetralix • 4030 European dry heaths • 9180 Tilio-Acerion forests of slopes, screes and ravines	21.5 km south	Conservation objectives for 91A0 and 91E0: The vision for the Woodland SAC feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: • The total extent of the woodland area, including woodland canopy and scrub, woodland glades and associated dry heath, bracken and grassland shall be maintained, some 1826 ha in total. • The tree canopy percentage cover within the woodland area for the whole SAC no less than 80%, 87% being the current canopy cover (excepting natural catastrophic events). Some units will have a lower canopy cover which is acceptable provided this is compatible with safeguard of the habitat, features and special interest. • The canopy and shrub layer comprises locally native species • There shall be sufficient natural regeneration of locally native trees and shrubs to maintain the woodland canopy and shrub layer, by filling gaps

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
	• 91D0 Bog woodland Annex II species present as a qualifying feature at this site, but is not a primary reason for site selection: • 1303 Lesser horseshoe bat *Rhinolophus hipposideros*		and allowing the recruitment of young trees and encouraging a varied age structure. • The typical ground layer species of each woodland SAC feature will be common. It is important for most of the woodland SAC that the vegetation does not becomes rank and overgrown with a height above 40cm and/or dominated by species such as bramble, ivy and young holly. • The abundance and distribution of common and typical (Atlantic, sub-Atlantic, western, oceanic) mosses and liverworts, lichens (and slime moulds), will be maintained or increased. • There will be a scattering of 5 mature trees per hectare within the existing tree canopy or parkland, that is trees of c60cm diameter plus for oak and ash and/or with signs of decay, holes etc. In the longer-term, by 2060 there should be 1 veteran trees per hectare that is trees of c100cm diameter plus for oak and ash and 75cms birch. • The volume of dead wood will exceed 30 cubic metres per hectare throughout and consist of a mixture of fallen trees (minimum 1 per hectare), broken branches, dead branches on live trees, and standing dead trees (minimum 1 per hectare).

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			• Invasive non-native species such as rhododendron, Japanese knotweed and Himalayan balsam will not be present. • All factors affecting the achievement of these conditions are under control. Conservation objective for 4030: The vision for the dry heath feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: • The total extent of the dry heath area, approximately 21 ha, shall be maintained. • he typical and uncommon species of the vegetation communities comprising the dry heath will be frequent and abundant. • The structure of the heath should be maintained and restored, to show natural regeneration by layering and seeding, and to ensure that the component vegetation communities are naturally diverse • Invasive non-native species such as conifers, rhododendron, Japanese knotweed and Himalayan balsam will not be present. • The heath will be generally free from trees and at most have only a few individuals at a density of no more than 2 per hectare. Exceptions to this rule are

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			transition zones from woodland to heath land where trees may be denser grading to open heath. Limits for woodland transition zones should be set on a unit or sub-unit basis. • All factors affecting the achievement of these conditions are under control. Conservation objective for 3260 The vision for this feature is for it to be in favourable conservation status, where all the following conditions are satisfied: • The extent of suitable river habitat within which the Ranunculion fluitantis and Callitricho Batrachion vegetation can occur should be stable • The current distribution (not known) of the Ranunculion fluitantis and Callitricho-Batrachion vegetation should be stable or increasing. • The river with floating vegetation may be dominated by water crowfoot species usually Ranunculus fluitans, (but this species is not recorded in Meirionnydd), Callitriche stagnalis and bryophytes. • Species indicative of unfavourable condition for this feature e.g. filamentous algae associated with eutrophication and invasive non-native species, should be absent or below an acceptable threshold

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
			level, indicative of high ecological status, within the SAC. • All factors affecting the achievement of these factors are under control Conservation objective for 1303: The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied; • The population of lesser horseshoe bats should be maintained at its current size and encouraged where possible to increase. • There are sufficient breeding roosts (buildings, structures and trees) and hibernation roosts (mines and buildings) of appropriate quality. The other types of roost such as night, transitional, leks and swarming sites, should also be maintained • Foraging or feeding habitat in the SAC and surrounding countryside, including grasslands and some gardens, is of appropriate quality, extent and connectivity across the range. • The range of the population within the SAC/Gwynedd is stable or increasing. • All factors affecting the achievement of these conditions are under control.

Site Name	Qualifying features	Distance from Site	Summary of Conservation Objectives
Glynllifon SAC	This single site in north Wales is both a maternity and hibernation site for a large population of lesser horseshoe bat, comprising about 6% of the UK population. Annex II species present as a primary qualifying feature at this site: • 1303 Lesser horseshoe bat *Rhinolophus hipposideros*	28.5 km	Conservation objective for 1303: The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: • The natural range of lesser horseshoe bats will not be reduced, nor be likely to be reduced for the foreseeable future. • There is, and will continue to be, sufficient habitat to maintain the lesser horseshoe bat population on a long-term basis. • The three maternity roosts will continue to be occupied annually by lesser horseshoe bats and their babies • There will be a sufficiently large area of suitable habitat surrounding these roosts to support the bat population, including continuous networks of sheltered, broadleaved and coniferous woodland, tree lines and hedgerows connecting the various types of roosts with areas of insect-rich grassland and open water. • All factors affecting the achievement of these conditions are under control.

5. IDENTIFICATION OF IN-COMBINATION PROJECTS

5.1 Projects

5.1.1 Other plans and projects have been assessed alongside the scheme proposals to identify any in-combination effects which may adversely affect the integrity of the European Sites. The following adopted Local Development Plan allocations with relevant planning applications occur within 2km of the proposed scheme.

- Site 31 Adjacent to Glanyrafon 2017 Conwy Borough Council Report confirms 2016 permission for 28 dwellings and under construction. This site is located 400m due west on the main street.
- Site 429 Dexter Products. Conwy Borough Council Report confirms no known progress and 15 dwellings relevant for site allocation. This site is located 1.2km due south of the site on the edge of town.
- Site 521 West Coast Building. Conwy Borough Council Report confirms planning permission granted in part, with 10 dwellings noted. PP 0/42160. Proposed demolition of existing commercial light industrial building and redevelopment of site for 10 no town houses (1 x block of 3 and 1 x block of 7) (Outline Planning Permission) granted 2016 - less than one left on permission, unless details secured in the meantime. This site is located 1.175 km due south of the site on the edge of town.
- Junction 16 improvement scheme. Located approximately 4.45km due east of this scheme.

5.1.2 These are unlikely to have any significant in-combination effects upon the designated sites or their features of interest.

6. CONSULTATION

6.1 Environmental Liaison Group (ELG)

6.1.1 The first ELG meeting was held in May 2018. The next meeting will be planned once the preferred option has been announced. These meetings were attended by representatives of Natural Resources Wales (NRW), Conwy County Council (CCC), Cadw, Welsh Government and North and Mid Wales Trunk Road Agency (NMWTRA). The aim of the meetings are to discuss all environmental receptors, not just designated sites. Nothing specific to designated sites has been mentioned in terms of the AIES to date.

7. TEST OF LIKELY SIGNIFICANT EFFECT (TLSE)

7.1 Test of Likely Significance

7.1.1 The following sections and tables set out the Test of Likely Significance of Effects (TLSE) occurring as a result of the implementation of the scheme. It is acknowledged that the scheme is not necessary for the management of the European Sites and as such must be assessed to determine whether or not adverse effects on site integrity are likely, either alone or in combination, with other projects or plans.

7.1.2 Site integrity is the coherence of its ecological structure and function, across its whole area that enables it to sustain the habitat, complex of habitats and/or the population levels of the species for which it was designated.

7.1.3 To determine whether the proposals are likely to have any significant effects on the designated sites, the pathways identified in Table 2 have been considered against the conservation objectives of the site.

Table 2 Test of Likely Significant Effects - Screening

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC	Annex I habitats that are a primary reason for selection of this site; • 1110: Sandbanks which are slightly covered by sea water all the time • 1140: Mudflats and sandflats not covered by seawater at low tide • 1170: Reefs Annex I habitats present as a qualifying feature, but not a primary feature for site selection; • 1160: Large shallow inlets and bays • 8330: Submerged or partially submerged sea caves	Approximately 50m	Pollution incidents during construction works leading to changes in water and air quality affecting the qualifying habitats within the SAC. Pollution incidences during operation, for example by increased road run-off containing contaminants or sediments, fuel leaks, pollution pathways via existing or new drainage systems.	**Yes** - The habitats adjacent to the scheme location are largely man-made with no qualifying features present within 2km. However, there may be indirect impacts during the construction and operation phases. It is expected that traffic flows will not change during the operational phase, as such levels of air pollutants will either remain constant or improve as there will no longer be the

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				need for breaking upon entering the roundabout and speeding up on exit. Air quality monitoring may prove that the air quality objectives applicable to LAQM in Wales are met. Currently as reported in the LAQM Progress Report for Conwy[2] all monitoring locations show that the annual average nitrogen dioxide levels are substantially below the Objective level of 40µgm-3. Prolonged queuing during traffic resulted in increased vehicle emissions.

[2] http://www.conwy.gov.uk/en/Resident/Environmental-problems/assets-Air-Quality/documents/Conwy-County-Borough-Council-2016-Air-Quality-Progress-Report.pdf.

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				The annual average PM10 concentration has fallen from 18.1µgm-3 to 16.6 µgm-3 and remained consistently below the annual mean objective level of 40 µgm-3 No Sulphur Dioxide monitoring is carried out in Conwy CBC No benzene monitoring is carried out within Conwy CBC Traffic monitoring results will aid the Appropriate Assessment.
Liverpool Bay / Bae Lerpwl (Wales) SPA	Over winter the area regularly supports; • A001 Red throated diver *Gavia stellata* (North-western Europe - wintering) 5.4% of the GB population 5-year peak mean 2001/02 - 2006/07	Approximately 50m	Noise and vibration causing disturbance to wintering birds during the	None during operation phase - Vibration is normally considered to have a

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
	• A065 Common scoter *Melanitta nigra* (Western Siberia/Western & Northern Europe/North-western Africa) 3.4% of the population 5-year peak mean 2001/02 - 2006/07 • A117 Little gull *Hydrocoloeus minutus* (non-breeding) • A193 Common tern *Sterna hirundo* (breeding) • A195 Little tern *S. albifrons (*breeding)		construction and operation phase as they forage and roost within close proximity to the proposed project. Pollution to surface waters from construction practices indirectly impacting features of interest of the site by pollution incidences. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.	localised effect only and the existing road causes vibration and noise already. There is not expected to be any increase in traffic as a result of the scheme. It is expected that traffic flows will not change during the operational phase, as such levels of air pollutants will either remain constant or improve as there will no longer be the need breaking upon entering the roundabout and speeding up on exit. Air quality monitoring may prove that the air quality objectives applicable to LAQM in

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
			Pollution incidences during operation, for example by increased road run-off containing contaminants or sediments, fuel leaks, pollution pathways via existing or new drainage systems.	Wales are met. Currently as reported in the LAQM Progress Report for Conwy all monitoring locations show that the annual average nitrogen dioxide levels are substantially below the Objective level of 40µgm-3. Prolonged queuing during traffic resulted in increased vehicle emissions. The annual average PM10 concentration has fallen from 18.1µgm-3 to 16.6 µgm-3 and remained consistently below the annual mean objective level of 40 µgm-3

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				No Sulphur Dioxide monitoring is carried out in Conwy CBC No benzene monitoring is carried out within Conwy CBC Traffic monitoring results will aid the Appropriate Assessment. **Yes** during construction which may displace birds from roosting and foraging within adjacent grassland. **Yes –** pollution in the absence of mitigation, pollution may enter the marine environment or affect the air quality which may indirectly affect the

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				qualifying features of the site. No suitable habitat for breeding tern colonies within the survey area. No other qualifying features of interest recorded during the surveys.
Traeth Lafan / Lavan Sands, Conway Bay SPA	Over winter the area regularly supports; • A130 Oystercatcher *Haematopus ostralegus*, 4,931 individuals representing at least 0.5% of the wintering Europe & Northern/Western Africa population (5 year peak mean 1991/2 - 1995/6)	Approximately 50m	Noise and vibration during construction and operation causing disturbance to oyster catchers as they forage and roost within proximity to the proposed project. Pollution to surface waters from construction practices indirectly impacting features of interest of	**Yes** – Likely Significant effects with regards to Option D. Loss of roosting habitat. Oyster catchers were recorded within the field to the south. However, there is suitable alternative habitat adjacent to the area, as such it is assumed that birds would naturally displace to the

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
			the site by pollution incidences. Pollution incidences during operation, for example by increased road run-off containing contaminants or sediments, fuel leaks, pollution pathways via existing or new drainage systems. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.	unaffected areas thereby reducing the impact. **Yes –** Noise during construction which may displace birds from roosting and foraging within adjacent grassland. **Yes** – pollution, in the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site. It is expected that traffic flows will not change during the operational phase, as such levels of air

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				pollutants will either remain constant or improve as there will no longer be the need breaking upon entering the roundabout and speeding up on exit. Air quality monitoring may prove that the air quality objectives applicable to LAQM in Wales are met. Currently as reported in the LAQM Progress Report for Conwy[3] all monitoring locations show that the annual average nitrogen dioxide levels are substantially below the Objective level of 40µgm-3. Prolonged

[3] http://www.conwy.gov.uk/en/Resident/Environmental-problems/assets-Air-Quality/documents/Conwy-County-Borough-Council-2016-Air-Quality-Progress-Report.pdf.

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				queuing during traffic resulted in increased vehicle emissions. The annual average PM10 concentration has fallen from 18.1µgm-3 to 16.6 µgm-3 and remained consistently below the annual mean objective level of 40 µgm-3 No Sulphur Dioxide monitoring is carried out in Conwy CBC No benzene monitoring is carried out within Conwy CBC Traffic monitoring results will aid the Appropriate Assessment Oyster catcher were recorded within the

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				survey areas during the wintering bird surveys. The majority of these results were during low tide, when a maximum of 1,322 were present (October 2017), predominantly foraging within the intertidal area to the west of Junction 15. Numbers within the survey area reduced as the tide flooded and birds left to forage/roost elsewhere with a maximum of 105 birds present at high tide (January 2018). During high tide, Oystercatcher were recorded using the

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
				recreational amenity grassland areas to the north of the A55 and Penmaen Park to the south. They also utilise adjacent fields up the coast including those adjacent to Junction 16.
Coedydd Aber SAC	Annex I habitats that are a primary reason for selection of this site; • 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae)*	2.1 km south west	No identified path ways. Designated site is located over 2 km from the proposed project. Therefore, impacts during construction or operational phases on the integrity of the designated site or its qualifying features is not considered likely.	No

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines SAC	This SAC is a composite of numerous sites to the south of the site. Annex I habitats that are a primary reason for selection of this site; • 6130 Calaminarian grasslands of the *Violetalia calaminariae* Annex II species present as a qualifying feature at this site, but is not a primary reason for site selection: • 1303 Lesser horseshoe bat *Rhinolophus* hipposideros	20 km south	No identified pathway Designated site is located 20 km from the proposed project. Bat foraging habitat within the area covered by the proposed project is of low quality and opportunities for bats to commute or migrate from the designated site, through to the proposed project are limited owing to the proposed projects coastal location. Therefore, impacts during construction or operational phases on the integrity of the designated site or its qualifying features is not considered likely.	No

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites SAC	This large composite site includes most of the known maternity roosts in Meirionnydd and some hibernacula and comprises the centre of distribution for lesser horseshoe bats in Wales. The sheltered river valleys provide excellent tree cover and numerous suitable maternity roosts. The presence of Lesser horseshoe bats at this site is a primary reason for its selection as a SAC. Annex I habitats that are a primary reason for selection of this site: • 91A0 Old Sessile oak woods with *Ilex* and *Blechnum* in the British Isles • 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (*Ano-Padion, Alnion incanae, Salicion albea) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitrcho-Batrachion* vegetation • 4010 North Atlantic wet heaths with *Erica* • *tetralix* • 4030 European dry heaths • 9180 Tilio-Acerion forests of slopes, screes and ravines • 91D0 Bog woodland Annex II species present as a qualifying feature at this site, but is not a primary reason for site selection: • 1303 Lesser horseshoe bat *Rhinolophus hipposideros*	21.5 km south	No identified pathway Designated site is located over 20 km from the proposed project. Bat foraging habitat within the area covered by the proposed project is of low quality and opportunities for bats to commute or migrate from the designated site, through to the proposed project are limited owing to the proposed projects coastal location. Therefore, impacts during construction or operational phases on the integrity of the designated site or its qualifying features is not considered likely.	No

Site Name	Qualifying Features	Distance from Site	Pathways	Likely Significant Effects
Glynllifon SAC	This single site in north Wales is both a maternity and hibernation site for a large population of lesser horseshoe bat, comprising about 6% of the UK population. Annex II species present as a primary qualifying feature at this site: 1303 Lesser horseshoe bat *Rhinolophus hipposideros*	28.5 km	No identified pathway Designated site is located over 28 km from the proposed project. Bat foraging habitat within the area covered by the proposed project is of low quality and opportunities for bats to commute or migrate from the designated site, through to the proposed project are limited owing to the proposed projects coastal location. Therefore, impacts during construction or operational phases on the integrity of the designated site or its qualifying features is not considered likely.	No

8. IN-COMBINATION ASSESSMENT

8.1 Projects

8.1.1 No in-combination effects envisaged from the viewed planning applications.

9. CONCLUSIONS

9.1 Likely Significant Effects

9.1.1 The TLSE has identified that likely significant effects on qualifying features of the following European Sites could not be ruled out:

- Traeth Lafan / Lavan Sands, Conway Bay SPA
- Liverpool Bay / Bae Lerpwl (Wales) SPA
- Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC

9.1.2 It is therefore considered necessary for an Appropriate Assessment to be carried out for this project on the qualifying features of these European Sites, in line with DMRB HD44/09 guidance.

9.1.3 Under the same Regulations, it is considered that it is unlikely that there will be significant effects on the following European Sites, therefore no further assessment is needed:

- Coedydd Aber SAC
- Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines SAC
- Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites SAC
- Glynllifon SAC

9.1.4 No in-combination effects are envisaged from the viewed planning applications.

10. REFERENCES

Clark, J., & Barber, P., & Evans, F. (2008) *Core Management Plan including Conservation Objectives for Meirionnydd Oakwoods and Bat Sites SAC.* CCW.

Creer, J (2008). *Core Management Plan including Conservation Objectives for Coedyyd Aber SAC.* CCW.

HA. (2009). HD44/09 Assessment of Implications (of Highways and/or Road Projects) on European Sites (including Appropriate Assessment). In *Design Manual for Roads and Bridges.* Highways Agency

JNCC (July 2018) UK Protected Sites. Retrieved from http://jncc.defra.gov.uk/ProtectedSites/SACselection

Natural Resources Wales. Menai Strait & Conwy Bay / Y Fenai a Bae Conwy SAC. *Advice Under Regulation 37 of The Conservation of Habitats and Species Regulations 2017.* NRW.

Nisbett, K., & Murphy, M. (2012) *Liverpool Bay / Bae Lerpwl SPA Advice Under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended) Version 6.5.* NE, CCW, WG.

Owen M. (2017) *A55 Junctions 15 & 16 Wintering Bird Survey Report 2017/1018.*

Thomas, NR (2008). *Core Management Plan including Conservation Objectives for Glynllifon SAC.* CCW.

Tyldesley, D. (2011). *Assessing projects Under the Habitats Directive: Guidance for Competent Authorities*. Bangor: Countryside Council for Wales.

Tyldesley, D., & Chapman, C. (2013). *The Habitats Regulations Handbook*. DTA Publications.

Willis, M. (2008) *Core Management Plan including Conservation Objectives for Mwyngloddiau Fforest Gwydir / Gwydyr Forest Mines SAC.* CCW.

Willis, M. (2008) *Core Management Plan including Conservation Objectives for Traeth Lafan/Lavan Sands, Conwy Bay SPA.* CCW.

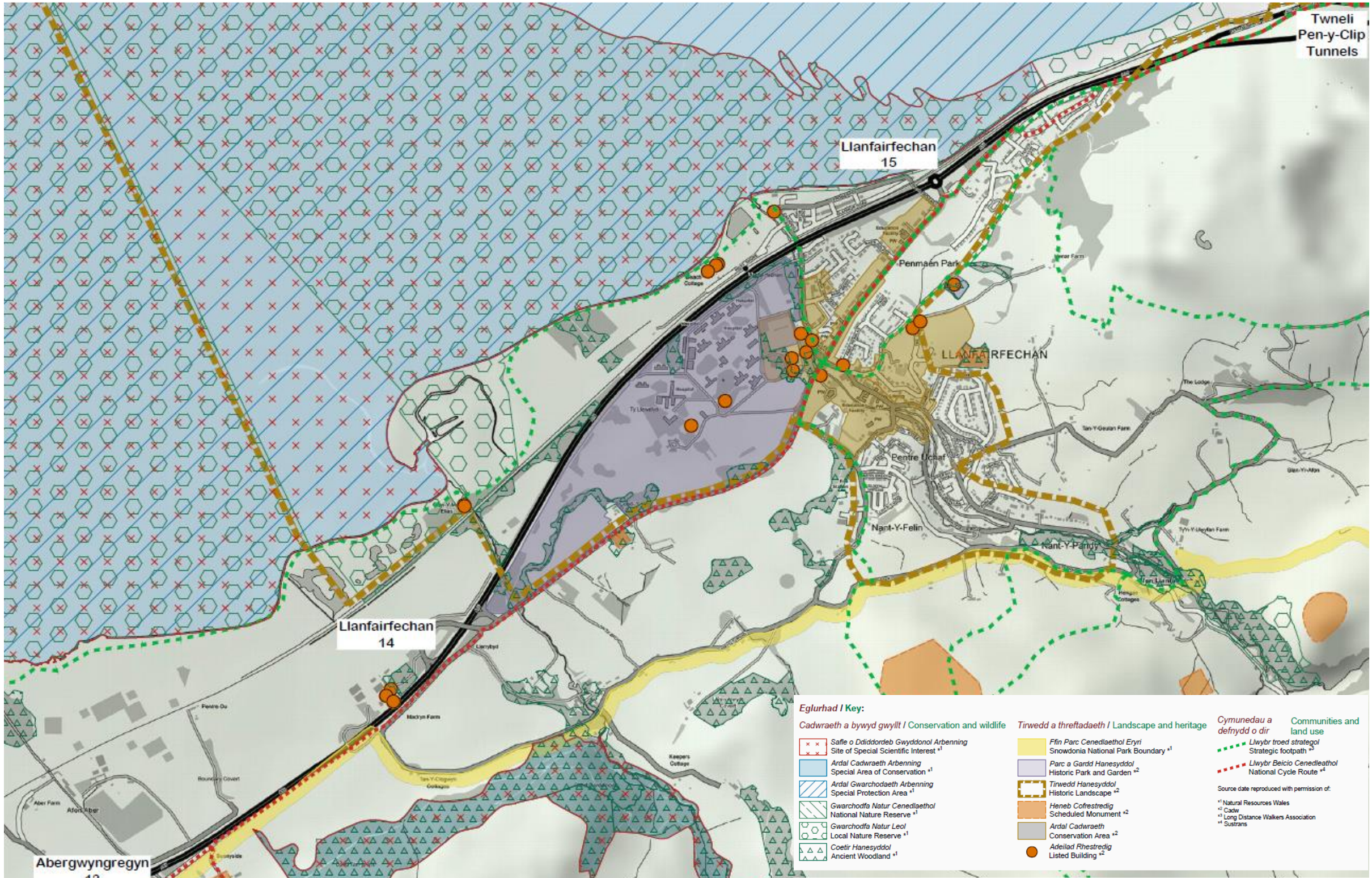
APPENDIX A
SCHEME PREFERRED OPTION

The preferred option at the time of writing is Option D.

Appendix A: Option D

J15 Option D would replace the roundabout with a junction providing four-way movements The eastbound slip roads would be elevated on embankments and would cross the A55 on an overbridge located to the east of the existing roundabout, while the west bound slip roads would be provided at grade. The new junction arrangement would require realignment of around 200 metres of Penmaenmawr Road further south in a cutting. The westbound slip road would require the demolition of properties close to the existing roundabout on Penmaenmawr Road. Bus stops would be repositioned and access to the Promenade would be maintained via Shore Road East.

APPENDIX B
DESIGNATED SITES WITHIN CLOSE PROXIMITY TO THE SCHEME



Designated Sites in the vicinity of Junction 15 (Llanfairfechan) Not to scale

APPENDIX C
SCREENING MATRICES

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites**	
Date:	**Author:**	**Verified:**
October 2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		
Brief Description of the Natura 2000 Site		
Name and EU Code of Natura 2000 site	Glynllifon UK0012661	
Site designation status (e.g. SAC, SPA, SSSI)	SAC	
Site Size	187.28 ha	
Location and distance from the Scheme	Latitude 53.07083333Longitude -4.306111111 The site is located approximately 28.5 km south of Junction 15	
Key features of the European Site including the primary reasons for selection and any other qualifying interests	This single site in north Wales is both a maternity and hibernation site for a large population of lesser horseshoe bat, comprising about 6% of the UK population. Annex II species present as a primary qualifying feature at this site; 1303 Lesser horseshoe bat *Rhinolophus hipposideros*	
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	• E04 - Structures, buildings in the landscape No pathway • H04 - Air pollution, air-borne pollutants – No pathway due to distance from site • B02 - Forest and Plantation management & use – No pathway	
Natura 2000 site conservation objectives – where these are readily available	Conservation objective for 1303: • The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied;	

	• The natural range of lesser horseshoe bats will not be reduced, nor be likely to be reduced for the foreseeable future. • There is, and will continue to be, sufficient habitat to maintain the lesser horseshoe bat population on a long-term basis. • The three maternity roosts will continue to be occupied annually by lesser horseshoe bats and their babies • There will be a sufficiently large area of suitable habitat surrounding these roosts to support the bat population, including continuous networks of sheltered, broadleaved and coniferous woodland, tree lines and hedgerows connecting the various types of roosts with areas of insect-rich grassland and open water. • All factors affecting the achievement of these conditions are under control.
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by virtue of the following:**	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of the option for consideration by the WG is detailed below: **Option D**: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road (approximately 2.5ha) as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).
Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	28.5km
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site,	None.

where of relevance to consideration of impacts)	
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	None.
Excavation requirements (e.g. impacts of local hydrogeology)	None.
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
None.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts. Describe any likely changes to the site arising as a result of:**	
Reduction of habitat area	N/A
Disturbance to key species	N/A
Habitat or species fragmentation	N/A
Reduction in species density	N/A
Changes in key indicators of conservation value (water quality, etc)	N/A
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure and function of the site	N/A
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	None expected.
Disturbance to key species	None expected.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	None expected.

Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
No significant impacts are expected to the Natura 2000 site, alone or in combination with other plans or projects in the area.	
Outcome of screening stage	Not likely to be significant effect
Are the appropriate statutory environmental bodies in agreement with this conclusion? (delete as appropriate and attach relevant correspondence).	YES/NO

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Y Fenai a Bae Conwy / Menai Strait and Conwy Bay**	
Date:	**Author:**	**Verified:**
October 2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		
Brief Description of the Natura 2000 Site		
Name and EU Code of Natura 2000 site	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay UK0030202	
Site designation status (e.g. SAC, SPA, SSSI)	SAC	
Site Size	26501.64 ha	
Location and distance from the Scheme	Latitude 53.23444444 Longitude - -4.055 Grid references: SH629728 The site is located approximately 50 m north of Junction 15 to the south of the scheme.	
Key features of the European Site including the primary reasons for selection and any other qualifying interests	Annex I habitats that are a primary reason for selection of this site; • 1110: Sandbanks which are slightly covered by sea water all the time • 1140: Mudflats and sandflats not covered by seawater at low tide • 1170: Reefs Annex I habitats present as a qualifying feature, but not a primary feature for site selection; • 1160: Large shallow inlets and bays • 8330: Submerged or partially submerged sea caves	
Vulnerability of the European Site – any information available from the standard data forms	• H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish) – no pathway	

on potential effect pathways	• J02 - Human induced changes in hydraulic conditions – no pathway • I01 - Invasive non-native species – no pathway • F02 – Fishing and harvesting aquatic resources – no pathway • G05 - Other human intrusions and disturbances – no pathway • M01 – Changes in abiotic conditions - no pathway
Natura 2000 site conservation objectives – where these are readily available	The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing. The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. The conservation objectives do not aim to prevent all change to the habitat and species features, or to achieve an indefinable, abstract natural or pristine state, since these would be unrealistic and unattainable aspirations. Rather, they seek to prevent further negative modification of the extent, structure and function of natural habitats and species' populations by human activity and to ensure that degradation and damage to the features that is attributable to human activities or actions is prevented. Consequently, in order to meet the requirements of the Directive and ensure the site makes its appropriate contribution to conservation of biodiversity, the conservation objectives seek to; • Encompass inherent dynamism rather than to work against it • Safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species; • Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by virtue of the following:**	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of each of the option for consideration by the WG is detailed below:

	Option D: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road (approximately 2.5ha) as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).
Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	Approximately 50m
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None.
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	Pollution incidents during construction works leading to changes in water quality affecting the qualifying habitats within the SAC Pollution incidences during operation, for example by increased road run-off containing contaminants or sediments, fuel leaks, pollution pathways via existing or new drainage systems . Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.
Excavation requirements (e.g. impacts of local hydrogeology)	None.
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
The habitats are largely man-made adjacent to the scheme location with no qualifying features present within 2km. However, there may be indirect impact during the construction and operation phases as a result of pollution events.	

Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts. Describe any likely changes to the site arising as a result of:**	
Reduction of habitat area	N/A
Disturbance to key species	N/A
Habitat or species fragmentation	N/A
Reduction in species density	N/A
Changes in key indicators of conservation value (water quality, etc)	Potential for pollution incidences.
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure and function of the site	N/A
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	None expected.
Disturbance to key species	None expected.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	Potential for indirect pollution incidences.
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
No significant impacts are expected to the Natura 2000 site, alone or in combination with other plans or projects in the area. Potential for pollution incidences.	
Outcome of screening stage	Not likely to be significant effect
Are the appropriate statutory environmental bodies in agreement with this conclusion? (delete as appropriate and attach relevant correspondence).	YES/NO

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites**	
Date:	**Author:**	**Verified:**
October 2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		

Brief Description of the Natura 2000 Site	
Name and EU Code of Natura 2000 site	Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites
Site designation status (e.g. SAC, SPA, SSSI)	SAC
Site Size	2812.79 ha
Location and distance from the Scheme	Latitude 52.795 Longitude -3.898888889 The site is located approximately 21.5 km south of Junction 15
Key features of the European Site including the primary reasons for selection and any other qualifying interests	This large composite site includes most of the known maternity roosts in Meirionnydd and some hibernacula and comprises the centre of distribution for lesser horseshoe bats in Wales. The sheltered river valleys provide excellent tree cover and numerous suitable maternity roosts. The presence of Lesser horseshoe bats at this site is a primary reason for its selection as a SAC. Annex I habitats that are a primary reason for selection of this site: • 91A0 Old Sessile oak woods with *Ilex* and *Blechnum* in the British Isles • 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (*Ano-Padion, Alnion incanae, Salicion albea) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

	• 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitrcho-Batrachion* vegetation • 4010 North Atlantic wet heaths with *Erica tetralix* • 4030 European dry heaths • 9180 Tilio-Acerion forests of slopes, screes and ravines • 91D0 Bog woodland Annex II species present as a qualifying feature at this site, but is not a primary reason for site selection: • 1303 Lesser horseshoe bat *Rhinolophus hipposideros*
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	• I01 - Invasive non-native species no pathway • A04 - Grazing no pathway • H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish) no pathway • H04 - Air pollution, air-borne pollutants no pathway • G01 - Outdoor sports and leisure activities, recreational activities no pathway • K04 – Interspecific floral relations • E06 – Other urbanisation, industrial and similar activities – no pathway K02 – Biocenotic evolution, succession – no pathway
Natura 2000 site conservation objectives – where these are readily available	Conservation objectives for 91A0 and 91E0: The vision for the Woodland SAC feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: • The total extent of the woodland area, including woodland canopy and scrub, woodland glades and associated dry heath, bracken and grassland shall be maintained, some 1826 ha in total. • The tree canopy percentage cover within the woodland area for the whole SAC no less than 80%, 87% being the current canopy cover (excepting natural catastrophic events). Some units will have a lower canopy cover which is acceptable provided this is compatible with safeguard of the habitat, features and special interest. • The canopy and shrub layer comprises locally native species • There shall be sufficient natural regeneration of locally native trees and shrubs to maintain the woodland canopy and shrub layer, by filling gaps and allowing the recruitment of young trees and encouraging a varied age structure. • The typical ground layer species of each woodland SAC feature will be common. It is important for most of the woodland SAC that the vegetation does not becomes rank and overgrown with a height above 40cm and/or dominated by species such as bramble, ivy and young holly. • The abundance and distribution of common and typical (Atlantic, sub-Atlantic, western, oceanic) mosses and liverworts, lichens (and slime moulds), will be maintained or increased.

	• There will be a scattering of 5 mature trees per hectare within the existing tree canopy or parkland, that is trees of c60cm diameter plus for oak and ash and/or with signs of decay, holes etc. In the longer-term, by 2060 there should be 1 veteran trees per hectare that is trees of c100cm diameter plus for oak and ash and 75cms birch. • The volume of dead wood will exceed 30 cubic metres per hectare throughout and consist of a mixture of fallen trees (minimum 1 per hectare), broken branches, dead branches on live trees, and standing dead trees (minimum 1 per hectare). • Invasive non-native species such as rhododendron, Japanese knotweed and Himalayan balsam will not be present. • All factors affecting the achievement of these conditions are under control. Conservation objective for 4030: The vision for the dry heath feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: • The total extent of the dry heath area, approximately 21 ha, shall be maintained. • he typical and uncommon species of the vegetation communities comprising the dry heath will be frequent and abundant. • The structure of the heath should be maintained and restored, to show natural regeneration by layering and seeding, and to ensure that the component vegetation communities are naturally diverse • Invasive non-native species such as conifers, rhododendron, Japanese knotweed and Himalayan balsam will not be present. • The heath will be generally free from trees and at most have only a few individuals at a density of no more than 2 per hectare. Exceptions to this rule are transition zones from woodland to heath land where trees may be denser grading to open heath. Limits for woodland transition zones should be set on a unit or sub-unit basis. • All factors affecting the achievement of these conditions are under control. Conservation objective for 3260 The vision for this feature is for it to be in favourable conservation status, where all the following conditions are satisfied: • The extent of suitable river habitat within which the *Ranunculion fluitantis* and *Callitricho Batrachion* vegetation can occur should be stable

	• The current distribution (not known) of the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation should be stable or increasing. • The river with floating vegetation may be dominated by water crowfoot species usually *Ranunculus fluitans*, (but this species is not recorded in Meirionnydd), *Callitriche stagnalis* and bryophytes. • Species indicative of unfavourable condition for this feature e.g. filamentous algae associated with eutrophication and invasive non-native species, should be absent or below an acceptable threshold level, indicative of high ecological status, within the SAC. • All factors affecting the achievement of these factors are under control Conservation objective for 1303: The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied; • The population of lesser horseshoe bats should be maintained at its current size and encouraged where possible to increase. • There are sufficient breeding roosts (buildings, structures and trees) and hibernation roosts (mines and buildings) of appropriate quality. The other types of roost such as night, transitional, leks and swarming sites, should also be maintained • Foraging or feeding habitat in the SAC and surrounding countryside, including grasslands and some gardens, is of appropriate quality, extent and connectivity across the range. • The range of the population within the SAC/Gwynedd is stable or increasing. • All factors affecting the achievement of these conditions are under control.
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by virtue of the following:**	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of each of the option for consideration by the WG is detailed below: Option D: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat

	for the realignment of Penmaenmawr Road (approximately 2.5ha), as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).
Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	21.5km south
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None.
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	None.
Excavation requirements (e.g. impacts of local hydrogeology)	None.
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
None.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts.**	

Describe any likely changes to the site arising as a result of:	
Reduction of habitat area	N/A
Disturbance to key species	N/A
Habitat or species fragmentation	N/A
Reduction in species density	N/A
Changes in key indicators of conservation value (water quality, etc)	N/A
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure and function of the site	N/A
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	None expected.
Disturbance to key species	None expected.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	None expected.
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
No significant impacts are expected to the Natura 2000 site, alone or in combination with other plans or projects in the area.	
Outcome of screening stage	Not likely to be significant effect
Are the appropriate statutory environmental bodies in agreement with this conclusion? (delete as appropriate and attach relevant correspondence).	YES/NO

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Coedydd Aber SAC**	
Date:	**Author:**	**Verified:**
October2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		
Brief Description of the Natura 2000 Site		
Name and EU Code of Natura 2000 site	Coedydd Aber / UK0030118	
Site designation status (e.g. SAC, SPA, SSSI)	SAC	
Site Size	345.88 ha	
Location and distance from the Scheme	Latitude 53.22222222 Longitude -4.0013888889 The site is located approximately 2.1km south west of Junction 15.	
Key features of the European Site including the primary reasons for selection and any other qualifying interests	Annex I habitats that are a primary reason for selection of this site; • 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site; • 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae)*	
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	• B02 – Forest plantation management and use – no pathway • I01 - Invasive non-native species – no pathway • K04 – Interspecific floral relations – no pathway • A04 – Grazing – no pathway • H04 – Air pollution, air-borne pollutants – no pathway	

Natura 2000 site conservation objectives – where these are readily available	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied; • The woodland is maintained as far as possible by natural processes. • The location of open glades or gaps varies over time. • Trees and shrubs are locally native, and neither beech nor conifers are dominant anywhere in the canopy or understorey. • Trees and shrubs of a wide range of ages and sizes are present. • Tree seedlings are plentiful throughout the site and where occurring in open glades develop into viable saplings. • Field and ground layers are a patchwork of various vegetation communities characteristic of local soil and humidity conditions. • There are abundant dead and dying trees (with holes and hollows, rot columns, torn off limbs and rotten branches) with associated dead wood dependent species present. • Humidity levels are high enough to favour the presence of ferns, mosses and liverworts. • The woodland continues to support populations of birds and mammals. • All factors affecting the achievement of these conditions are under control. Conservation objectives for 91E0: The vision for this feature is for it to be in favourable conservation status, where all of the following conditions are satisfied: • The woodland is maintained as far as possible by natural processes. • The trees and shrubs will be locally native broadleaved species with alder dominating the canopy. • The sparse shrub layer will comprise a scattering of hazel, willow and rowan. • Seedlings will be relatively sparse throughout the site with only a few native seedlings from non-self-coppicing trees developing into saplings. • The majority of regeneration will be from the base of the alders by means of self-coppicing. • There will be abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches throughout the woodland. Dead wood, both standing and fallen, will be retained to provide habitats for other species. • Veteran trees will be favoured during any silvicultural management because they support a wide variety of species, including lichens. Old forest lichen species will be found throughout the sites, especially on well-lit trees around woodland edges and glades. • All factors affecting the achievement of these conditions are under control.
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by**	

virtue of the following:	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of each of the option for consideration of the WG is detailed below: **Option D**: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road (approximately 2.5ha) as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).
Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	The site is located approximately 2.1km south west of Junction 15.
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None.
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	None.
Excavation requirements (e.g.	None.

impacts of local hydrogeology)	
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
None.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts. Describe any likely changes to the site arising as a result of:**	
Reduction of habitat area	N/A
Disturbance to key species	N/A
Habitat or species fragmentation	N/A
Reduction in species density	N/A
Changes in key indicators of conservation value (water quality, etc)	N/A
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure and function of the site	N/A
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	None expected.
Disturbance to key species	None expected.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	None expected.

Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
No significant impacts are expected to the Natura 2000 site, alone or in combination with other plans or projects in the area.	
Outcome of screening stage	Not likely to be significant effect
Are the appropriate statutory environmental bodies in agreement with this conclusion? (delete as appropriate and attach relevant correspondence).	YES/NO

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines**	
Date:	**Author:**	**Verified:**
October2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		

Brief Description of the Natura 2000 Site	
Name and EU Code of Natura 2000 site	**Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines**
Site designation status (e.g. SAC, SPA, SSSI)	SAC
Site Size	39.13 ha
Location and distance from the Scheme	Latitude 53.10388889 Longitude -3.801388889 The site is located approximately 20km south Junction 15..
Key features of the European Site including the primary reasons for selection and any other qualifying interests	This SAC is a composite of numerous sites to the south of the site. Annex I habitats that are a primary reason for selection of this site; • 6130 Calaminarian grasslands of the *Violetalia calaminariae* Annex II species present as a qualifying feature at this site, but is not a primary reason for site selection: • 1303 Lesser horseshoe bat *Rhinolophus hipposideros*
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	• I01 - Invasive non-native species – no pathway • K02 - Biocenotic evolution, succession – no pathway • C01 - Mining and quarrying – no pathway • H04 - Air pollution, air-borne pollutants – no pathway • G01 - Outdoor sports and leisure activities, recreational activities – no pathway • B02 - Forest and Plantation management & use – no pathway

	• J03 – Other ecosystem modifications – no pathway • E06 - Other urbanisation, industrial and similar activities – no pathway
Natura 2000 site conservation objectives – where these are readily available	Conservation objectives for 6130: The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied; • The area of calaminarian grassland must be stable (based on the extent at the time of SAC notification), or increasing in the long term, and will occur in all management units. • The remainder of the management units not highlighted for calaminarian grassland will be maintained in a favourable condition for lesser horseshoe bat. • The calaminarian grassland can be described as either "calaminarian grassland with *Ditrichum plumbicola*" or "calaminarian grassland (metal spoil) without *Ditrichum plumbicola*". • Broadleaf, coniferous, exotic and scrub species should be absent from the calaminarian grassland stands, because the above plants will shade out the slower growing moss and lichen species, and in time will smother the lower plants with litter material. • A 10m buffer, clear of coniferous vegetation, will be maintained around the stands of calaminarian grassland with *D. plumbicola*. • Disturbance through human impact and recreation will be absent from the calaminarian grassland. • All factors affecting the achievement of these conditions are under control.
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by virtue of the following:**	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of the option for consideration of the WG is detailed below: **Option D**: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr

	Road (approximately 2.5ha) as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).
Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	20km.
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None.
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	None.
Excavation requirements (e.g. impacts of local hydrogeology)	None.
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
None.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts. Describe any likely changes to the site arising as a result of:**	
Reduction of habitat area	N/A
Disturbance to key species	N/A
Habitat or species fragmentation	N/A
Reduction in species density	N/A
Changes in key indicators of conservation value (water quality, etc)	N/A
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the	N/A

structure and function of the site	
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	None expected.
Disturbance to key species	None expected.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	None expected.
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
No significant impacts are expected to the Natura 2000 site, alone or in combination with other plans or projects in the area.	
Outcome of screening stage	Not likely to be significant effect
Are the appropriate statutory environmental bodies in agreement with this conclusion? (delete as appropriate and attach relevant correspondence).	YES/NO

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Liverpool Bay / Bae Lerpwl**	
Date:	**Author:**	**Verified:**
October 2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		

Brief Description of the Natura 2000 Site	
Name and EU Code of Natura 2000 site	Liverpool Bay / Bae Lerpwl UK9020294
Site designation status (e.g. SAC, SPA, SSSI)	SPA
Site Size	170290.96 ha
Location and distance from the Scheme	Latitude 53.60277778 Longitude -3.209444444 Approximately 50m
Key features of the European Site including the primary reasons for selection and any other qualifying interests	Over winter the area regularly supports; • A001 Red throated diver *Gavia stellata* (North-western Europe - wintering) 5.4% of the GB population 5-year peak mean 2001/02 - 2006/07 • A065 Common scoter *Melanitta nigra* (Western Siberia/Western & Northern Europe/North-western Africa) 3.4% of the population 5-year peak mean 2001/02 - 2006/07 • A117 Little gull *Hydrocoloeus minutus* (non-breeding) • A193 Common tern *Sterna hirundo* (breeding) • A195 Little tern *S. albifrons (*breeding)
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	• I01 - Invasive non-native species – no pathway • H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish) – no pathway • D01 - Roads, paths and railroads – new road construction adjacent to site

	• F02- Fishing and harvesting aquatic resources – no pathway • C01 - Mining and quarrying – no pathway • D04 – Airports, flightpaths – no pathway • D02 – Utility and service lines – Drainage • J02 – Human induced changes to hydraulic conditions – no pathway • H03 – Marine water pollution - potential pathway during construction • C02 – Exploration and extraction of oil or gas – no pathway • D03 – Shipping lanes, ports, marine construction – no pathway • G01 – Outdoor sports and leisure activities – no pathway • C03 – Renewable abiotic energy use – no pathway
Natura 2000 site conservation objectives – where these are readily available	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring; • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, The distribution of the qualifying features within the site
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by virtue of the following:**	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of the option for consideration of the WG is detailed below: **Option D**: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road (approximately 2.5ha) as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).

Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	Approximately 50m
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None.
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	Pollution, in the absence of mitigation, pollution may enter the marine environment during construction and operation which may indirectly affect the qualifying features of the site. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.
Excavation requirements (e.g. impacts of local hydrogeology)	None.
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
In the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts. Describe any likely changes to the site arising as a result of:**	
Reduction of habitat area	N/A
Disturbance to key species	N/A - No suitable habitat for breeding tern colonies within the survey area. No other qualifying features of interest recorded during the surveys. Noise during construction which may displace birds from roosting and foraging within adjacent grassland.

	Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows. Vibration is normally considered to have a localised effect only and the existing road causes vibration and noise already. There is not expected to be any increase in traffic as a result of the scheme.
Habitat or species fragmentation	N/A
Reduction in species density	N/A
Changes in key indicators of conservation value (water quality, etc)	Yes – pollution, in the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site.
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure and function of the site	N/A
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	None expected.
Disturbance to key species	None expected.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	Yes – pollution, in the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site.
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
No significant impacts are expected to the Natura 2000 site, alone or in combination with other plans or projects in the area other than the potential for pollution incidences which may impact upon the marine environment and noise and vibration may cause disturbance to features of interest.	
Outcome of screening stage	Likely to be significant effect
Are the appropriate statutory environmental bodies in agreement with this conclusion? (delete as appropriate and attach relevant correspondence).	YES/NO

Project Name	**Junction 15 Improvement Works**	
Natura 2000 site under consideration	**Traeth Lafan / Lavan Sands, Conway Bay**	
Date:	**Author:**	**Verified:**
October 2018	Donna Hall	
Brief Description of Project		
• Improvement works are required associated with the A55 at Junction 15. The option that has been recommended to Welsh Government is Option D (a scheme which keeps the proposed junction in the area of the existing J15). Forma announcement is expected in November.		
Are proposed works directly connected with management of the European site?		
The proposed works are not directly connected with management of the European site		
Are proposed works 'Emergency Operations'?		
The proposed works are not 'Emergency Operations'.		
Do the proposed works constitute a 'project' for the purpose of the regulations?		
Yes		
Is the project within or <2km from the European site (<30km where bats are one of the qualifying interests / <25km where otters are one of the qualifying interests) or crossing /adjacent to a watercourse designated as a European site?		
Yes		

Brief Description of the Natura 2000 Site	
Name and EU Code of Natura 2000 site	Traeth Lafan / Lavan Sands, Conway Bay UK9013031
Site designation status (e.g. SAC, SPA, SSSI)	SPA
Site Size	2642.98 ha
Location and distance from the Scheme	Latitude 53 15 18 N Longitude 04 02 31 W The site is located approximately 50 m north of Junction 15 to the north of the scheme.
Key features of the European Site including the primary reasons for selection and any other qualifying interests	Over winter the area regularly supports; • A130 Oystercatcher *Haematopus ostralegus*, 4,931 individuals representing at least 0.5% of the wintering Europe & Northern/Western Africa population (5 year peak mean 1991/2 - 1995/6)
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	• M01 - Changes in abiotic conditions – Pollution incidences • J02 - Human induced changes in hydraulic conditions – no pathway
Natura 2000 site conservation objectives – where these are readily available	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied; • The 5 year mean peak of the number of wintering oystercatchers is at least 4,000.

	• The abundance and distribution of cockles of 15mm or larger and other suitable food are maintained at levels sufficient to support the population with a 5 year mean peak of 4,000 individuals. • Oystercatchers are not disturbed in ways that prevent them spending enough time feeding for survival. • Roost sites, including high tide roost sites, remain suitable for oystercatchers to roost undisturbed. • The management and control of activities or operations likely to adversely affect the oystercatchers, is appropriate for maintaining the feature in favourable condition and is secure in the long term.
Scheme interaction with the Natura 2000 site **Describe any likely direct, indirect or secondary impacts of the Scheme on the Natura 2000 site by virtue of the following:**	
Size and scale (road type and probable traffic volume)	The scheme will not increase the current volume of traffic. A description of each of the option for consideration by the WG at the time of writing iis detailed below: **Option D**: This option provides four-way movement by utilising an overbridge with a T-junction. This option would take the longest to construct and cause maximum disruption during construction. There would be the requirement for the removal of and/or temporary disturbance to existing areas of scrub, shrubs and tree planting as well as the loss of grassland habitat for the realignment of Penmaenmawr Road (approximately 2.5ha) as well as the requirement for the demolition of existing buildings, some of which have the potential to support bats, (albeit low potential).
Land-take within Natura 2000 site	None.
Distance from the European Site or key interests of the site (from the edge of the project assessment corridor)	Approximately 50m.
Resource requirements (from the Natura 2000 Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None.

Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	Pollution, in the absence of mitigation, pollution may enter the marine environment during construction which may indirectly affect the qualifying features of the site. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.
Excavation requirements (e.g. impacts of local hydrogeology)	Yes – within adjacent fields. Option D.
Transportation requirements	None.
Duration of construction, operation etc.	The total construction period for the Scheme would be approximately 24 months.
Other	None.
Assessment Criteria - Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	
Likely Significant effects with regards to Option D. Loss of roosting habitat for oyster catchers. However, adjacent suitable habitat will be available for refuge which will remain unaffected. In the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows. Oyster catcher were recorded within the survey areas during the wintering bird surveys. The majority of these results were during low tide, when a maximum of 1,322 were present (October 2017), predominantly foraging within the intertidal area to the west of Junction 15. Numbers within the survey area reduced as the tide flooded and birds left to forage/roost elsewhere with a maximum of 105 birds present at high tide (January 2018). During high tide, Oystercatcher were recorded using the recreational amenity grassland areas to the north of the A55 and Penmaen Park to the south.	
Initial Assessment **The key characteristics of the European Site should be considered in identifying potential impacts. Describe any likely changes to the site arising as a result of:**	
Reduction of habitat area	N/A
Disturbance to key species	Likely Significant effects with regards to Option D. Loss of roosting habitat for oyster catchers. Noise during construction which may displace birds from roosting and foraging within adjacent grassland. Vibration is normally considered to have a localised effect only and the existing road causes vibration and noise already. There is not expected to be any increase in traffic as a result of the scheme.
Habitat or species fragmentation	N/A
Reduction in species density	N/A – Species are transient and likely to use alternative habitat which would not lead to a reduction in species density.

Changes in key indicators of conservation value (water quality, etc)	Yes – pollution, in the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.
Climate Change	N/A
Likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with the key relationships that define the structure and function of the site	N/A
Indicate the significance as a result of the identification of impacts set out above in terms of:	
Reduction of habitat area	N/A
Loss/reduction in species density	None expected.
Habitat or species fragmentation	None expected.
Disruption of key species	Likely Significant effects with regards to Option D. Loss of roosting habitat for oyster catchers.
Disturbance to key species	Likely Significant effects with regards to Option D. Loss of roosting habitat for oyster catchers.
Change to key elements of the site (e.g. water quality, hydrological regime etc)	Yes – pollution, in the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site.
Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:	
The scale of magnitude is unknown, however, there will be alternative habitat available for oyster catchers which may be displaced during construction.	
Outcome of screening stage	Likely to be significant effect, loss of roosting habitat. Construction noise. Pollution, in the absence of mitigation, pollution may enter the marine environment which may indirectly affect the qualifying features of the site. Changes in air quality during construction, i.e. from an increase in dust or increased vehicle emissions as a result of queuing traffic during the works and potential disruption to normal traffic flows.
Are the appropriate statutory environmental bodies in agreement with this	YES/NO

conclusion? (delete as appropriate and attach relevant correspondence).	

SIAA - APPENDIX D
CITATION SHEETS FOR EUROPEAN SITES

NATURA 2000 – STANDARD DATA FORM

Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here
http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:
http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the SAC home page on the JNCC website. This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee
25 January 2016.

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE **UK0030202**

SITENAME **Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay**

TABLE OF CONTENTS

1. SITE IDENTIFICATION

Back to top

1.1 Type	1.2 Site code
B	UK0030202

1.3 Site name

Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay

1.4 First Compilation date	1.5 Update date
2001-03	2015-12

1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee

Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough PE1 1JY

Email:

Date site proposed as SCI:	2001-03
Date site confirmed as SCI:	2004-12
Date site designated as SAC:	2004-12
National legal reference of SAC designation:	Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010 (http://www.legislation.gov.uk/uksi/2010/490/contents/made).

2. SITE LOCATION

Back to top

2.1 Site-centre location [decimal degrees]:

Longitude	Latitude
-4.055	53.23444444

2.2 Area [ha]:

26501.64

2.3 Marine area [%]

100.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code	Region Name
UKL1	West Wales and The Valleys
UKZZ	Extra-Regio

2.6 Biogeographical Region(s)

Atlantic (100.0 %)

3. ECOLOGICAL INFORMATION

Back to top

3.1 Habitat types present on the site and assessment for them

Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A|B|C|D	A|B|C		
						Representativity	Relative Surface	Conservation	Global
1110			10574.15		G	B	C	A	B
1130			254.42		G	D			
1140			4902.8		G	B	C	B	B
1160			18392.14		G	C	B	B	C
1170			477.03		G	B	C	A	A
1330			127.21		G	D			
8330			26.5		G	C	C	B	C

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter

"X" in the column PF to indicate the priority form.

- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
F	1102	Alosa alosa			p				P	DD	D			
F	1103	Alosa fallax			p				P	DD	D			
M	1364	Halichoerus grypus			p				P	DD	D			
F	1099	Lampetra fluviatilis			p				P	DD	D			
F	1095	Petromyzon marinus			p				P	DD	D			

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

Back to top

4.1 General site character

Habitat class	% Cover
N02	19.0
N03	0.5
N05	0.5
N01	80.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: limestone,shingle,sand,basic,metamorphic 2 Terrestrial: Geomorphology and

landscape: lowland,coastal 3 Marine: Geology: gravel,biogenic reef,shingle,clay,metamorphic,sand,cobble,slate/shale,boulder,pebble,limestone/chalk,mud,sandstone/mudstone Marine: Geomorphology: open coast (including bay),intertidal rock,cave/tunnel,tidal rapids,islands,lagoon,intertidal sediments (including sandflat/mudflat),subtidal rock (including rocky reefs),pools,cliffs,sound/strait,estuary,subtidal sediments (including sandbank/mudbank)

4.2 Quality and importance

Sandbanks which are slightly covered by sea water all the time for which this is considered to be one of the best areas in the United Kingdom. Mudflats and sandflats not covered by seawater at low tide for which this is considered to be one of the best areas in the United Kingdom. Large shallow inlets and bays for which the area is considered to support a significant presence. Reefs for which this is considered to be one of the best areas in the United Kingdom. Submerged or partially submerged sea caves for which the area is considered to support a significant presence.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i|o|b]
H	H01		B
H	J02		B
H	F02		I
H	I01		B
H	G05		B
M	M01		B

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i|o|b]
M	D01		I
M	G02		I
M	D05		I
M	E06		I
M	G01		I

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

4.5 Documentation

The Natural Resources Wales weblink below provides access to information on its designated sites. Detailed information about this Natura 2000 site can be accessed via the Management Plan link provided in Section 6.2. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-s

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

5. SITE PROTECTION STATUS (optional)

Back to top

5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK00	87.7	UK04	12.3		

6. SITE MANAGEMENT

Back to top

6.1 Body(ies) responsible for the site management:

Organisation:	Natural Resources Wales

Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

X	Yes	Name: Y FENAI A BAE CONWY / MENAI STRAIT AND CONWY BAY Link: https://www.naturalresources.wales/media/673892/Y%20Fenai%20a%20Bay%20Conwy%20R33%20Advice%20Feb%2
	No, but in preparation	
	No	

EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the official European Union guidelines for the Standard Data Form. The relevant page is shown in the table below.

1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	Designated Special Protection Area	53
B	SAC (includes candidates Special Areas of Conservation, Sites of Community Importance and designated SAC)	53
C	SAC area the same as SPA. Note in the UK Natura 2000 submission this is only used for Gibraltar	53

3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent	57
B	Good	57
C	Significant	57
D	Non-significant presence	57

3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippopha□ rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	15%-100%	58
B	2%-15%	58
C	< 2%	58

3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

3.1 Global grade habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	15%-100%	62
B	2%-15%	62
C	< 2%	62
D	Non-significant population	62

3.2 Conservation status species (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic ressources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67

NATURA 2000 – STANDARD DATA FORM

Special Protection Areas under the EC Birds Directive.

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here
http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:
http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

More general information on Special Protection Areas (SPAs) in the United Kingdom is available from the SPA home page on the JNCC website. This webpage also provides links to Standard Data Forms for all SPAs in the UK.

Date form generated by the Joint Nature Conservation Committee
25 January 2016.

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE **UK9013031**

SITENAME **Traeth Lafan/ Lavan Sands, Conway Bay**

TABLE OF CONTENTS

1. SITE IDENTIFICATION

Back to top

1.1 Type	1.2 Site code
A	UK9013031

1.3 Site name

Traeth Lafan/ Lavan Sands, Conway Bay

1.4 First Compilation date	1.5 Update date
1992-06	2015-12

1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee

Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough PE1 1JY

Email:

1.7 Site indication and designation / classification dates

Date site classified as SPA:	1992-06
National legal reference of SPA designation	Regulations 12A and 13-15 of the Conservation Habitats and Species Regulations 2010, (http://www.legislation.gov.uk/uksi/2010/490/contents/made) as amended by The Conservation of Habitats and Species (Amendment) Regulations 2011 (http://www.legislation.gov.uk/uksi/2011/625/contents/made).

2. SITE LOCATION

Back to top

2.1 Site-centre location [decimal degrees]:

Longitude	Latitude
-4.041111111	53.73611111

2.2 Area [ha]:

2703.13

2.3 Marine area [%]

100.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code	Region Name
UKL1	West Wales and The Valleys

2.6 Biogeographical Region(s)

Atlantic (100.0 %)

3. ECOLOGICAL INFORMATION

Back to top

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A130	Haematopus ostralegus			w	5500	5500	i		G	C		C	
B	A069	Mergus serrator			w	120	120	i		G	C		C	
B	A160	Numenius arquata			w	1500	1500	i		G	C		C	
B	A005	Podiceps cristatus			c	500	500	i		G	B		C	
B	A162	Tringa totanus			w	1200	1200	i		G	B		C	

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)

- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

Back to top

4.1 General site character

Habitat class	% Cover
N02	98.0
N03	2.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: sand,shingle 2 Terrestrial: Geomorphology and landscape: coastal 3 Marine: Geology: sand 4 Marine: Geomorphology: intertidal sediments (including sandflat/mudflat)

4.2 Quality and importance

ARTICLE 4.2 QUALIFICATION (79/409/EEC) Over winter the area regularly supports: Haematopus ostralegus (Europe & Northern/Western Africa) 1.4% of the population in Great Britain 5 year peak mean 1991/92-1995/96 Numenius arquata (Europe - breeding) 1.1% of the population in Great Britain 5 year peak mean 1991/92-1995/96 On passage the area regularly supports: Podiceps cristatus (North-western Europe - wintering) % of the population in Great Britain No count period specified.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i|o|b]
H	M01		B
H	J02		B

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i|o|b]
M	G03		I
M	G01		I
M	D05		I

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

4.5 Documentation

The Natural Resources Wales weblink below provides access to information on its designated sites. Detailed information about this Natura 2000 site can be accessed via the Management Plan link provided in Section 6.2. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): https://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-s

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

Back to top

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	101.9				

6. SITE MANAGEMENT

Back to top

6.1 Body(ies) responsible for the site management:

Organisation:	Natural Resources Wales
Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

- [X] Yes — Name: TRAETH LAFAN / LAVAN SANDS, CONWAY BAY
  Link: https://www.naturalresources.wales/media/674184/Traeth%20Lafan%20SAC%20Plan%2021[1].4.08%20English.pdf
- [ ] No, but in preparation
- [ ] No

EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the official European Union guidelines for the Standard Data Form. The relevant page is shown in the table below.

1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	Designated Special Protection Area	53
B	SAC (includes candidates Special Areas of Conservation, Sites of Community Importance and designated SAC)	53
C	SAC area the same as SPA. Note in the UK Natura 2000 submission this is only used for Gibraltar	53

3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent	57
B	Good	57
C	Significant	57
D	Non-significant presence	57

3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippopha□ rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	15%-100%	58
B	2%-15%	58
C	< 2%	58

3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

3.1 Global grade habitat

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	15%-100%	62
B	2%-15%	62
C	< 2%	62
D	Non-significant population	62

3.2 Conservation status species (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic ressources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67

NATURA 2000 – STANDARD DATA FORM

Special Protection Areas (SPAs) classified under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version), also known as the 'Birds Directive'

and

Special Areas of Conservation (SACs) (includes candidate SACs, Sites of Community Importance (SCIs) and designated SACs) designated under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, also known as the 'Habitats Directive'

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information.

The information provided here follows the officially agreed site information format for Natura 2000 sites, as set out in the Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 (2011/484/EU).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here:
http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

In December 2015, several sections of the UK's previously published Standard Data Forms were updated. For details of the approach taken by the UK in this submission please refer to the following document:
http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf.
These changes formed part of the UK Submission to the European Commission on 22/12/2015.

More general information on Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the United Kingdom, including in Gibraltar, is available from the SPA homepage and SAC homepage on the JNCC website. These webpages also provide links to Standard Data Forms for all Natura 2000 sites in the UK.

Date Standard Data Form generated by the Joint Nature Conservation Committee:	14th November 2017 (UK Tranche 56)

NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE **UK9020294**

SITENAME **Liverpool Bay / Bae Lerpwl**

TABLE OF CONTENTS

1. SITE IDENTIFICATION

Back to top

1.1 Type	1.2 Site code
A	UK9020294

1.3 Site name

Liverpool Bay / Bae Lerpwl

1.4 First Compilation date	1.5 Update date
2010-08	2017-11

1.6 Respondent:

Name/Organisation:	Joint Nature Conservation Committee
Address:	Joint Nature Conservation Committee Monkstone House City Road Peterborough PE1 1JY
Email:	

1.7 Site indication and designation / classification dates

Date site classified as SPA:	2010-08
National legal reference of SPA designation	Regulations 12A and 13-15 of the Conservation Habitats and Species Regulations 2010, (http://www.legislation.gov.uk/uksi/2010/490/contents/made) as amended by The Conservation of Habitats and Species (Amendment) Regulations 2011 (http://www.legislation.gov.uk/uksi/2011/625/contents/made).

2. SITE LOCATION

Back to top

2.1 Site-centre location [decimal degrees]:

Longitude	Latitude
-3.422	53.61

2.2 Area [ha]:

252757.73

2.3 Marine area [%]

96.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code	Region Name
UKL1	West Wales and The Valleys
UKZZ	Extra-Regio
UKD5	Merseyside

2.6 Biogeographical Region(s)

Atlantic (100.0 %)

3. ECOLOGICAL INFORMATION

Back to top

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	A|B|C|D	A|B|C		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A001	Gavia stellata			w	1171	1171	i	C	G	B		C	
B	A177	Larus minutus			w	319	319	i	C	G			C	
B	A065	Melanitta nigra			w	56679	56679	i	C	G	B		C	
B	A195	Sterna albifrons			r	260	260	i	C	G	B		C	
B	A193	Sterna hirundo			r	360	360	i	C	G	C		C	

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)

- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

3.3 Other important species of flora and fauna (optional)

Species					Population in the site				Motivation					
Group	CODE	Scientific Name	S	NP	Size		Unit	Cat.	Species Annex		Other categories			
					Min	Max		C|R|V|P	IV	V	A	B	C	D
B	WATR	Waterbird assemblage			69687	69687	i							X

- **Group:** A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles
- **CODE:** for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Unit:** i = individuals, p = pairs or other units according to the standard list of population units and codes in accordance with Article 12 and 17 reporting, (see reference portal)
- **Cat.:** Abundance categories: C = common, R = rare, V = very rare, P = present
- **Motivation categories: IV, V:** Annex Species (Habitats Directive), **A:** National Red List data; **B:** Endemics; **C:** International Conventions; **D:** other reasons

4. SITE DESCRIPTION

Back to top

4.1 General site character

Habitat class	% Cover
N01	96.0
N02	4.0
Total Habitat Cover	100

Other Site Characteristics

3 Marine: Geology: sandstone/mudstone,clay,mud,sedimentary,shingle,sand,sedimentary 4 Marine: Geomorphology: open coast (including bay),intertidal sediments (including sandflat/mudflat),sedimentary rocks,intertidal rock,glacial sediments,subtidal sediments (including sandbank/mudbank) Salinity: saline/euhaline

4.2 Quality and importance

ARTICLE 4.1 QUALIFICATION (79/409/EEC) Over winter the area regularly supports: Gavia stellata (North-western Europe - wintering) 6.89% of the GB population (5 year peak mean 2004/05 - 2010/11, 1,171 individuals) Hydrocoloeus minutus (wintering) (5 year peak mean 2004/05 - 2010/11, 319 individuals) Sternula albifrons (breeding) 6.84% of the GB population 5 year mean 2010 - 2014, 130 pairs (Apparently Occupied Nests at Gronant Beach from Seabird Monitoring Programme database). These figures represent the current population at the site (SMP, pers. comm.). The ‘at classification’ population for little tern in The

Dee Estuary SPA is 138 individuals (1995-1999). Sterna hirundo (breeding) 1.80% of the GB population 5 year mean 2011 - 2015, 180 pairs (Apparently Occupied Nests at Seaforth Nature Reserve from Seabird Monitoring Programme database). ARTICLE 4.2 QUALIFICATION (79/409/EEC) Over winter the area regularly supports: Melanitta nigra (North-western Europe - wintering) 10.31% of the NW European population regularly occurring migrant (5 year mean of peaks 2004/05 - 2010/11, 56,679 individuals) ARTICLE 4.2 QUALIFICATION (79/409/EEC) AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS Over winter the area regularly supports: 69,687 waterbirds (5 year peak mean 2004/05 - 2010/11) Including: (over 1% GB or 2000 individuals) Gavia stellata , Melanitta nigra, Hydrocoloeus minutus, Mergus serrator, Phalacrocorax carbo; (less than 1% GB or less than 2000 Individuals) Chroicocephalus ridibundus, Larus canus, Somateria mollissima, Fulmarus glacialis, Larus marinus, Podiceps cristatus, Uria aalge, Morus bassanus, Fratercula arctica, Larus argentatus, Rissa tridactyla, Larus fuscus, Gavia immer, Phalacrocorax aristotelis, Alca torda, Melanitta fusca.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i|o|b]
M	F02		i
M	H01		b
M	I01		b
L	D04		o
H	D02		b
H	J02		b
H	D01		b
M	H03		b
M	C02		b
H	D03		b
M	C01		b
M	G01		b
H	C03		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i|o|b]
L	G03		o
H	D05		I

Rank: H = high, M = medium, L = low
Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions
i = inside, o = outside, b = both

4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. Detailed information about this Natura 2000 site can be accessed via the Managament Plan link provided in Section 6.2. The Natural Resources Wales weblink below provides access to information on its designated sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): http://publications.naturalengland.org.uk/category/6490068894089216

http://publications.naturalengland.org.uk/category/3212324
http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-c

http://jncc.defra.gov.uk/page-1414
http://jncc.defra.gov.uk/page-6895

5. SITE PROTECTION STATUS (optional)

Back to top

5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK02	11.0	UK00	89.0		

6. SITE MANAGEMENT

Back to top

6.1 Body(ies) responsible for the site management:

Organisation:	For information about relevant management for offshore waters please contact JNCC
Address:	
Email:	

Organisation:	Natural England (inshore waters)
Address:	
Email:	

Organisation:	Natural Resources Wales (inshore waters)
Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

[X] Yes

Name: Liverpool Bay / Bae Lerpwl Special Protection Area
Link: https://naturalresources.wales/media/678824/liverpool-bay-bae-lerpwl-spa-conservation-advice.pdf

Name: Conservation Advice for European Marine Sites
Link: http://publications.naturalengland.org.uk/category/3212324

Name: Conservation Objectives for European Sites
Link: http://publications.naturalengland.org.uk/category/6490068894089216

[ ] No, but in preparation

[ ] No

6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

7. MAP OF THE SITES

Back to top

INSPIRE ID:

Map delivered as PDF in electronic format (optional)

[ ] Yes [X] No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the official European Union guidelines for the Standard Data Form. The relevant corresponding page number is shown in the table below.

1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	SPA (classified Special Protection Area)	53
B	cSAC, SCI or SAC (candidate Special Area of Conservation, Site of Community Importance, designated Special Area of Conservation)	53
C	SPA area/boundary is the same as the cSAC/SCI/SAC i.e. a co-classified/designated site (Note: in the UK Natura 2000 submission, this is only used in Gibraltar)	53

3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent representativity	57
B	Good representativity	57
C	Significant representativity	57
D	Non-significant presence	57

3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippophaë rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	58
B	> 2%-15%	58
C	≤ 2%	58

3.1 Degree of conservation

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

3.1 Global assessment

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	62
B	> 2%-15%	62
C	≤ 2%	62
D	Non-significant population	62

3.2 Degree of conservation (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

3.2 Global assessment (abbreviated to 'Glo.' or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non-breeding waterbird assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67
UK05	Marine Conservation Zone	67
UK06	Nature Conservation Marine Protected Area	67
UK86	Special Area (Channel Islands)	67
UK98	Area of Special Scientific Interest (NI)	67
IN00	Ramsar Convention site	67
IN08	Special Protection Area (SPA, EC Birds Directive)	67
IN09	Special Area of Conservation (SAC, EC Habitats Directive)	67

SIAA - APPENDIX E
OVERWINTERING BIRD SURVEY REPORT

© Crown copyright and database rights 2018 Ordnance Survey 0100031673

- A55 Junctions
- Study Area Boundaries

A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Llywodraeth Cymru
Welsh Government

RICHARD Moorehead & Laing — PLANNING | LANDSCAPE | ENVIRONMENT

YGC

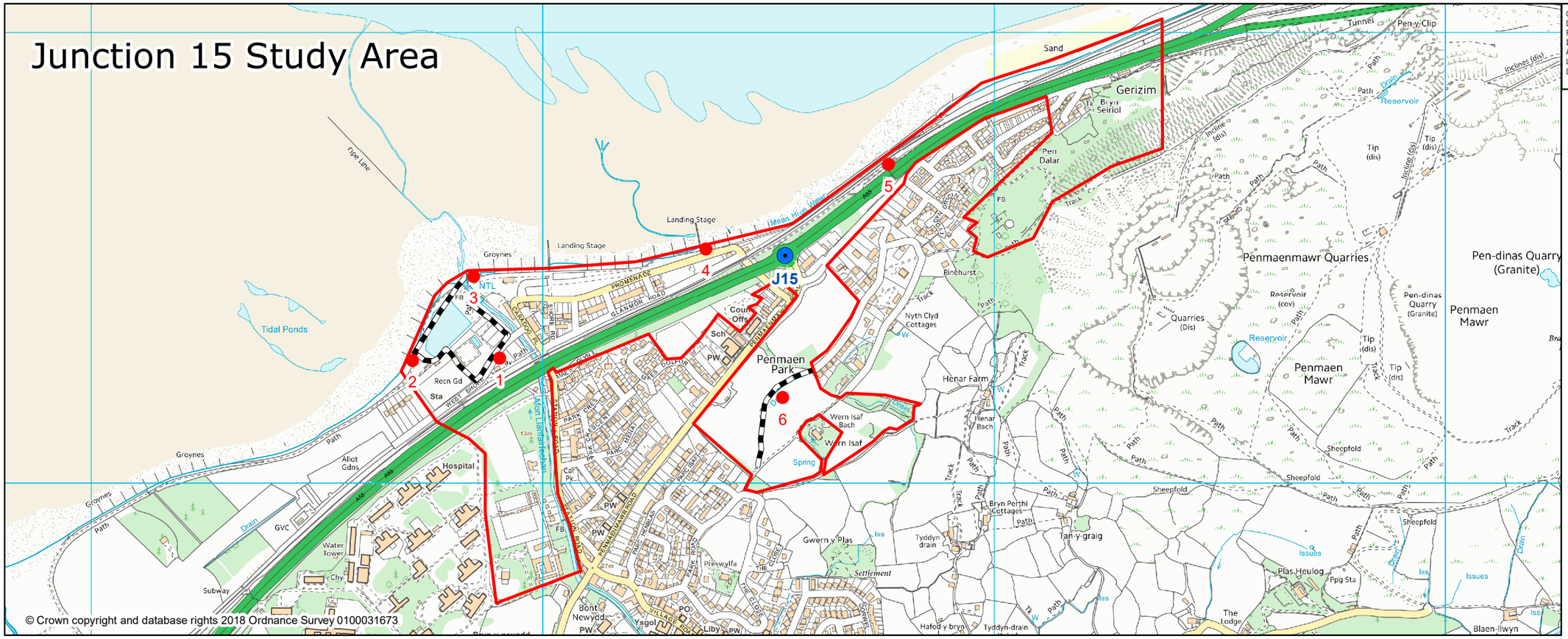
RAMBOLL

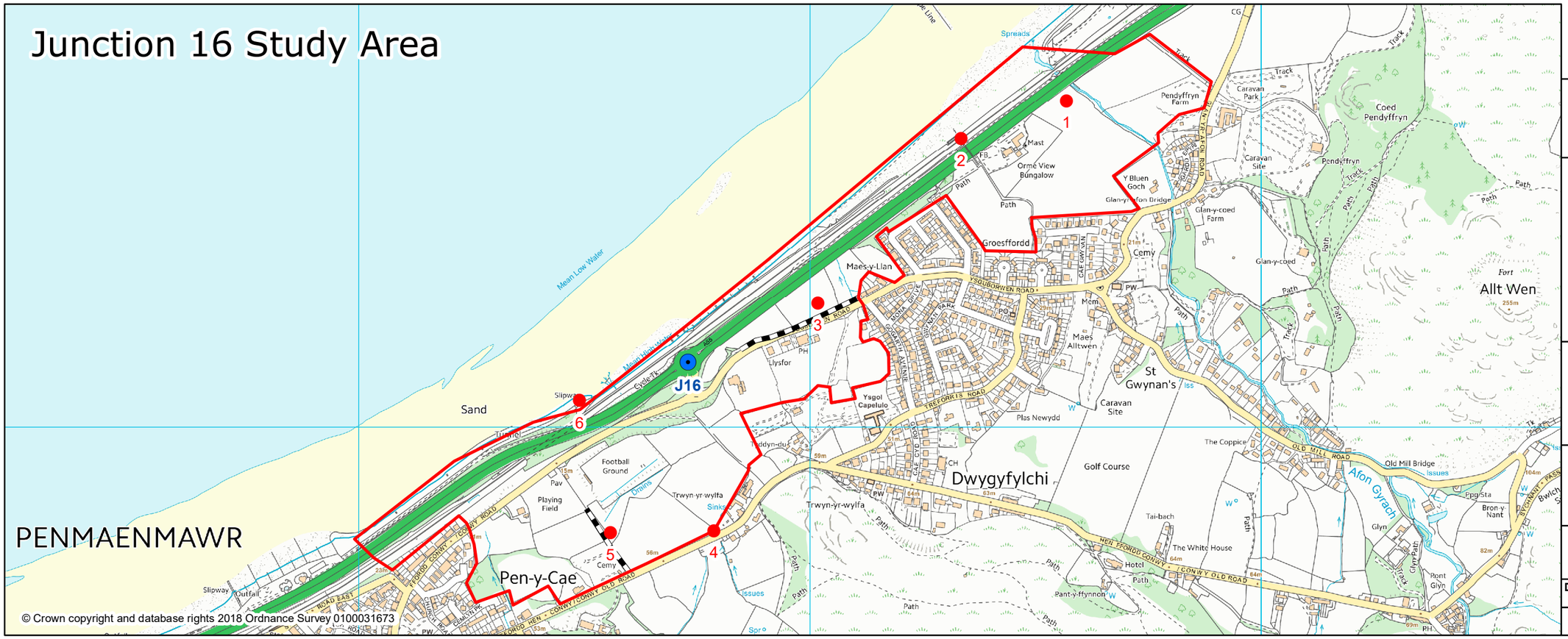
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

BiOME CONSULTING

Fig 1 Site Location

Drawn: JG	Scale (@A3): 1:25,000	Date: 18/07/2018
Drawing No: 1		Rev:





⦿ A55 Junctions
▭ Study Area Boundary
● Viewpoint
▬ Transects

A55 Junctions 15 & 16;
Wintering
Bird Survey 2017/2018

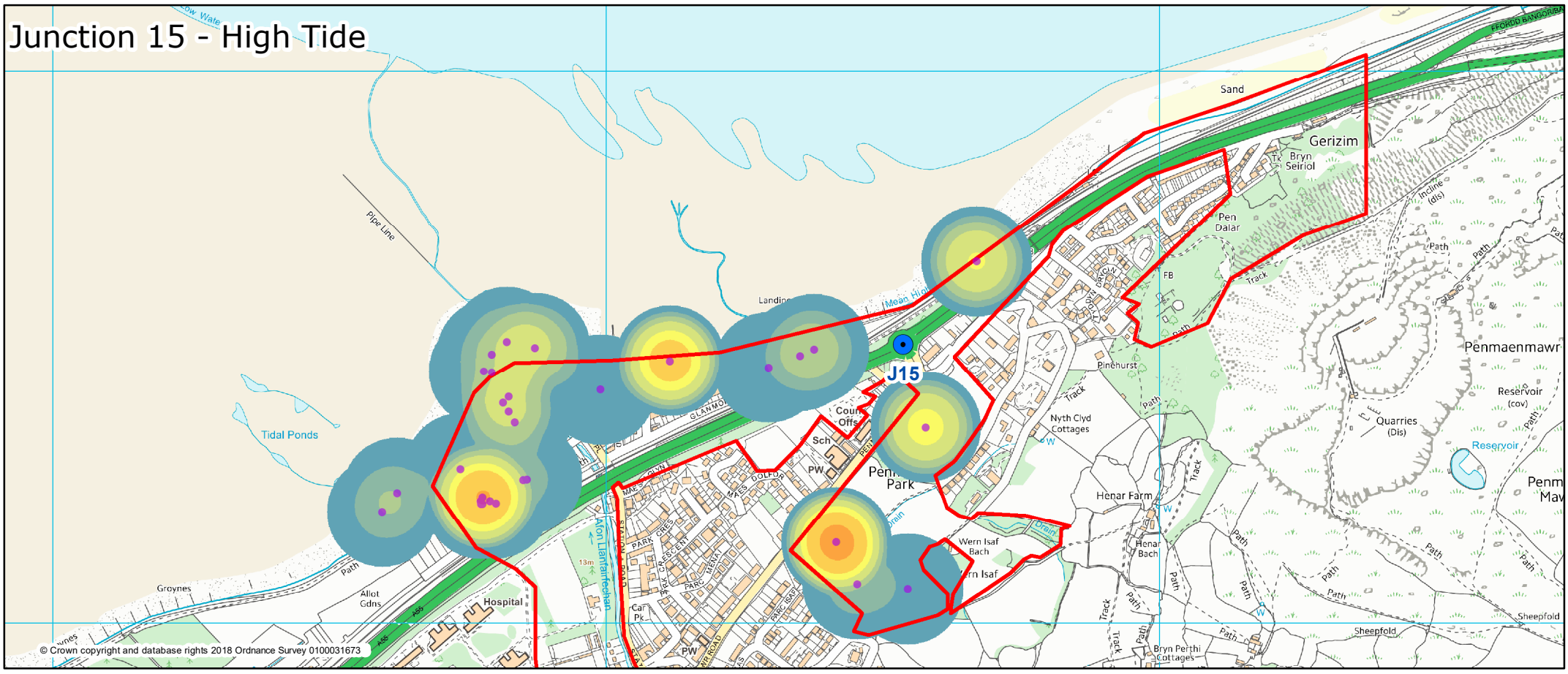
Llywodraeth Cymru
Welsh Government

tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Fig 2 Study areas and
Survey Routes

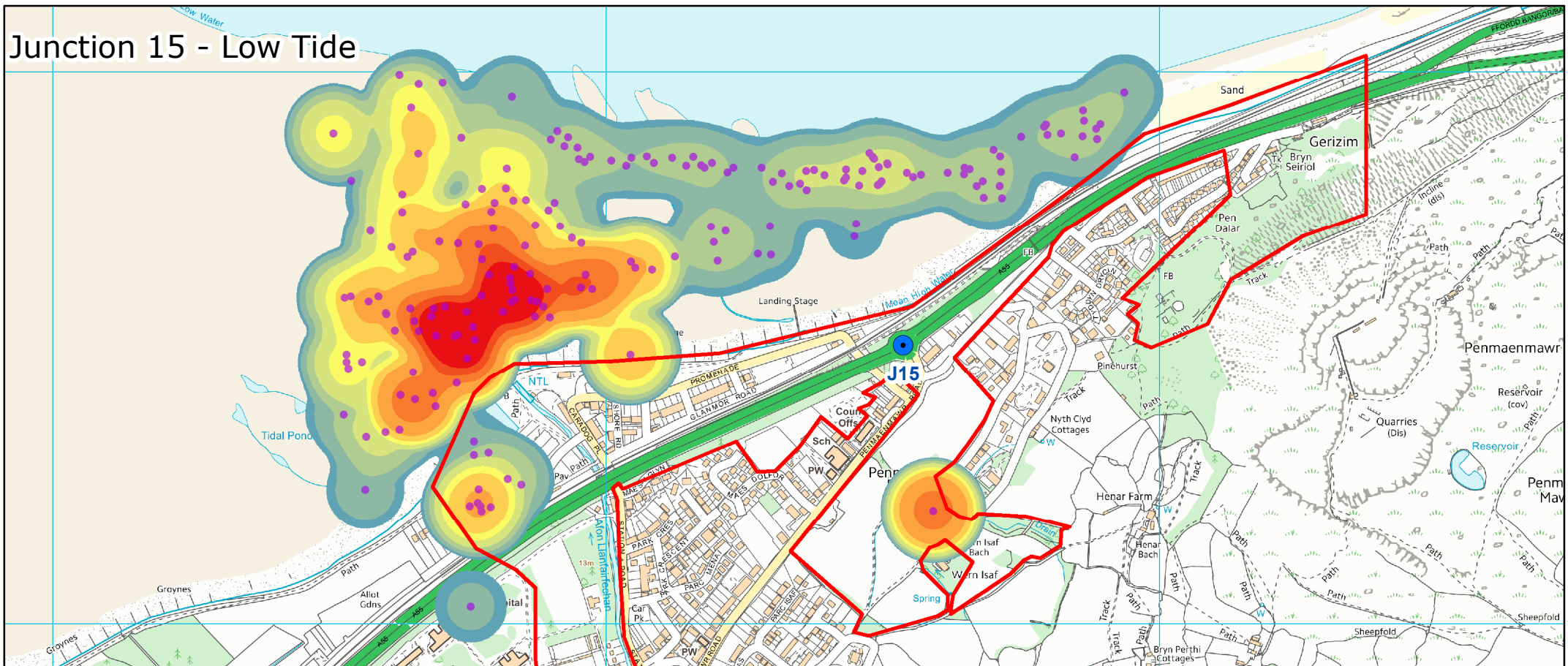
Drawn: JG
Scale (@A3): 1:10,000
Date: 18/07/2018
Drawing No: 2
Rev:

Junction 15 - High Tide



Junction 15 - Mid Tide

Junction 15 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 3 Cumulative Oystercatcher Distribution J15 (Oct-Mar)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 3		Rev:

Oystercatcher Cumulative Counts

- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20
- 21 - 30
- 31 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 550

A55 Junctions

Study Area Boundary

Bird Observations

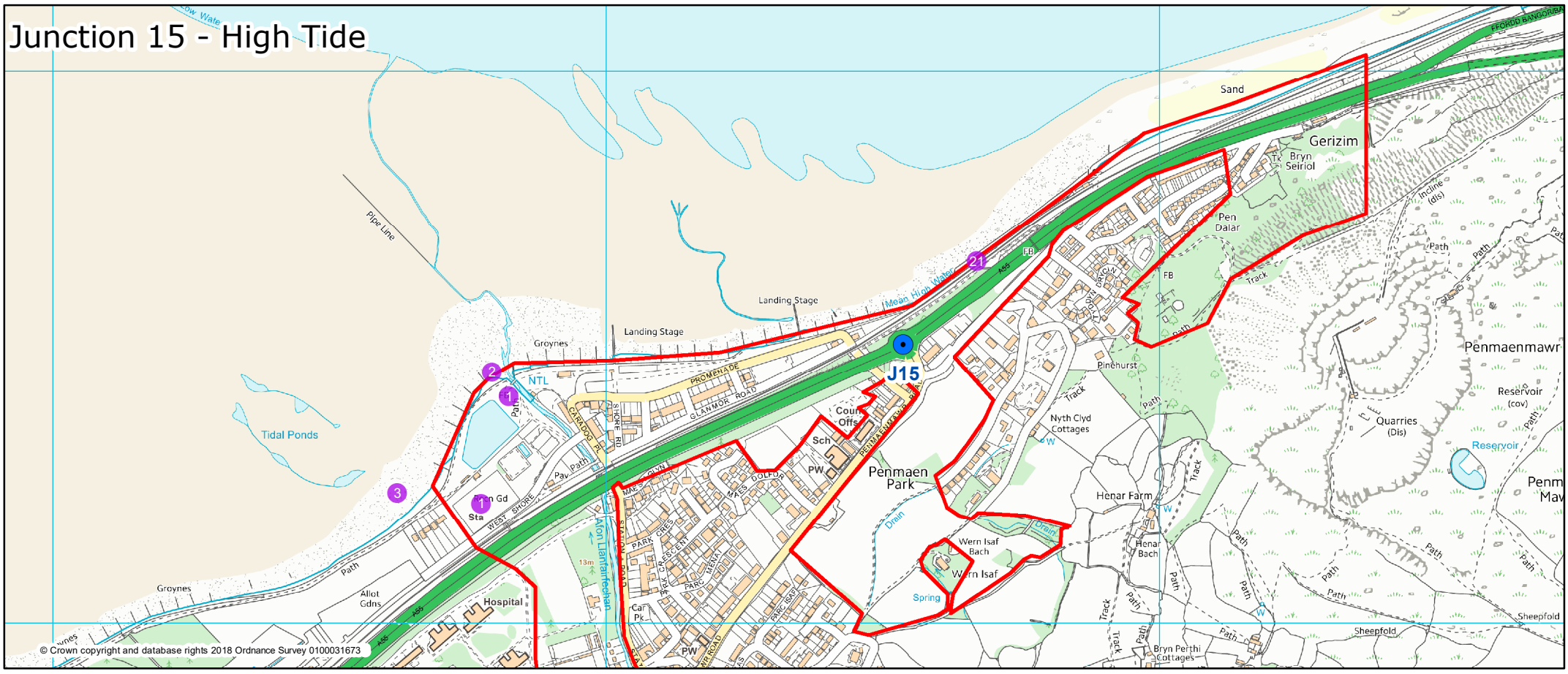
Llywodraeth Cymru Welsh Government

RICHARD | YGC

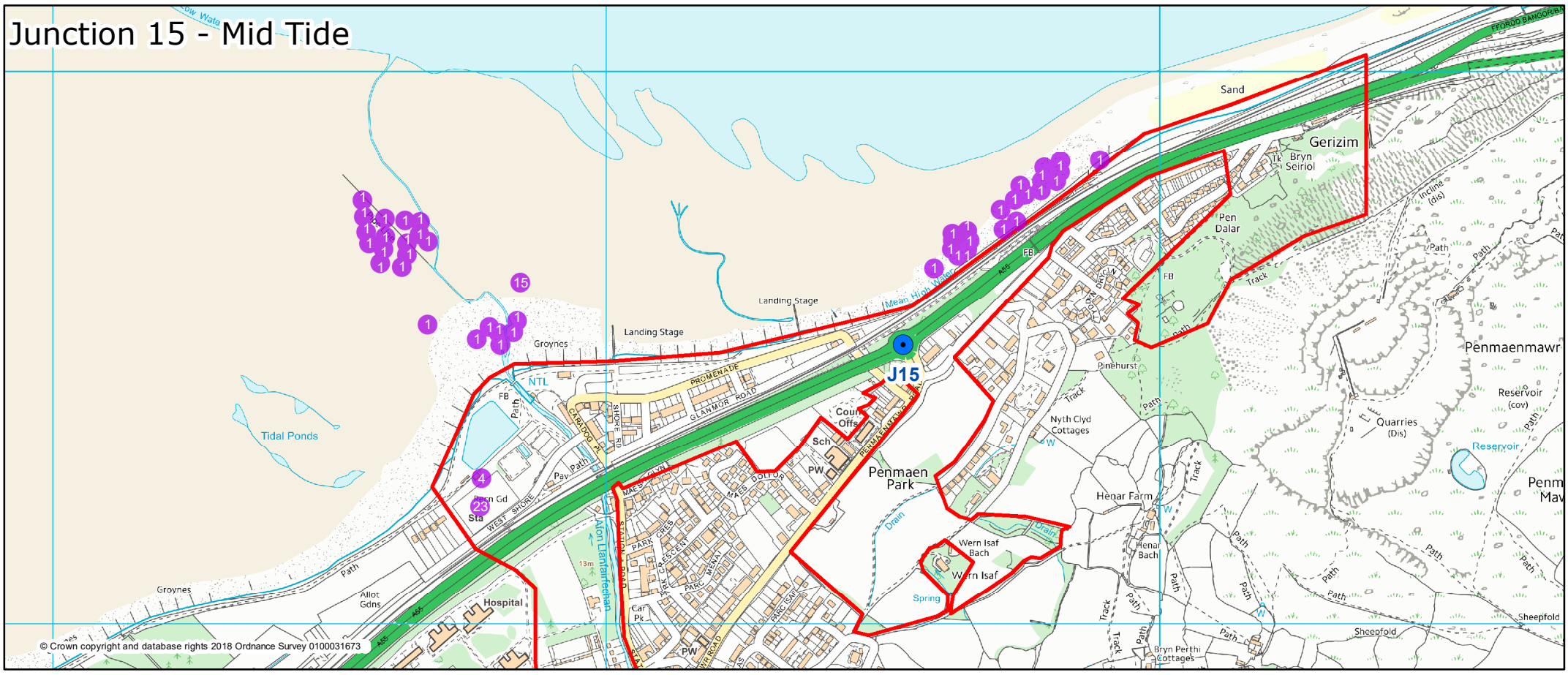
BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

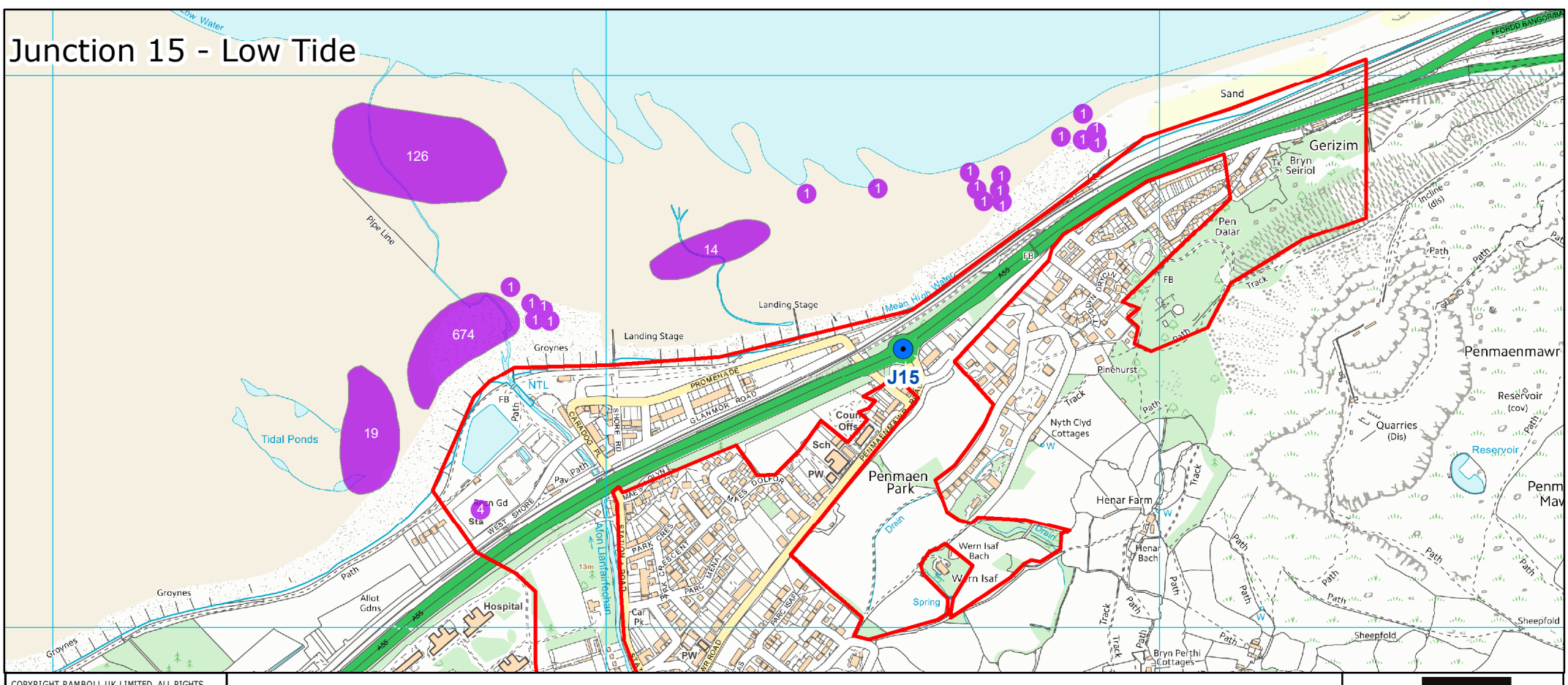
Junction 15 - High Tide



Junction 15 - Mid Tide



Junction 15 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 4
Oystercatcher Distribution J15 (Oct)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 4		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru
Welsh Government

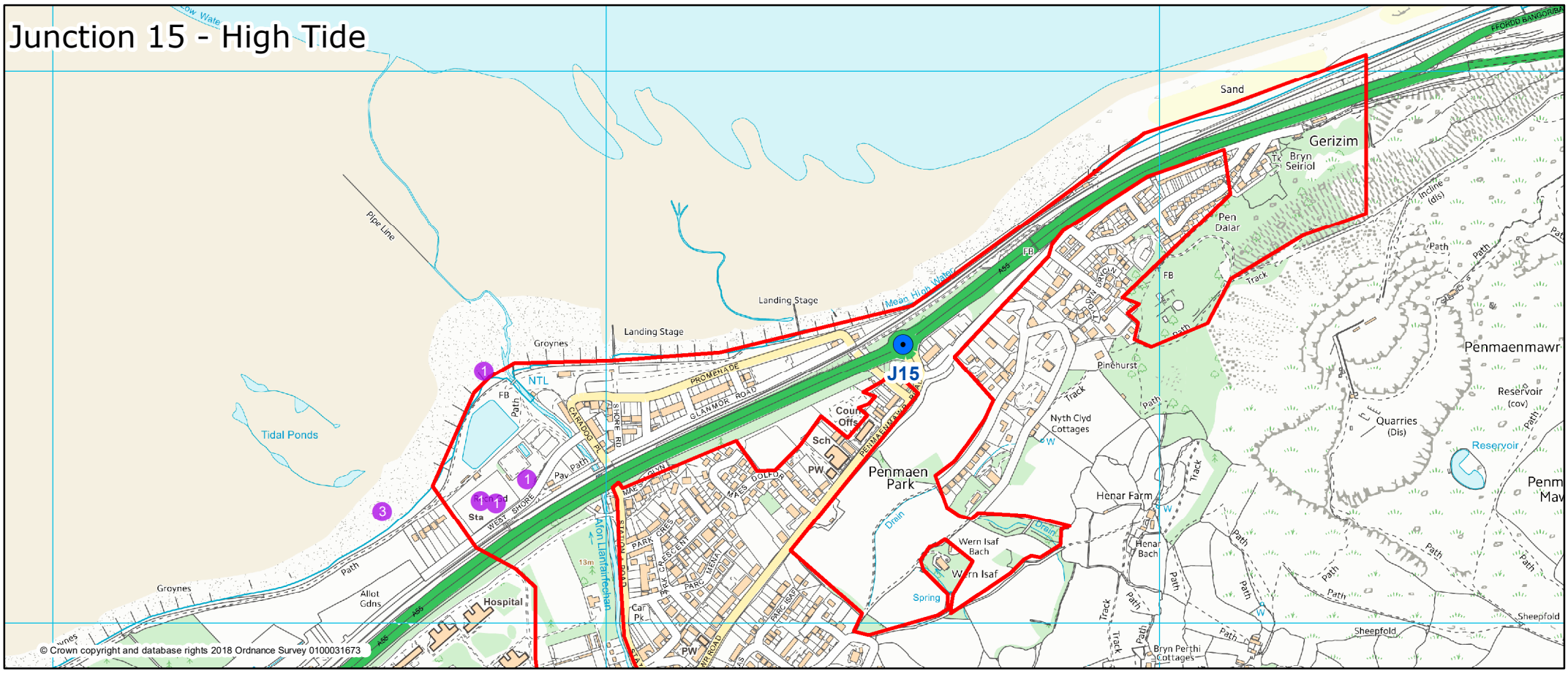
RICHARD | YGC

BiOME CONSULTING

RAMBOLL

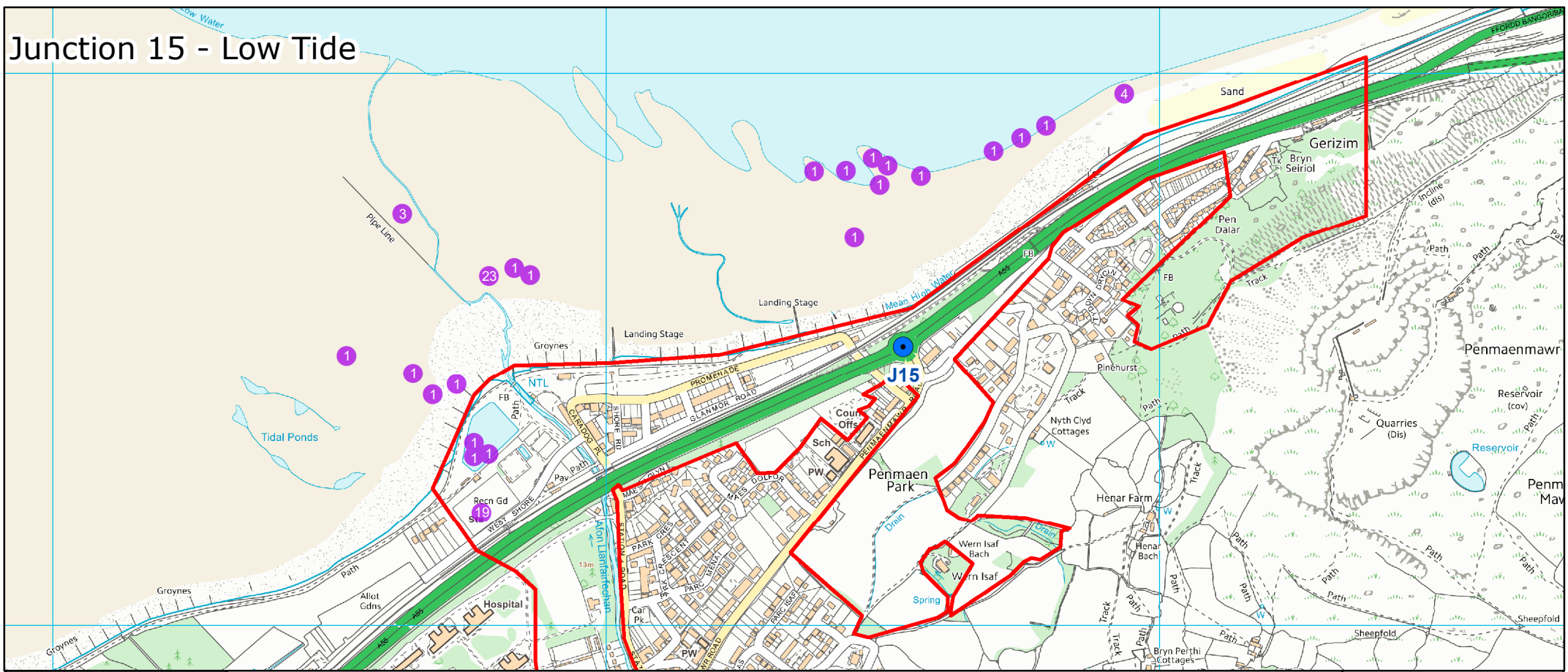
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 15 - High Tide



Junction 15 - Mid Tide

Junction 15 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 5
Oystercatcher Distribution J15 (Nov)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 5		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

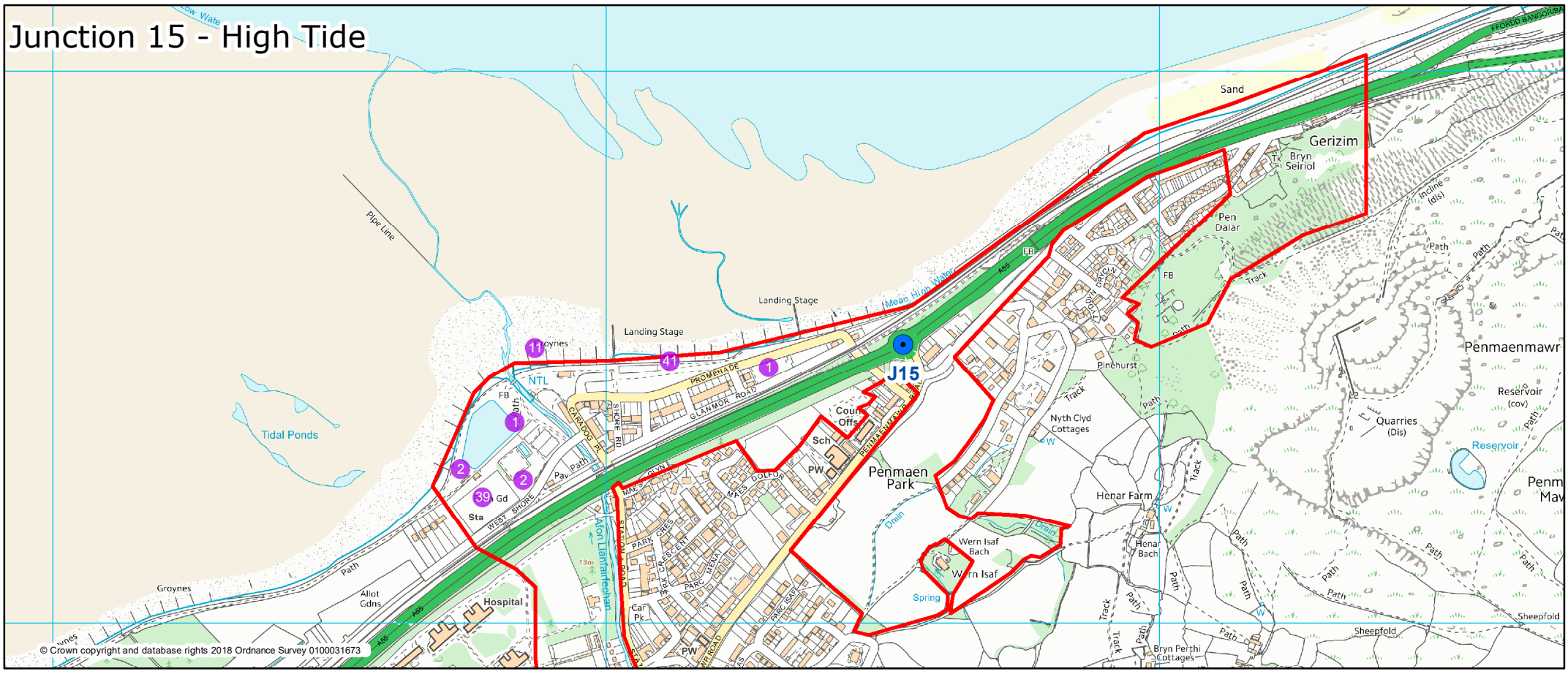
Llywodraeth Cymru Welsh Government

RICHARD | YGC

BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 15 - High Tide



Junction 15 - Mid Tide

Junction 15 - Low Tide

A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 6
Oystercatcher Distribution J15 (Dec)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 6		Rev:

Bird Observations
A55 Junctions
Study Area Boundary

Llywodraeth Cymru
Welsh Government

RICHARD MOORHOUSE & LAING
PLANNING | LANDSCAPE | ENVIRONMENT

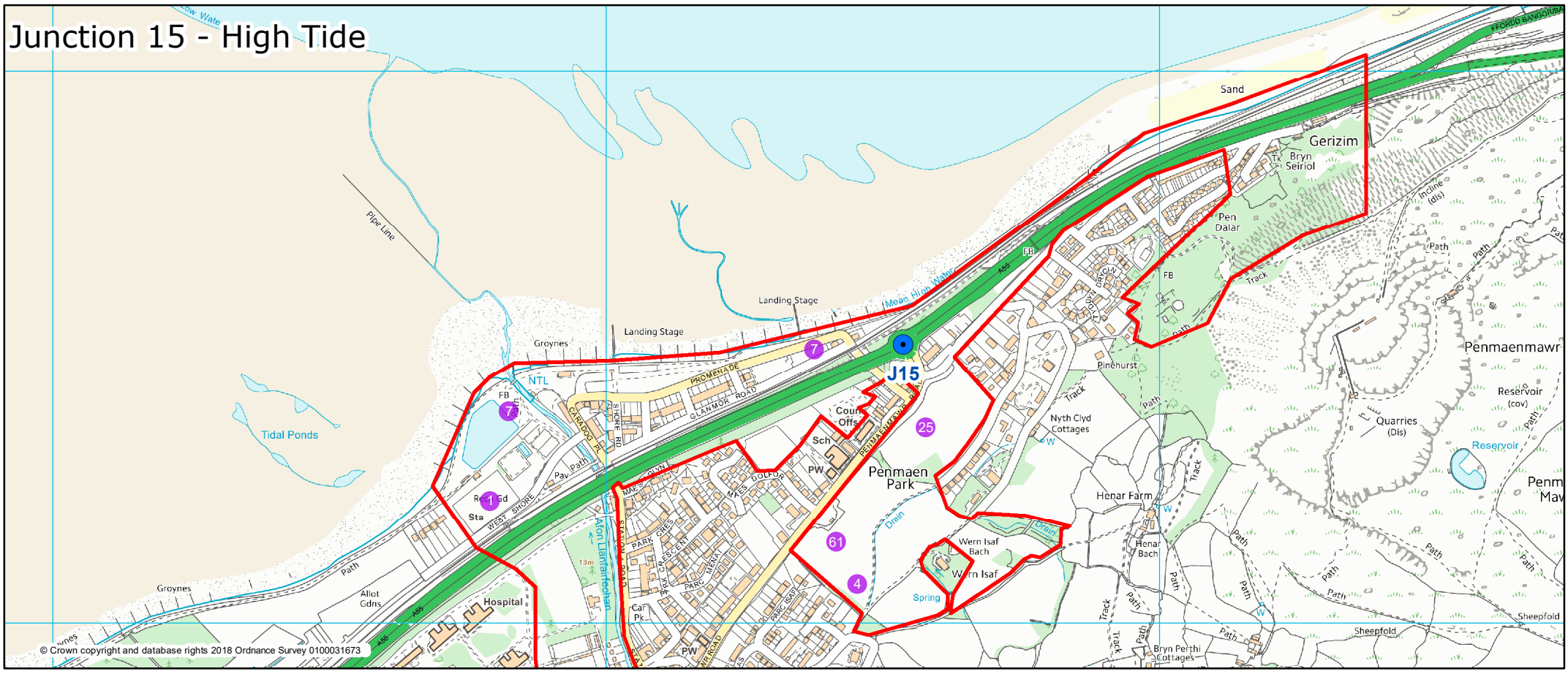
YGC

BiOME CONSULTING

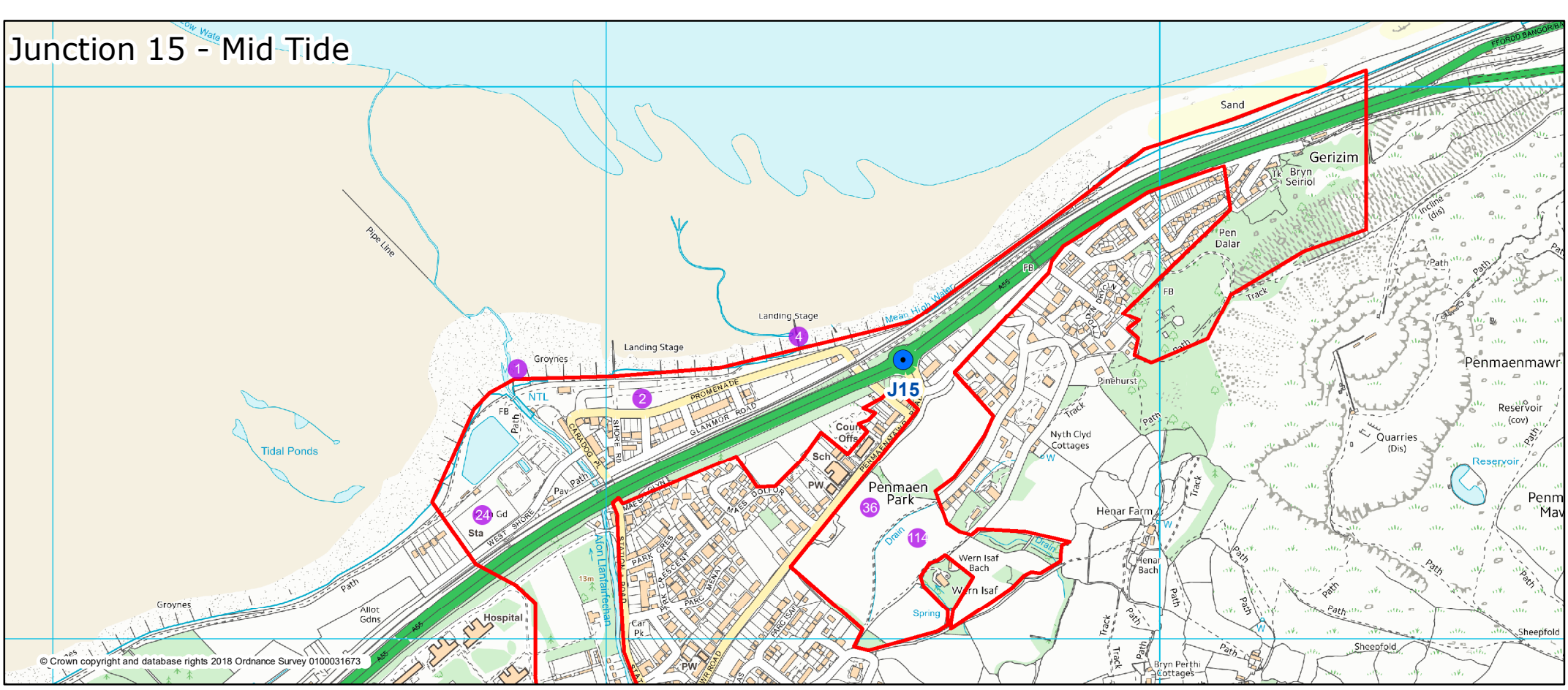
RAMBOLL

tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

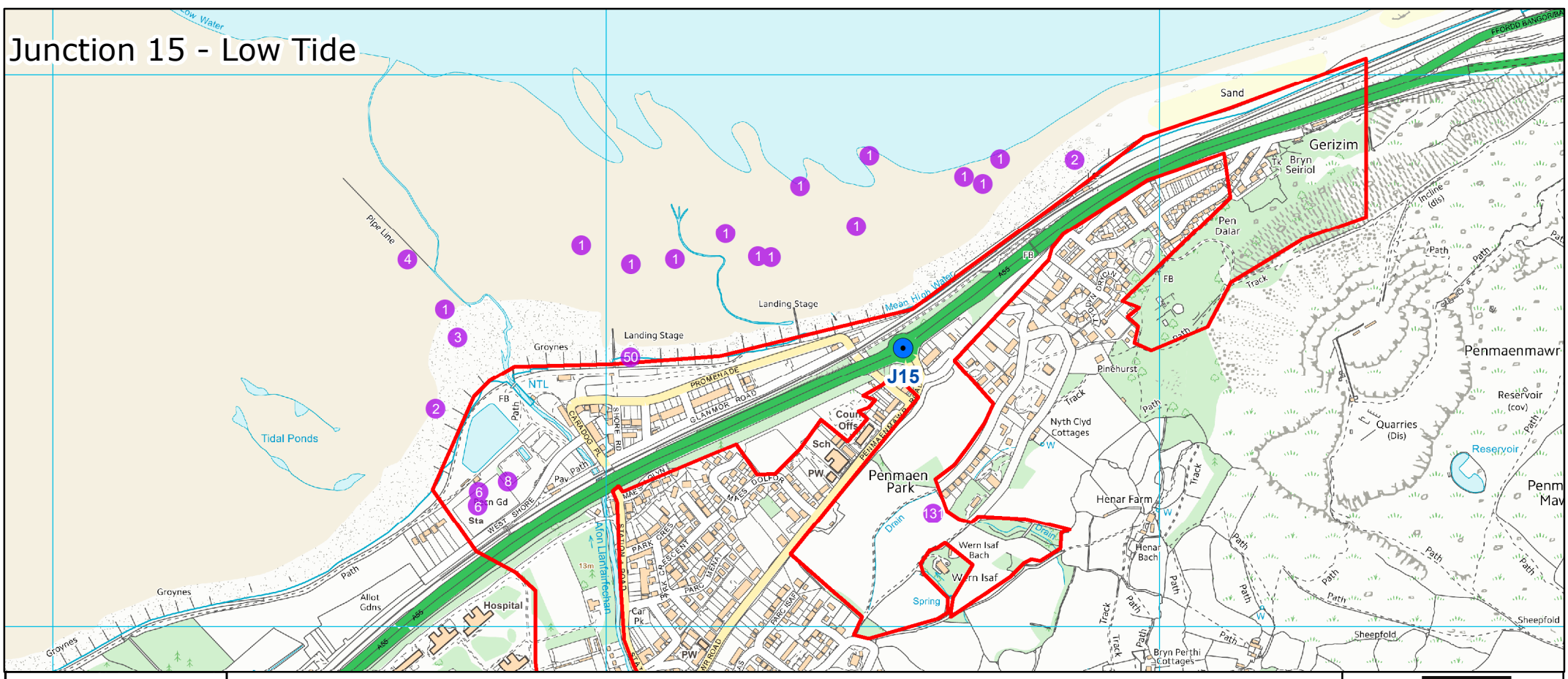
Junction 15 - High Tide



Junction 15 - Mid Tide



Junction 15 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 7
Oystercatcher Distribution J15 (Jan)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 7		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru Welsh Government

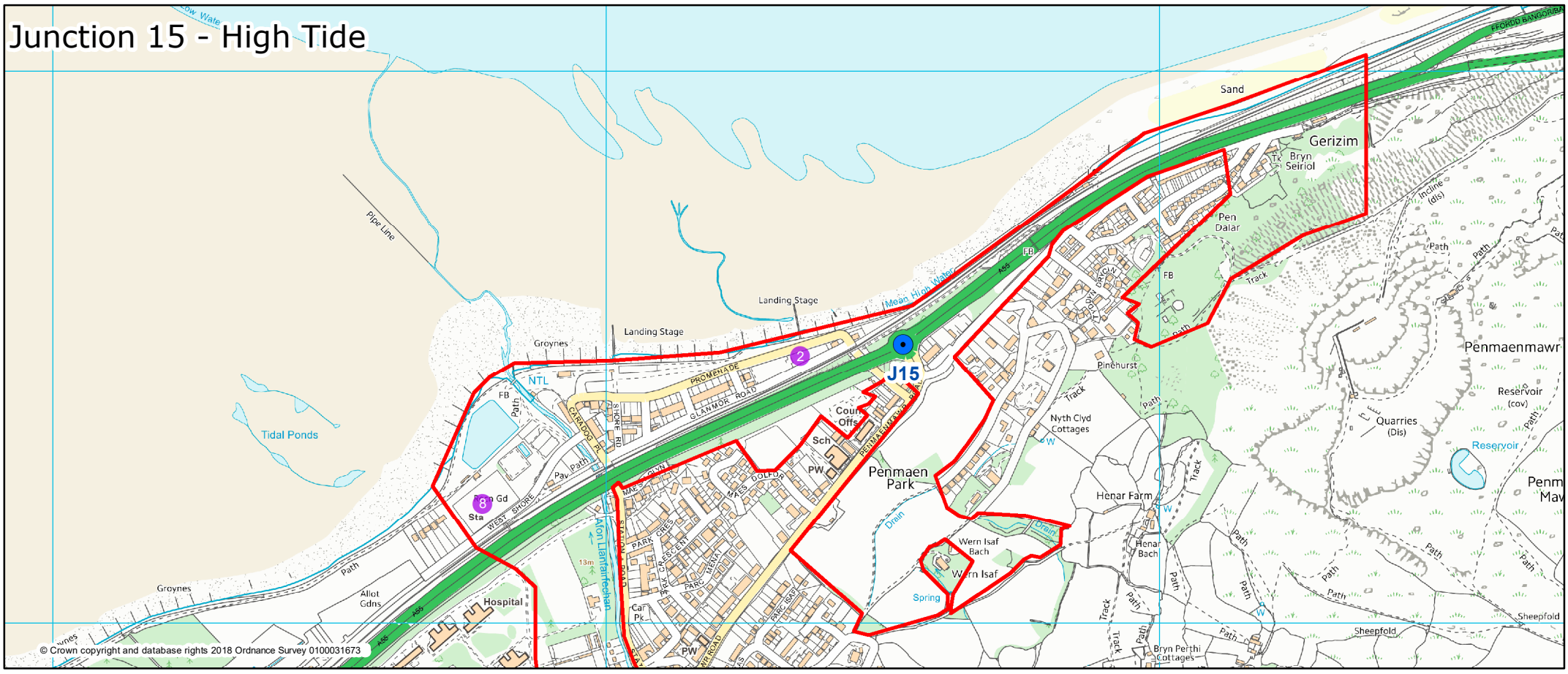
RICHARD | YGC

BiOME CONSULTING

RAMBOLL

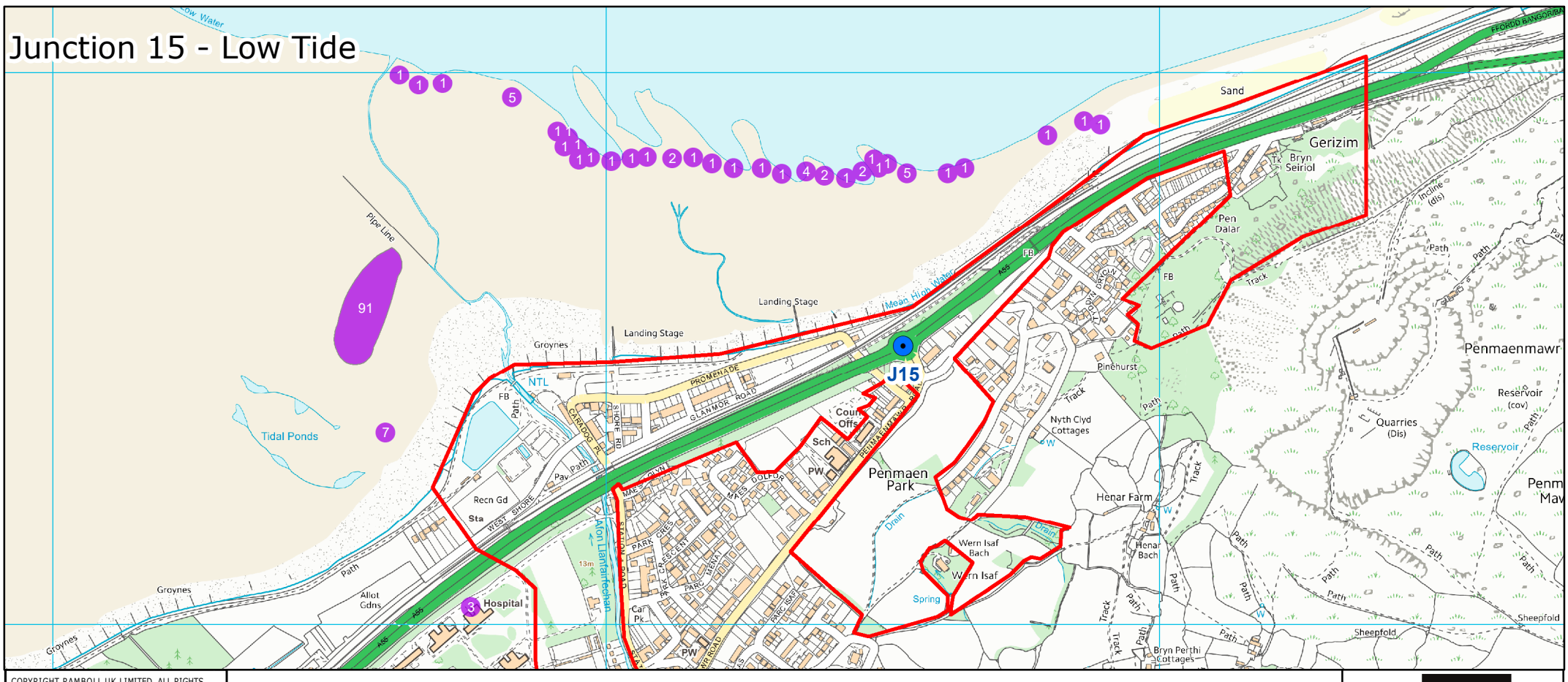
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 15 - High Tide



Junction 15 - Mid Tide

Junction 15 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 8
Oystercatcher Distribution J15 (Feb)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 8		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru Welsh Government

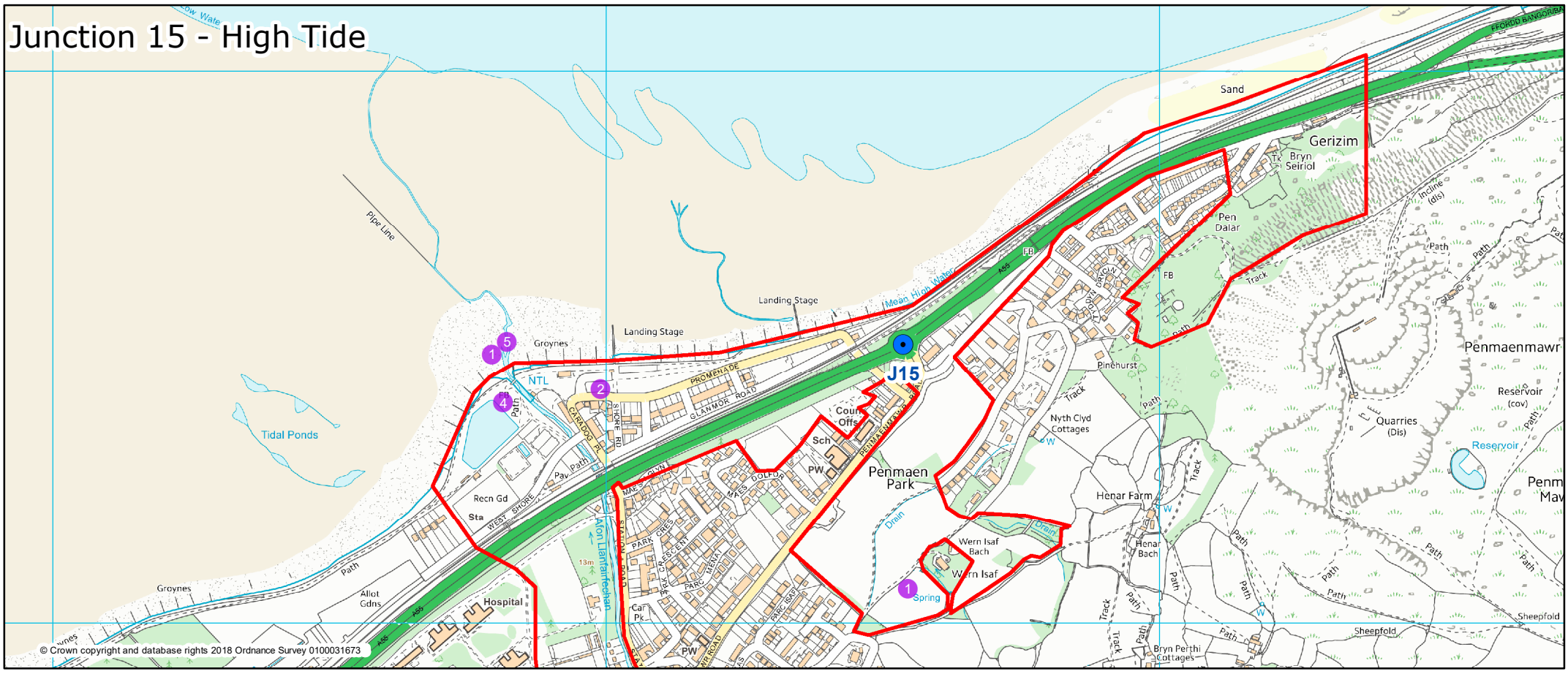
RICHARD MOTTRAM CONSULTANTS PLANNING | LANDSCAPE | ENVIRONMENT

YGC

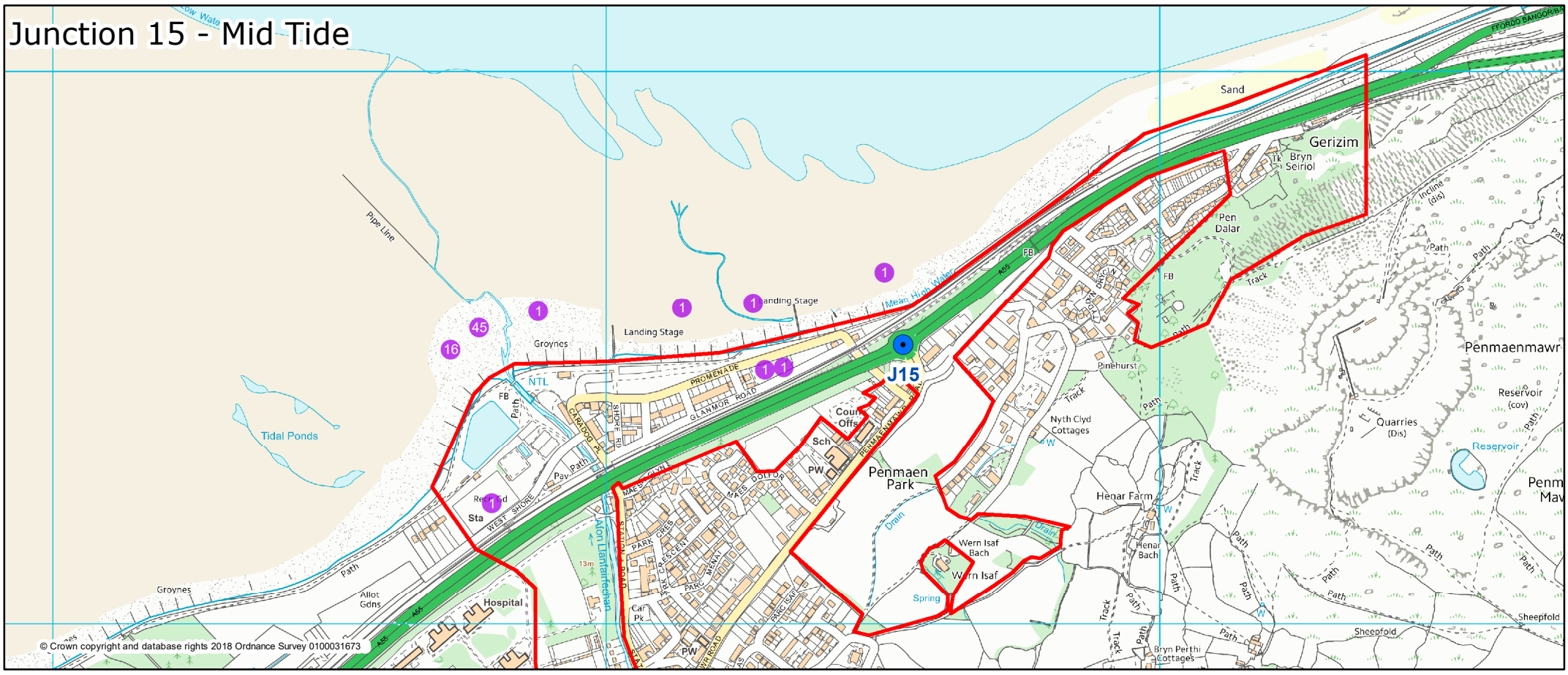
BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

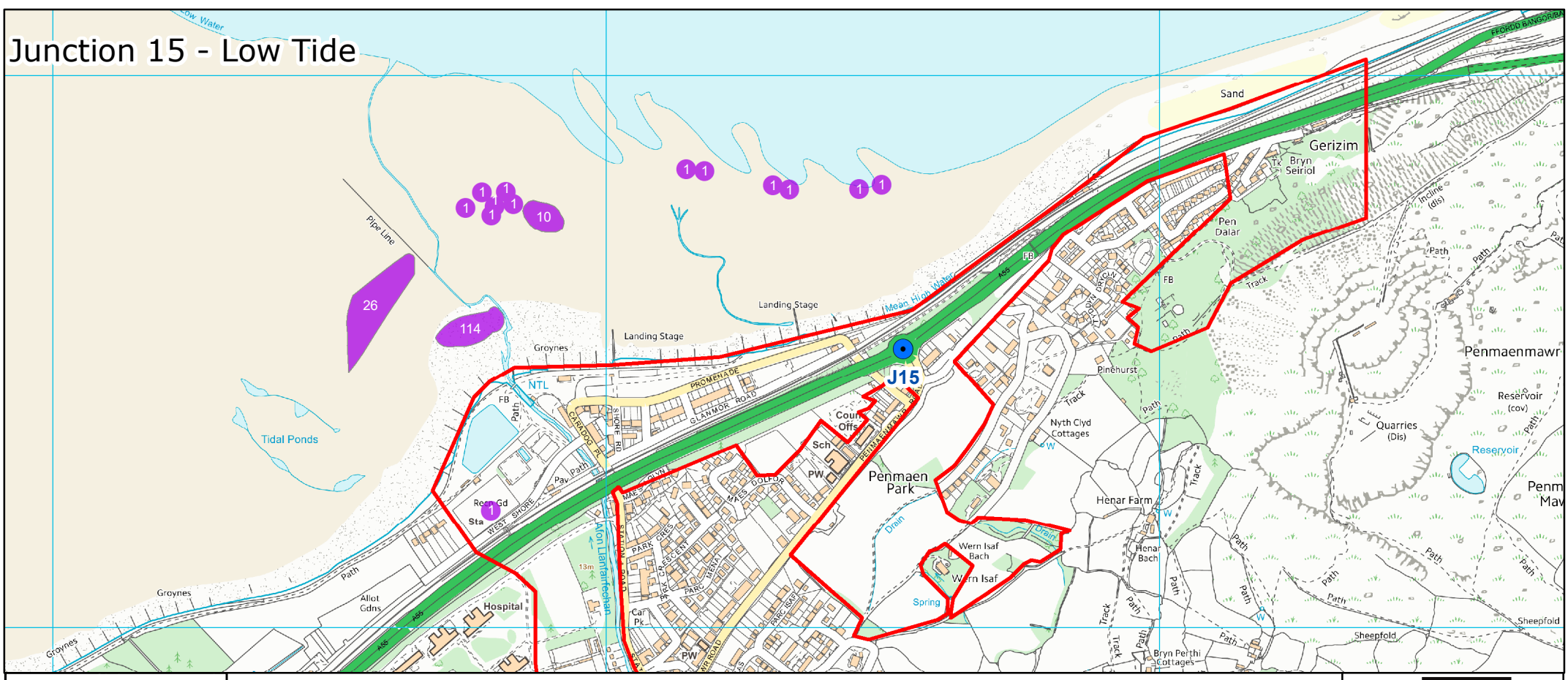
Junction 15 - High Tide



Junction 15 - Mid Tide



Junction 15 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 9
Oystercatcher Distribution J15 (Mar)

Drawn: JG	Scale (@A3): 1:10,000	Date: 18/07/2018
Drawing No: 9		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

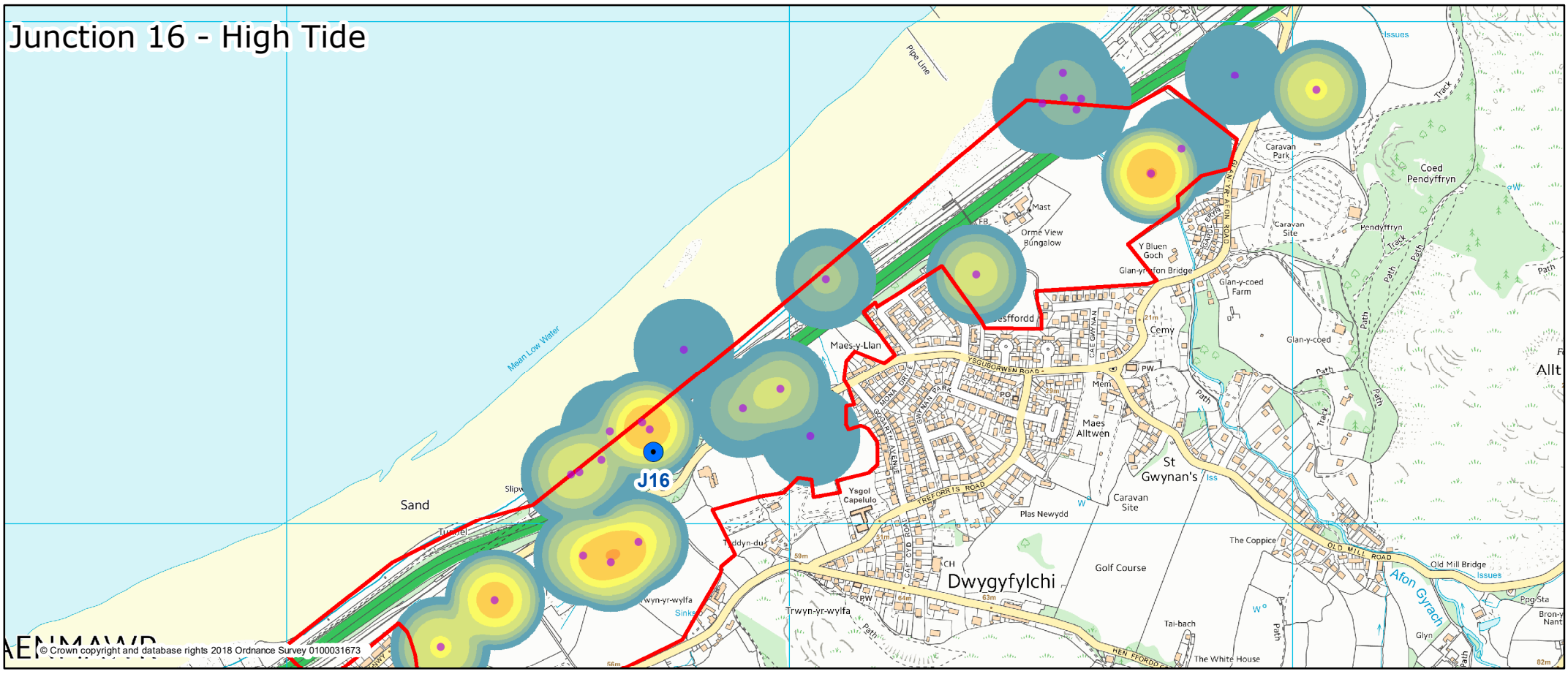
Llywodraeth Cymru
Welsh Government

RICHARD | YGC

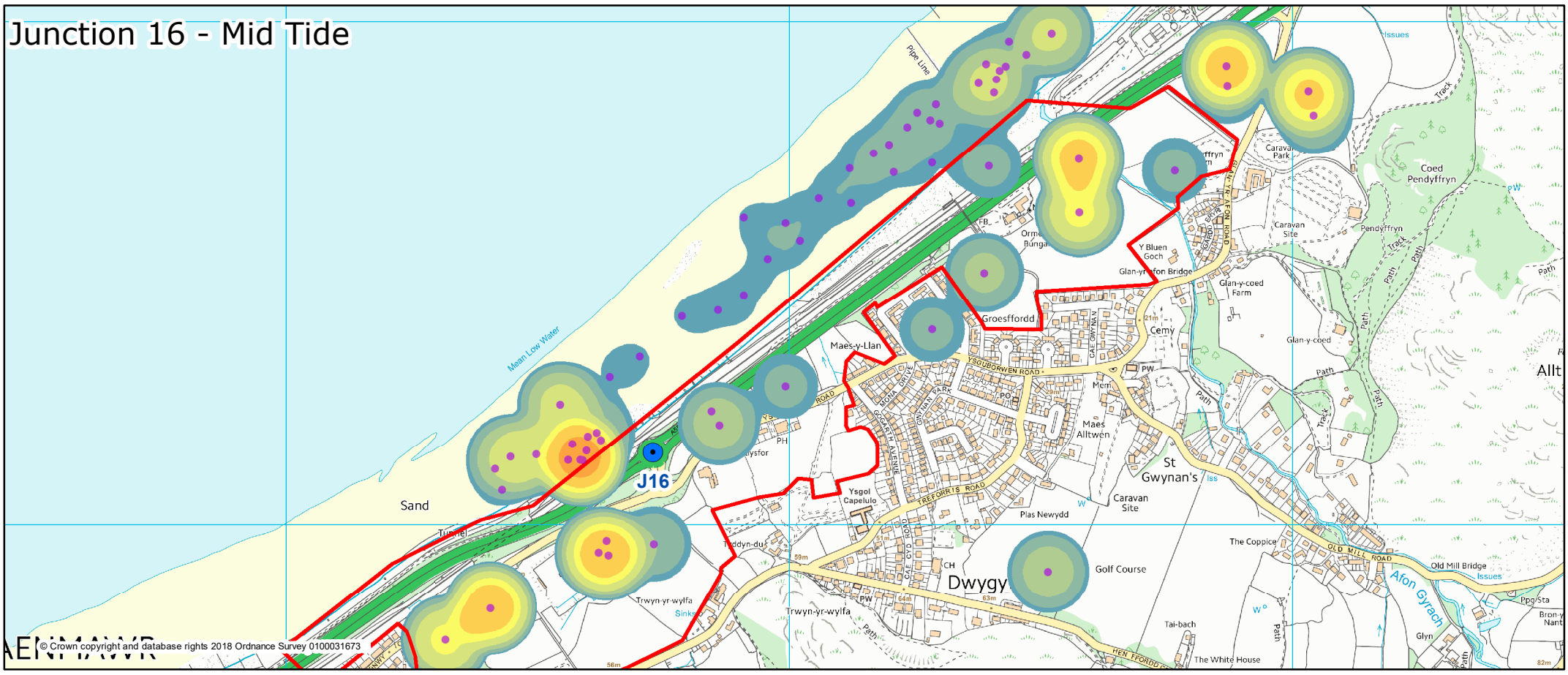
BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

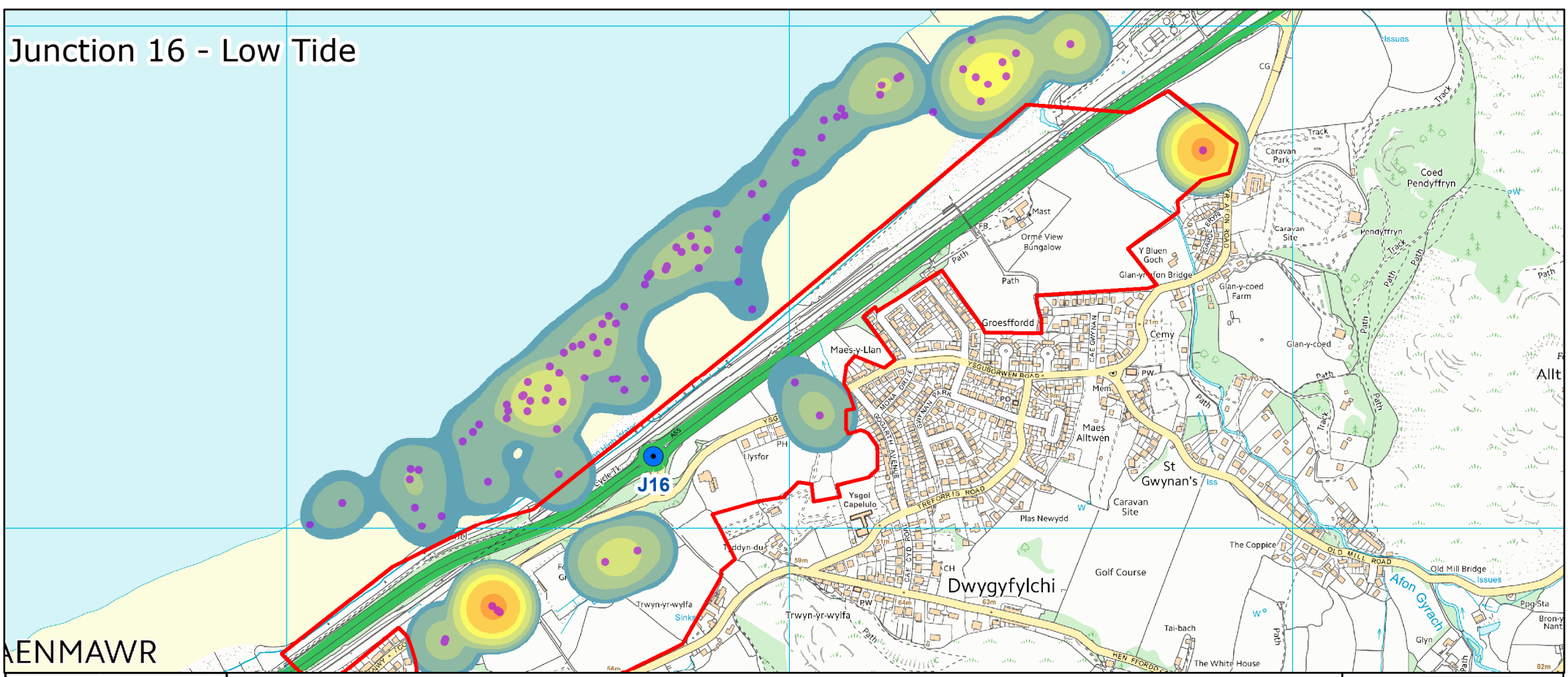
Junction 16 - High Tide



Junction 16 - Mid Tide



Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 10 Cumulative Oystercatcher Distribution J16 (Oct-Mar)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 10		Rev:

Oystercatcher Cumulative Counts

- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20
- 21 - 30
- 31 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 550

- A55 Junctions
- Study Area Boundary
- Bird Observations

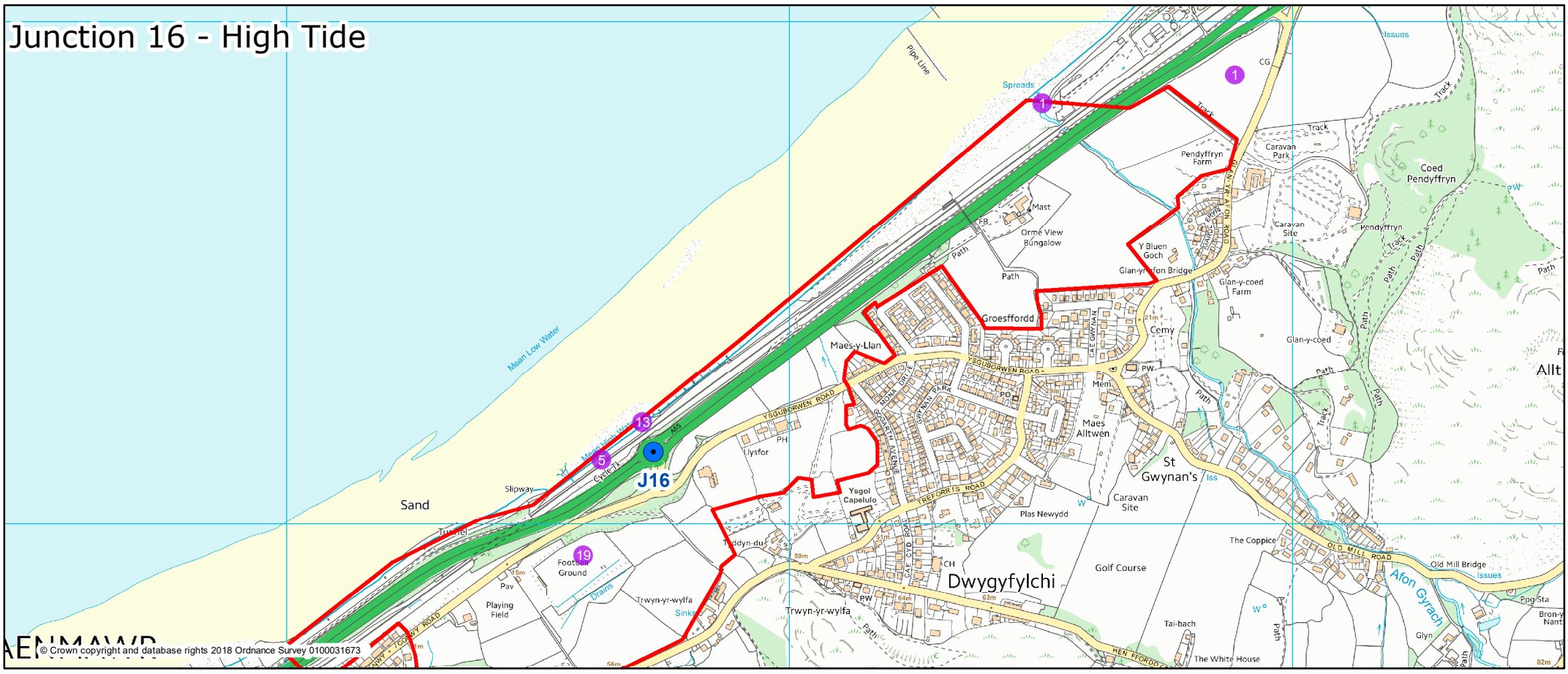
Llywodraeth Cymru Welsh Government

RICHARD | YGC

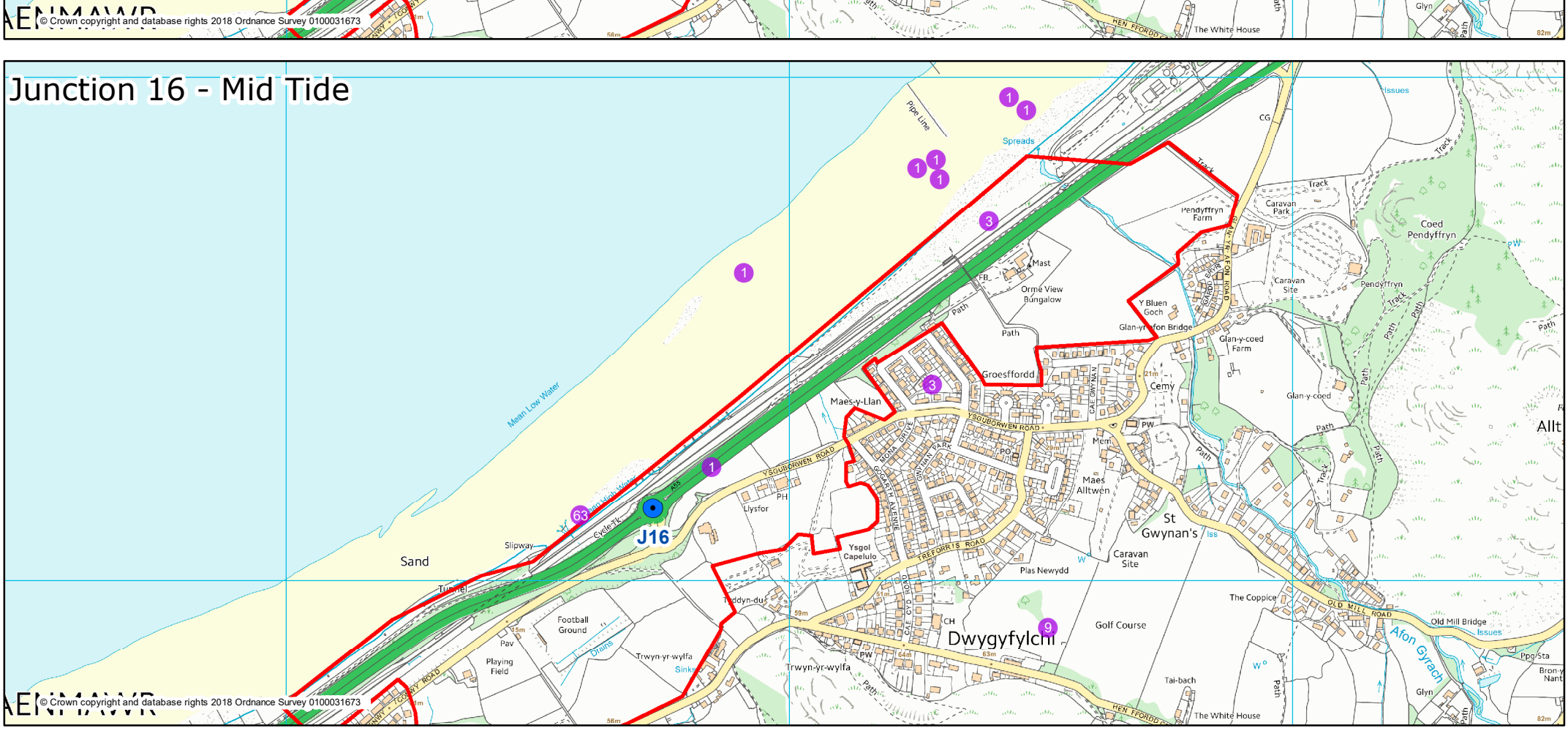
BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

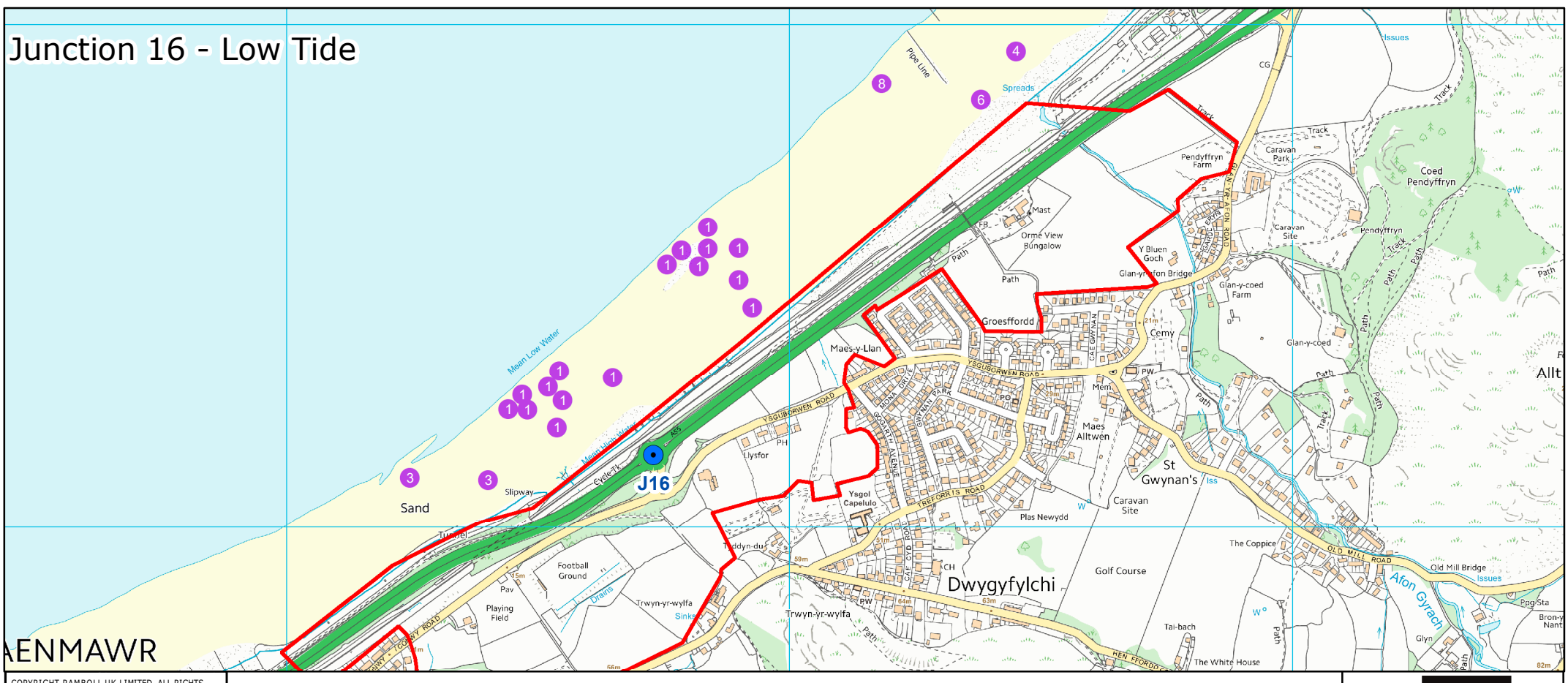
Junction 16 - High Tide



Junction 16 - Mid Tide



Junction 16 - Low Tide



AENMAWR

A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 11
Oystercatcher Distribution J16 (Oct)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 11		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

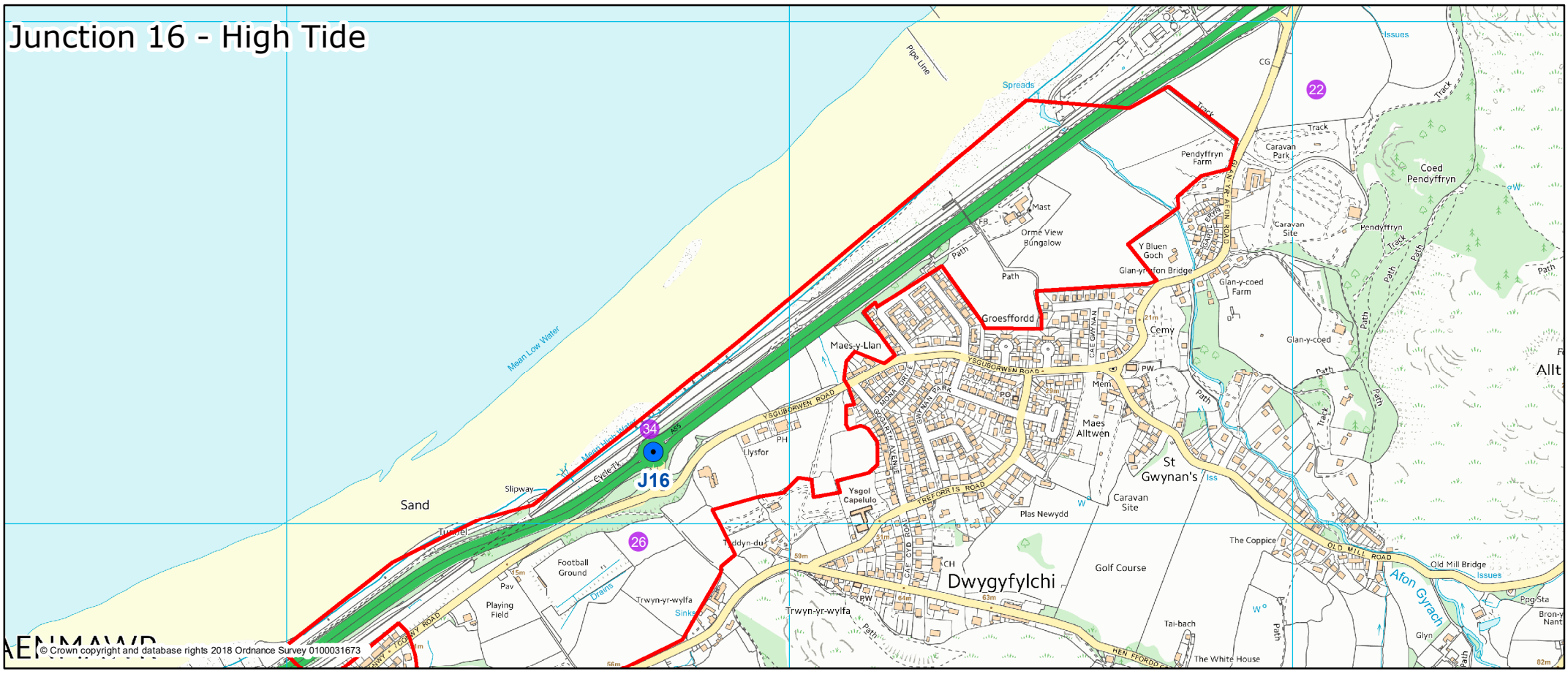
Llywodraeth Cymru
Welsh Government

RICHARD | YGC

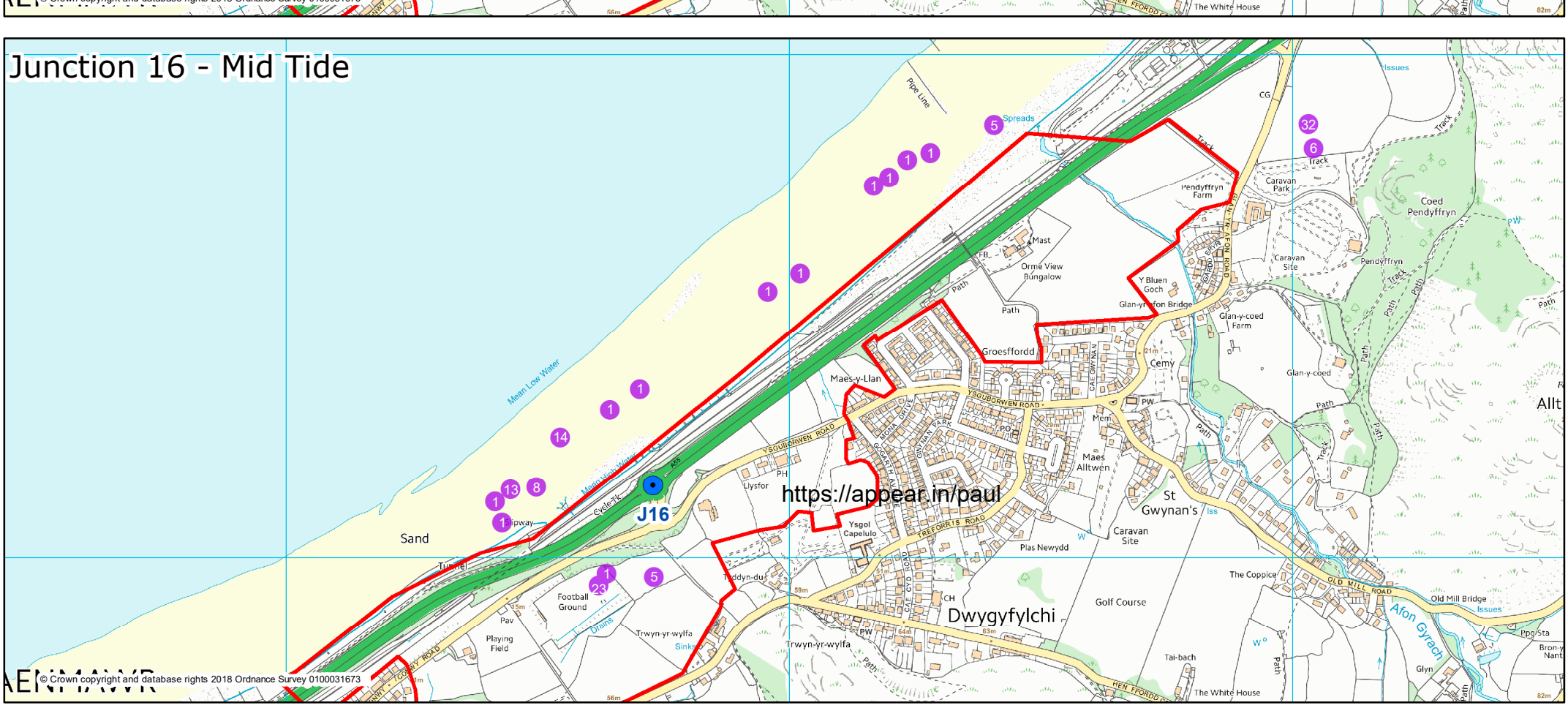
BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

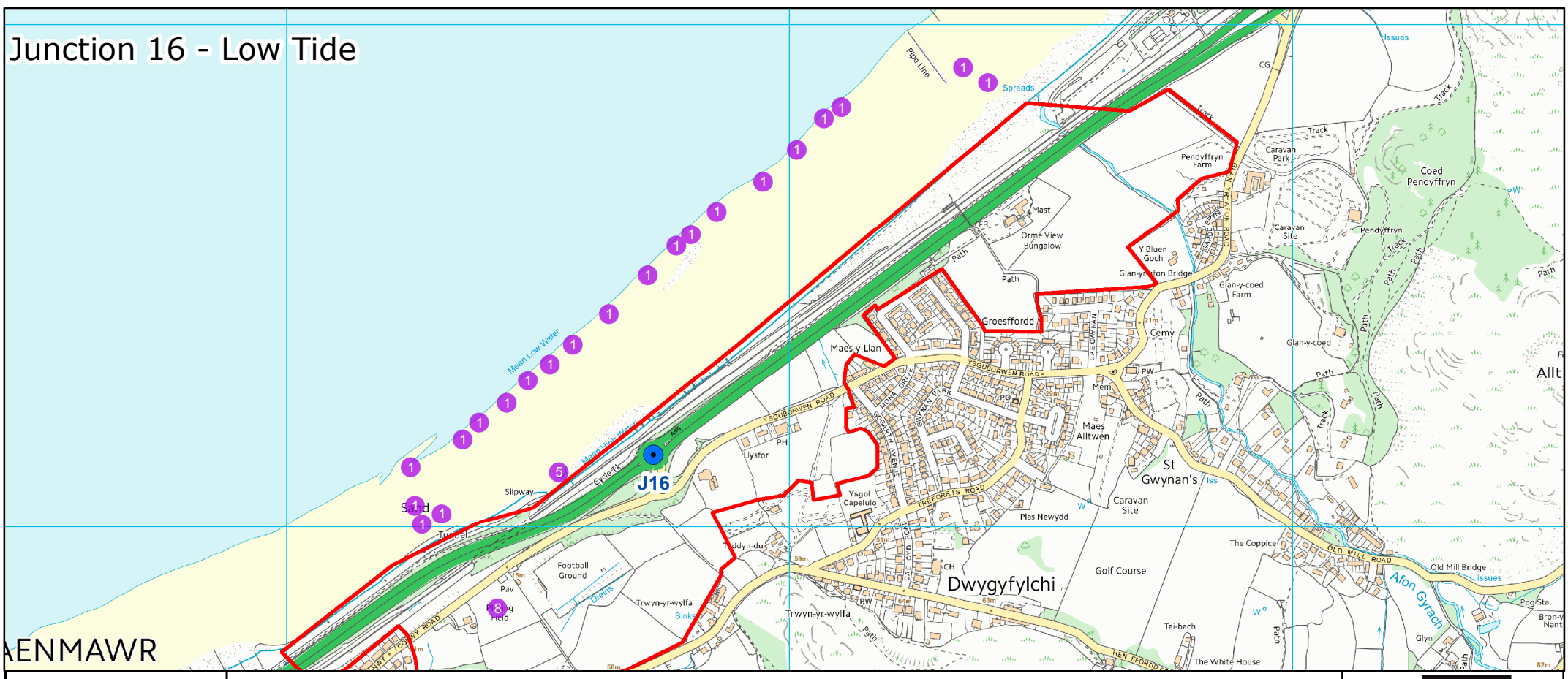
Junction 16 - High Tide



Junction 16 - Mid Tide



Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 12
Oystercatcher Distribution J16 (Nov)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 12		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru Welsh Government

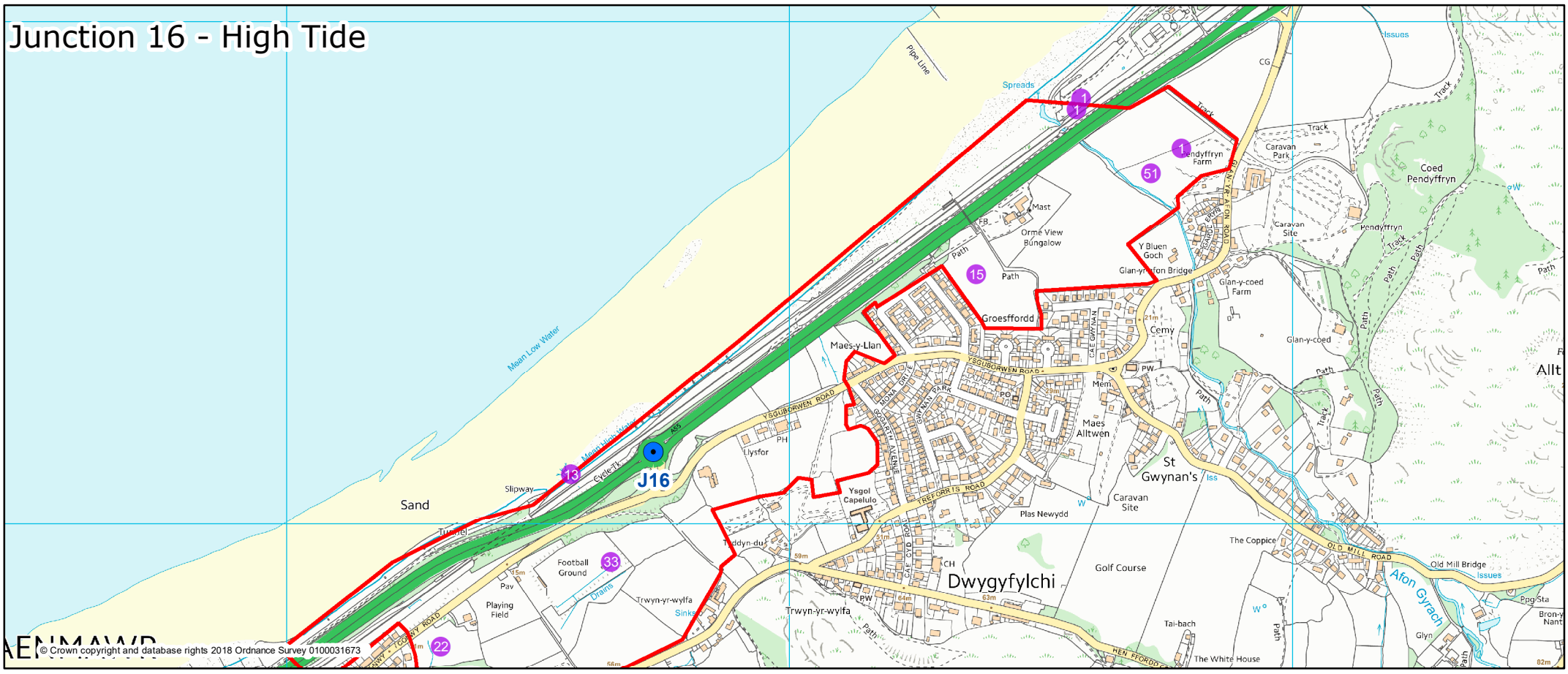
RICHARD | YGC

BIOME CONSULTING

RAMBOLL

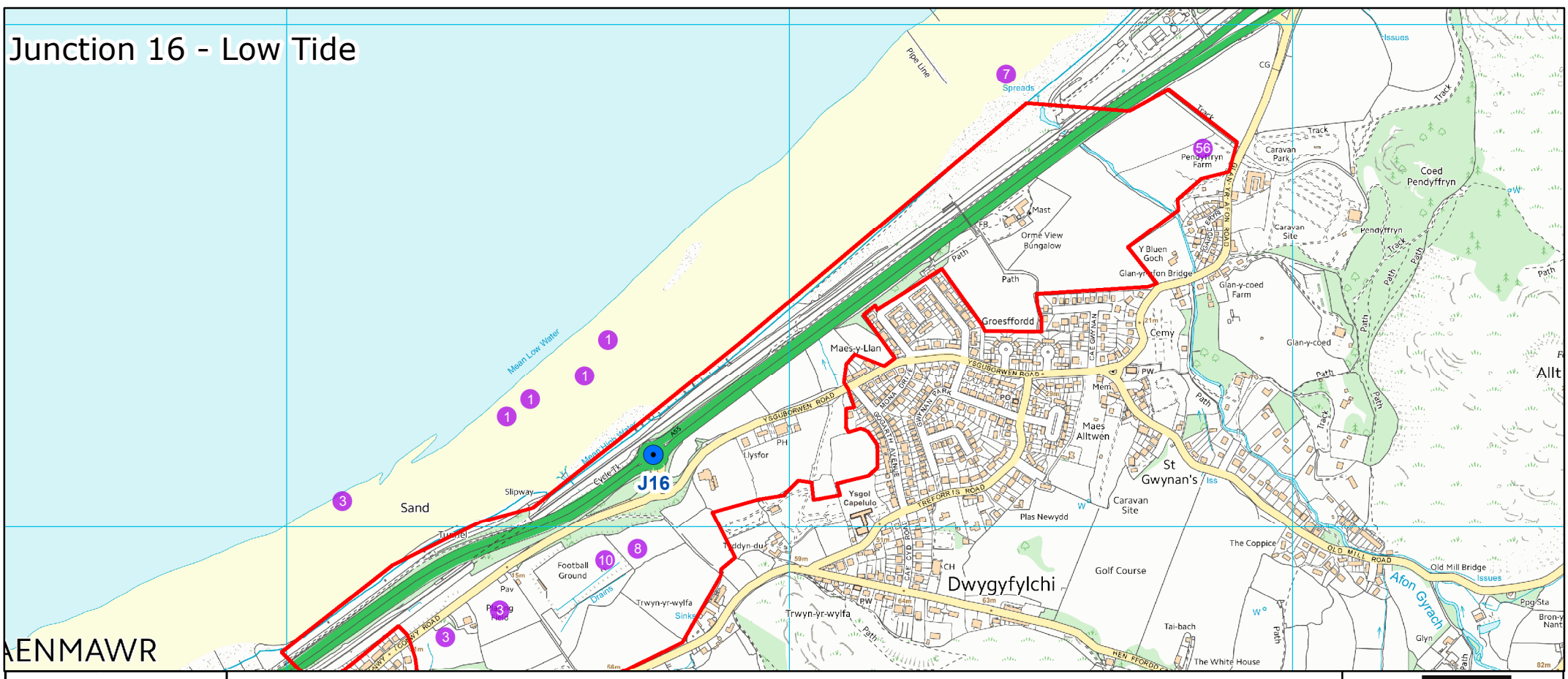
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 16 - High Tide



Junction 16 - Mid Tide

Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 13
Oystercatcher
Distribution J16 (Dec)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 13		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru
Welsh Government

RICHARD MACKENZIE & ASSOCIATES
PLANNING | LANDSCAPE | ENVIRONMENT

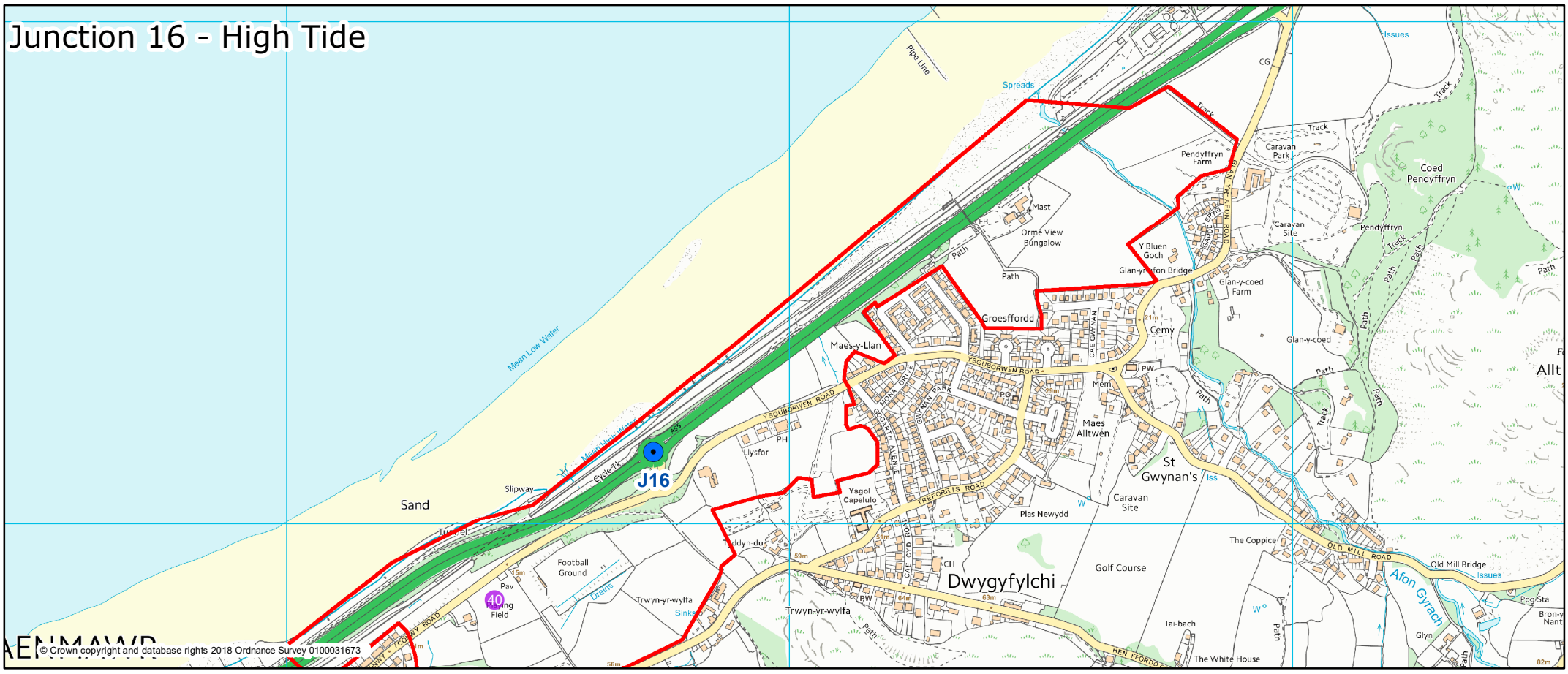
YGC

BiOME CONSULTING

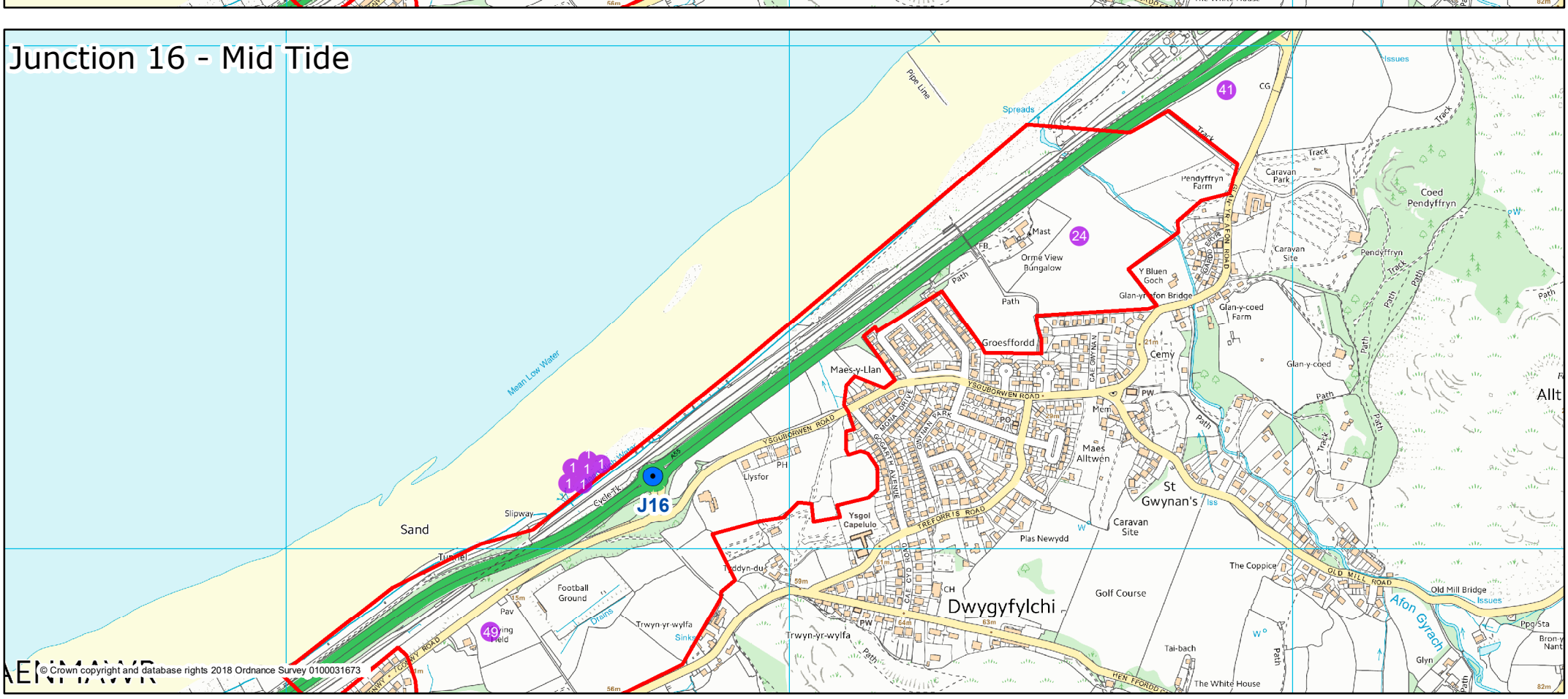
RAMBOLL

tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

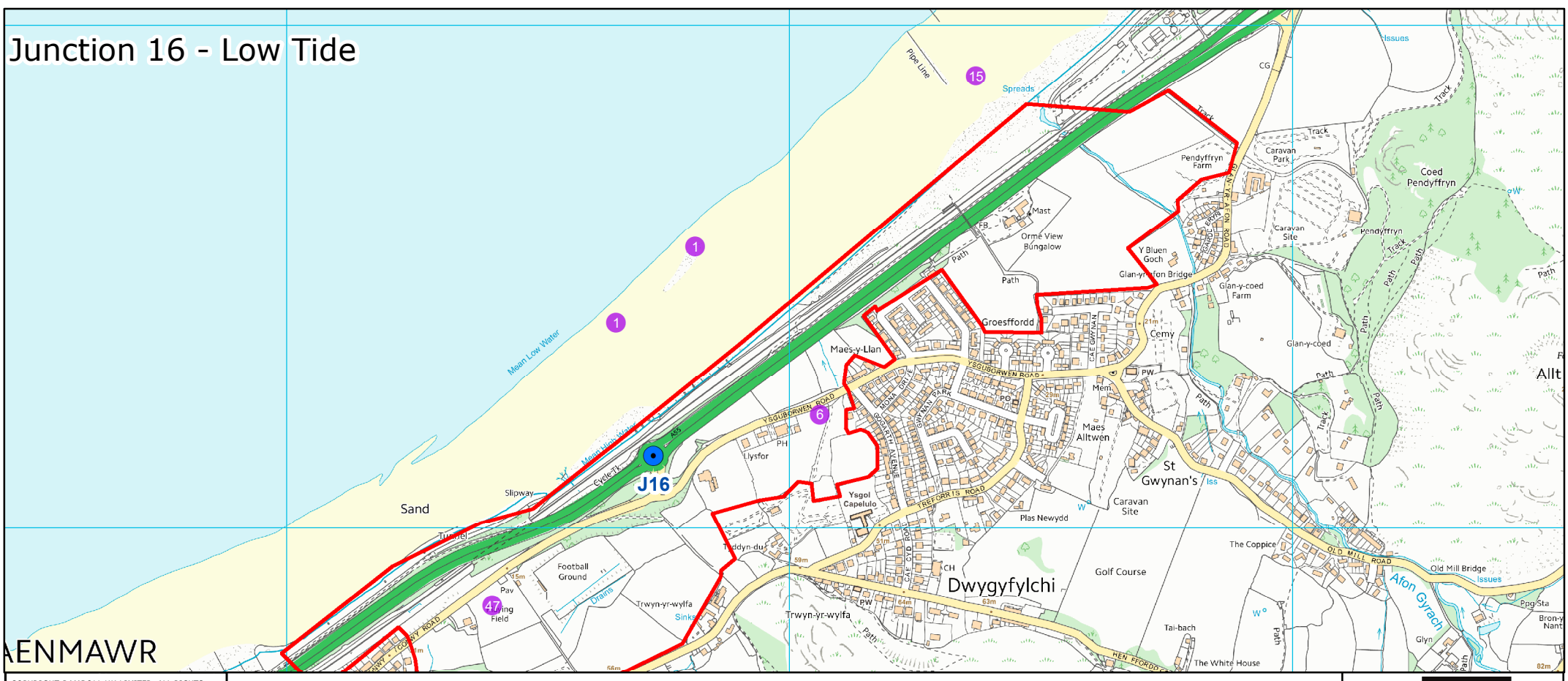
Junction 16 - High Tide



Junction 16 - Mid Tide



Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 14
Oystercatcher Distribution J16 (Jan)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 14		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

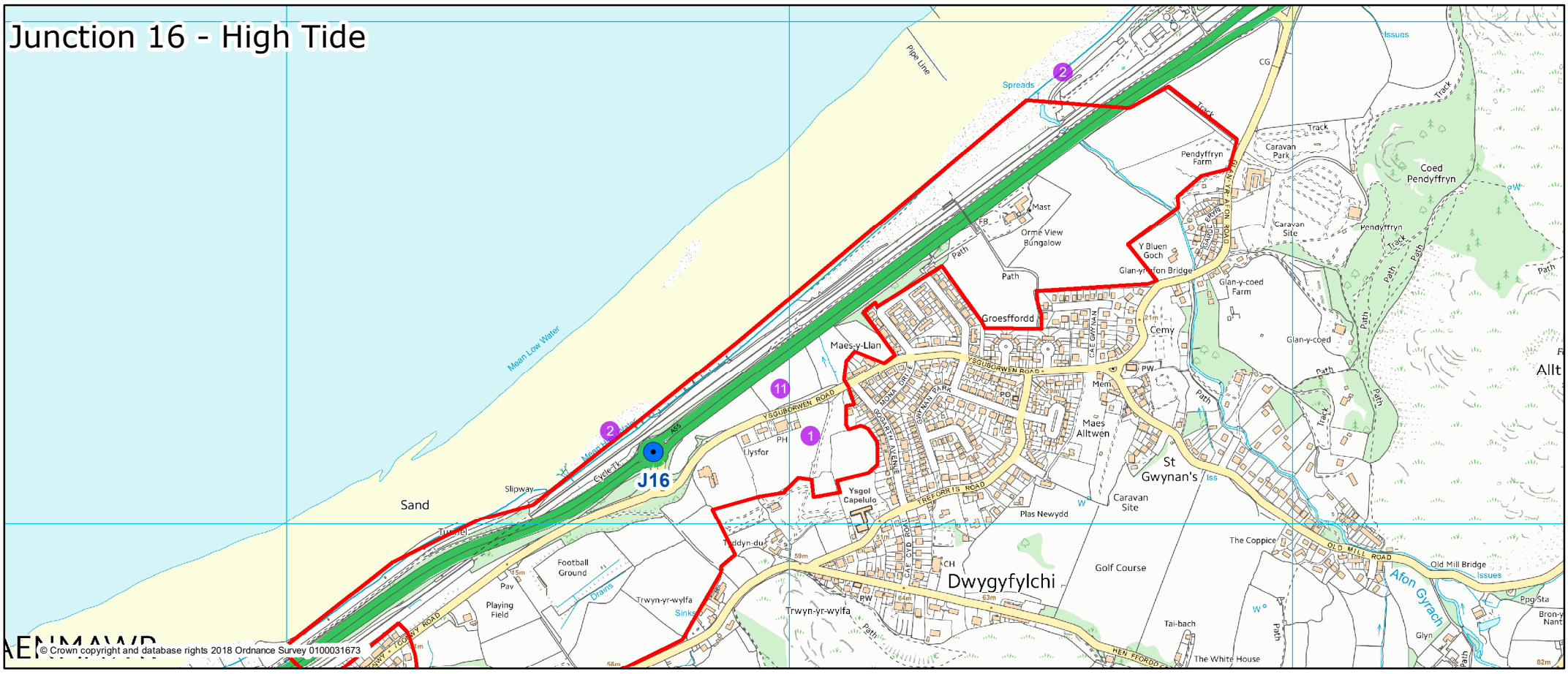
Llywodraeth Cymru Welsh Government

RICHARD | YGC

BiOME CONSULTING

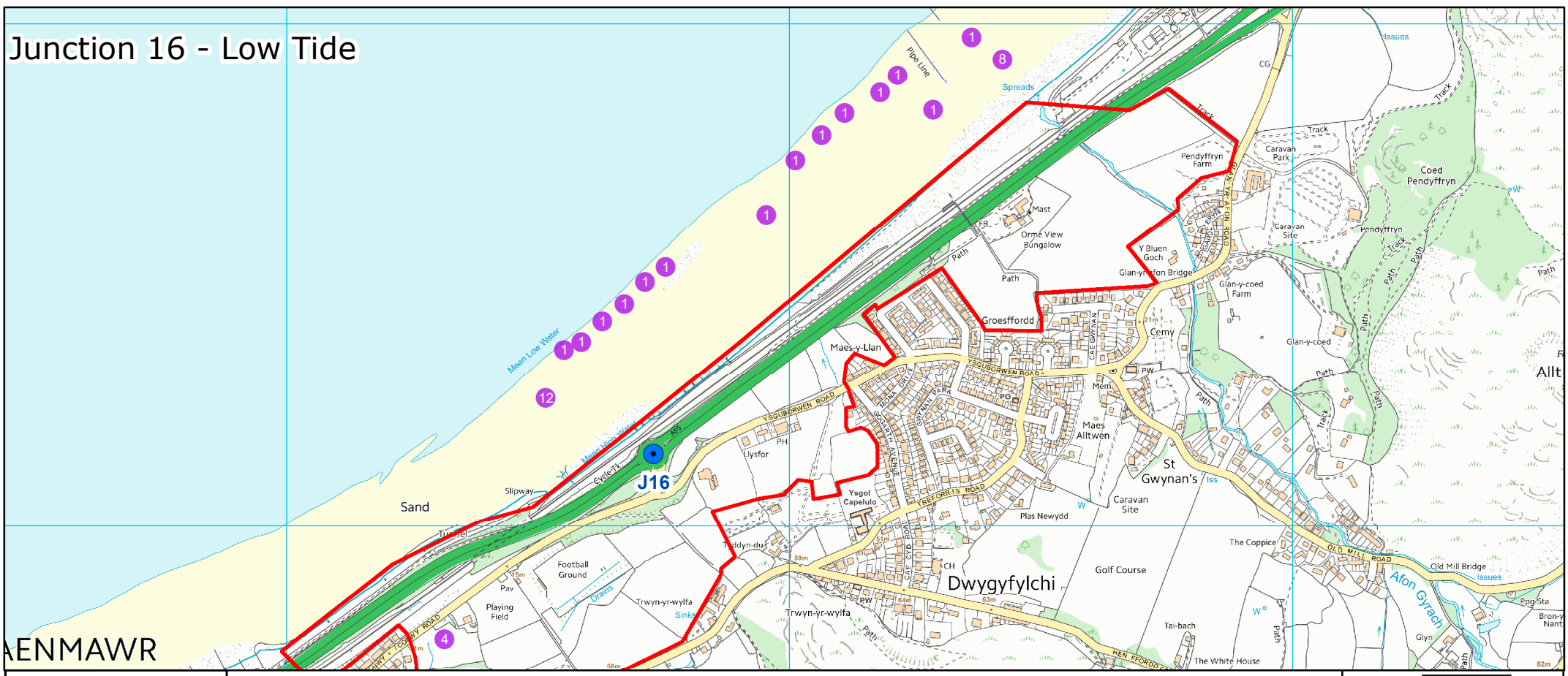
RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 16 - High Tide



Junction 16 - Mid Tide

Junction 16 - Low Tide



- Bird Observations
- A55 Junctions
- Study Area Boundary

A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 15
Oystercatcher Distribution J16 (Feb)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 15		Rev:

Llywodraeth Cymru Welsh Government

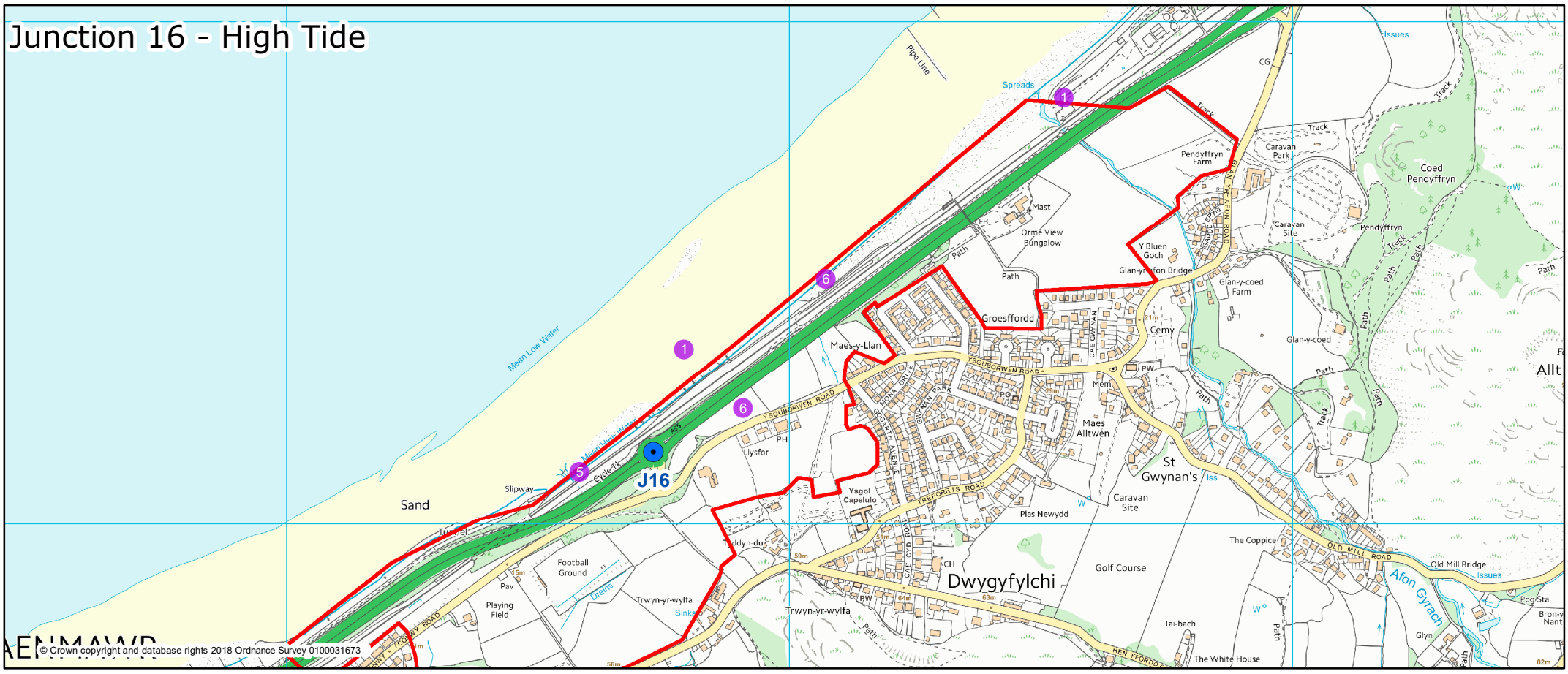
RICHARD | YGC

BiOME CONSULTING

RAMBOLL

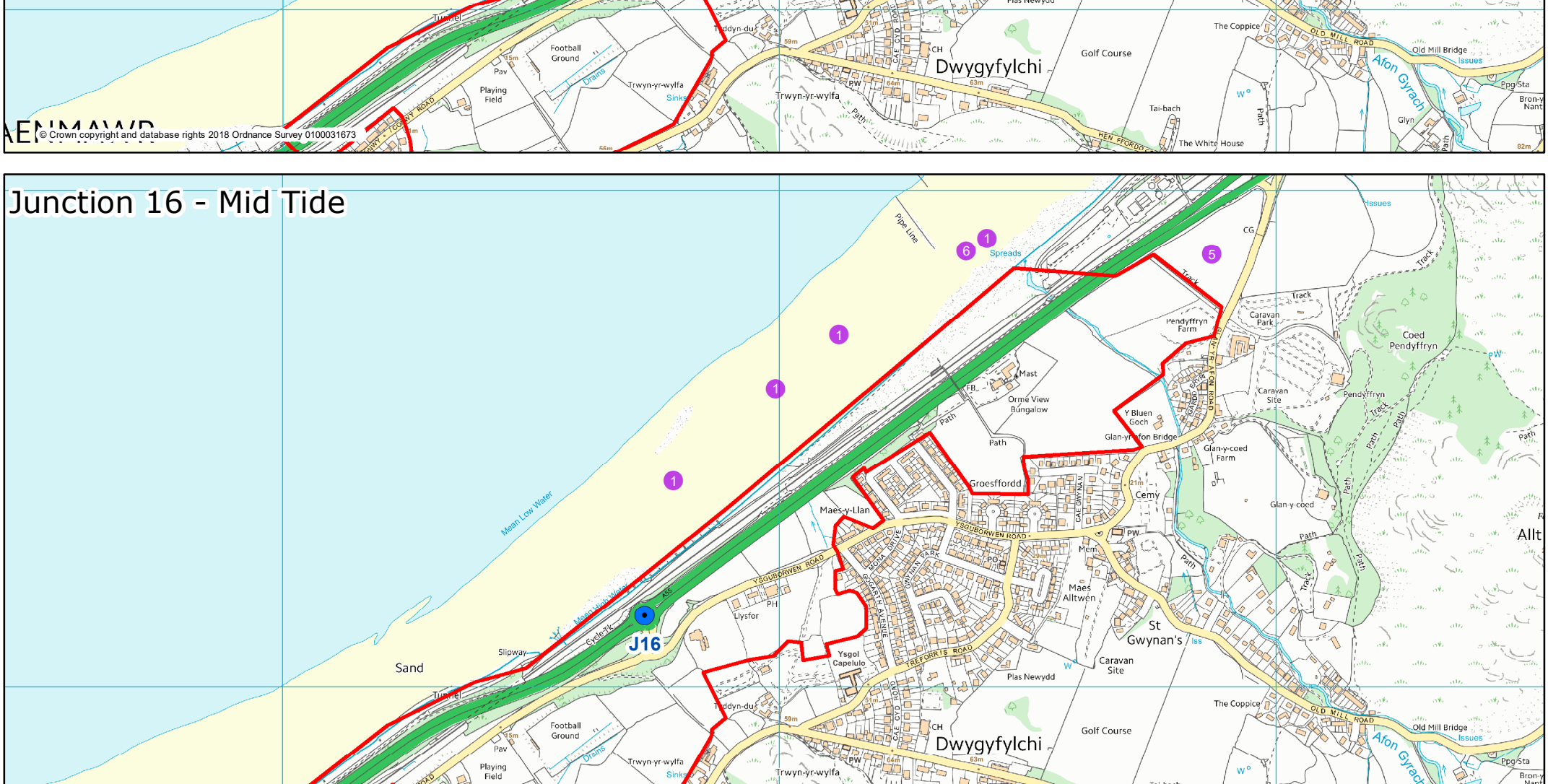
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 16 - High Tide



Junction 16 - Mid Tide

Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 16
Oystercatcher
Distribution J16 (Mar)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 16		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru
Welsh Government

RICHARD MACKENZIE & ASSOCIATES
PLANNING | LANDSCAPE | ENVIRONMENT

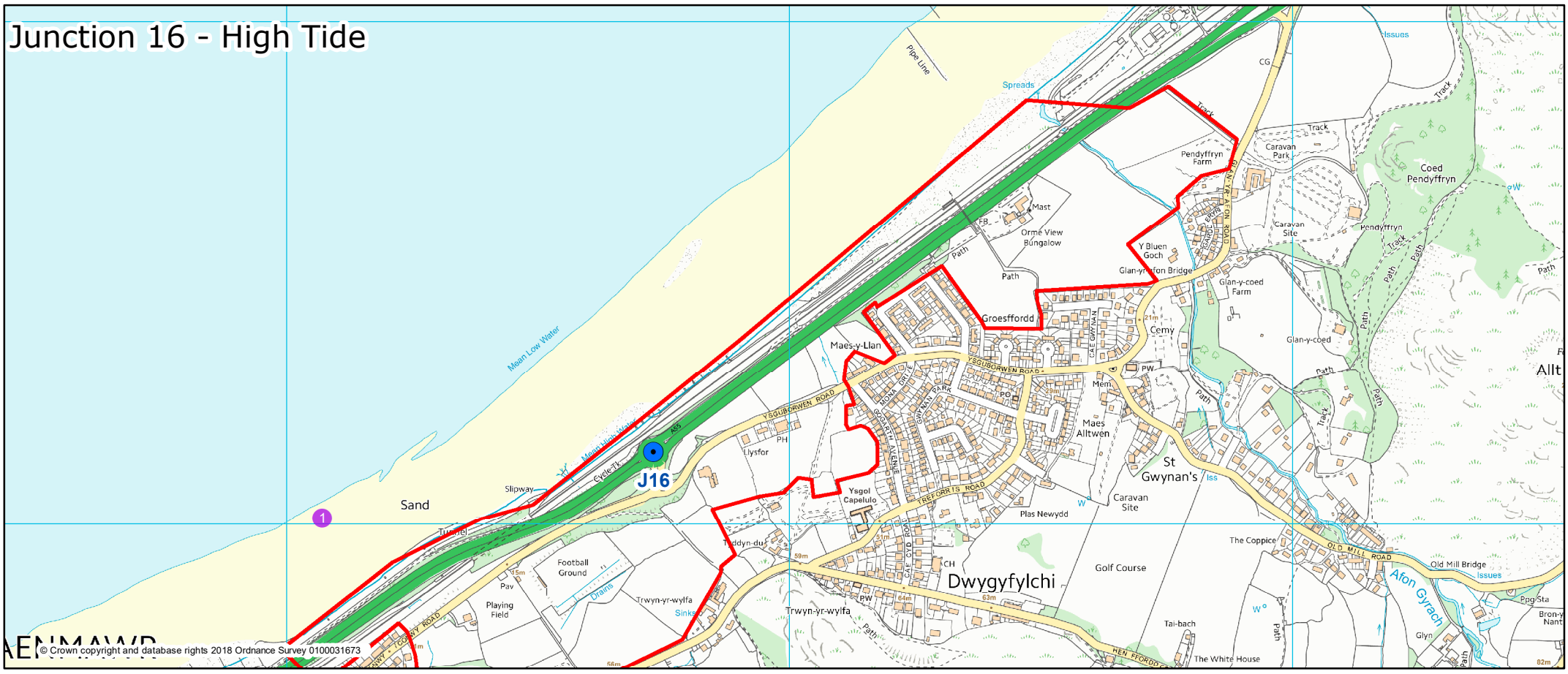
YGC

BiOME CONSULTING

RAMBOLL

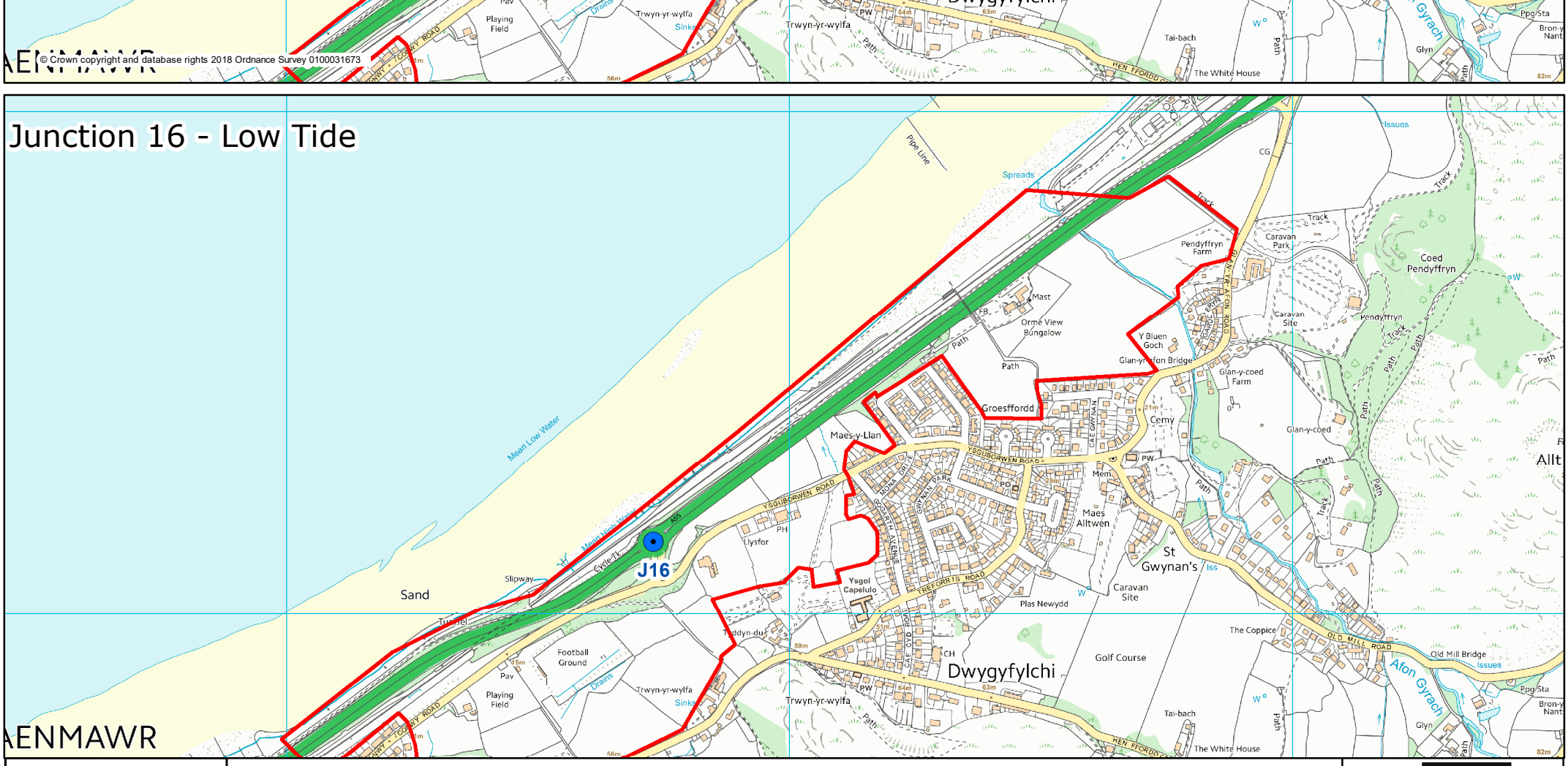
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

Junction 16 - High Tide



Junction 16 - Mid Tide

Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 17
Red-throated Diver Distribution J16 (Oct)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 17		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

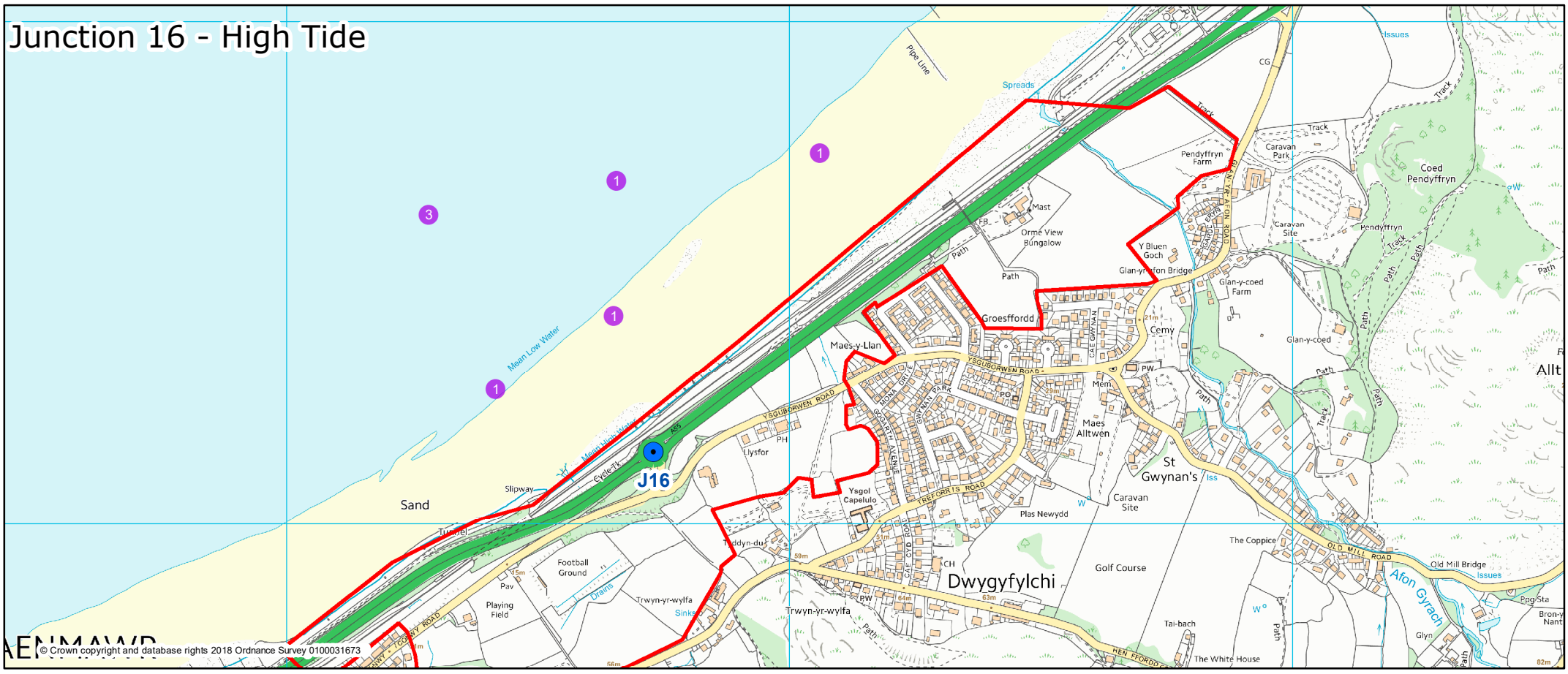
Llywodraeth Cymru Welsh Government

RICHARD | YGC

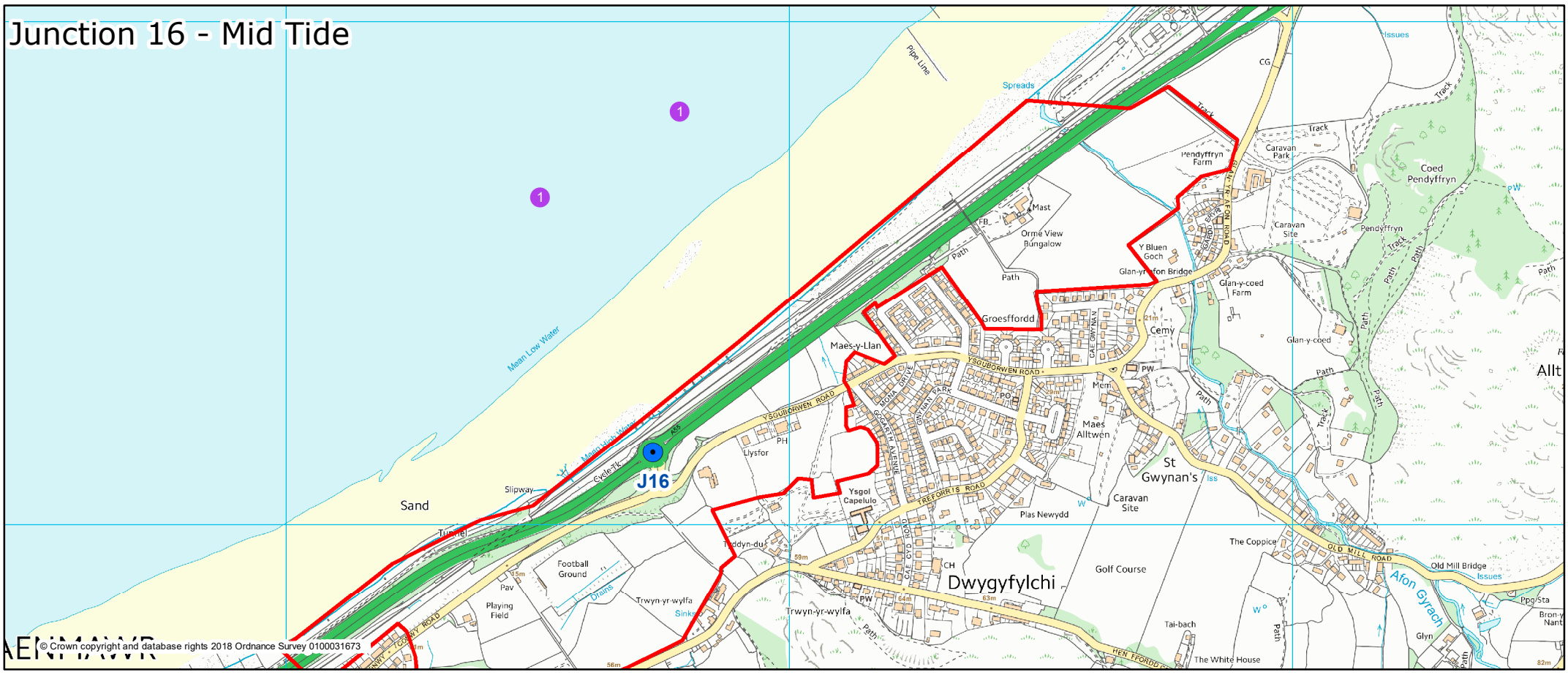
BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

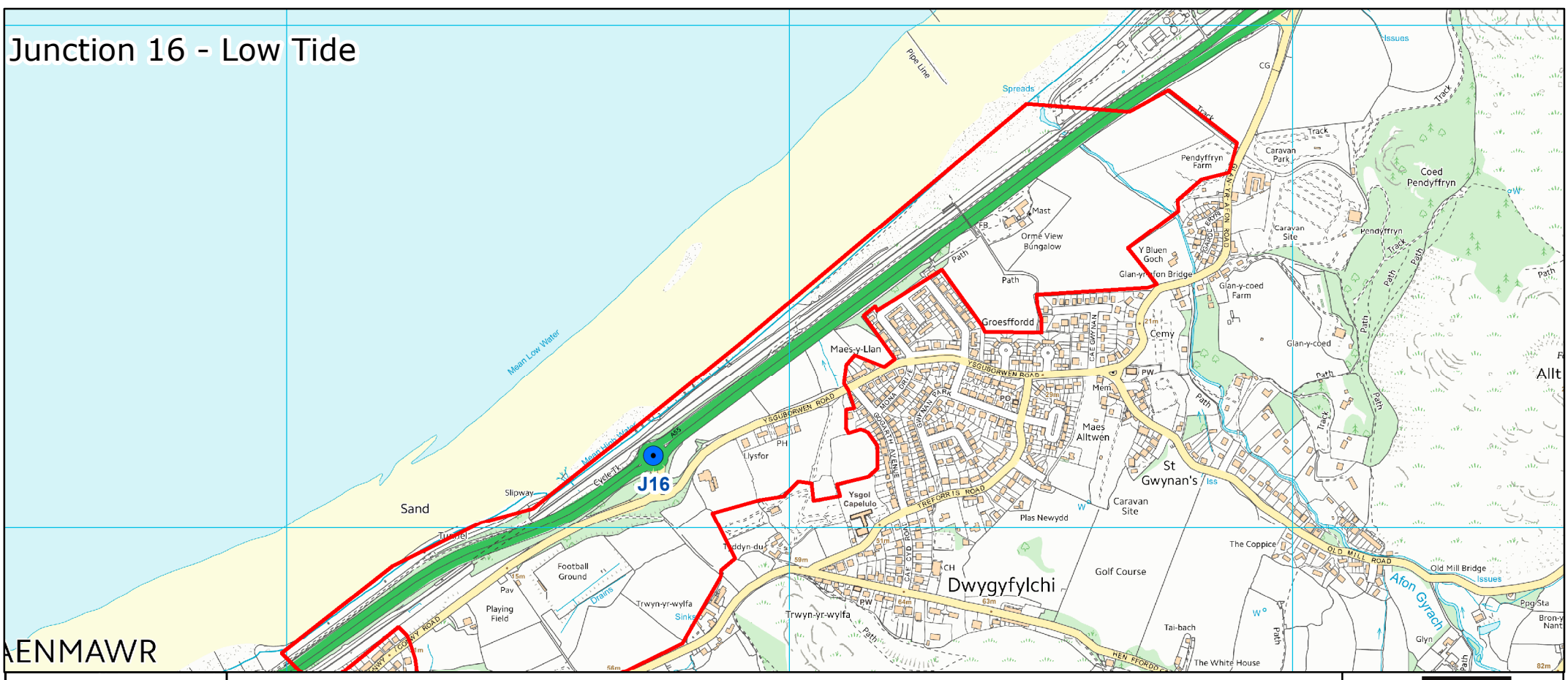
Junction 16 - High Tide



Junction 16 - Mid Tide



Junction 16 - Low Tide



A55 Junctions 15 & 16; Wintering Bird Survey 2017/2018

Fig 18
Red-throated Diver Distribution J16 (Nov)

Drawn: JG	Scale (@A3): 1:11,000	Date: 18/07/2018
Drawing No: 18		Rev:

- Bird Observations
- A55 Junctions
- Study Area Boundary

Llywodraeth Cymru Welsh Government

RICHARD | YGC

BiOME CONSULTING

RAMBOLL
tel 01224 652 200 fax 01224 652 244
info@altra.co.uk
www.ramboll.co.uk

A55 Junctions 15 and 16 Wintering Bird Survey Report Intended for
Welsh Government

Document type
Report

Date
July 2018

A55 JUNCTIONS 15 & 16 WINTERING BIRD SURVEY 2017/2018

Llywodraeth Cymru
Welsh Government

RAMBOLL

RICHARDS MOOREHEAD & LAING LTD
ENGINEERING, ENVIRONMENTAL and LANDSCAPE CONSULTANTS

CYNGOR GWYNEDD COUNCIL

A55 JUNCTIONS 15 & 16
WINTERING BIRD SURVEY 2017/2018

Revision	**02**
Date	**31 Jan 2020**
Made by	**Martyn Owen Biome Consulting**
Checked by	**Donna Hall (RML)**
Approved by	**Andrew Sumner (RML**
Description	

Ref 16200000620

Ramboll
2nd Floor, The Exchange
St. John Street
Chester
CH1 1DA
United Kingdom
T +44(0)1244 311855
www.ramboll.co.uk

CONTENTS

APPENDICES

1. BACKGROUND

1.1 Project Background

Junction 15 and Junction 16 of the A55 are proposed for improvement works. These Junctions are located on North Wales coast, adjacent to the Irish Sea. Due to the presence of nearby statutorily designated sites and the identification of potential impacts to qualifying features, wintering bird surveys were completed to determine the assemblage of species present and the distribution of qualifying features in areas that could be subject to direct impacts and/or disturbance.

1.2 Designated Sites

The proposed development areas are located in close proximity to two Natura 2000 sites which are designated due to their avian importance. Junction 15 is in close proximity to both Liverpool Bay Special Protection Area (SPA) (0.3km/north) and Lavan Sands SPA (adjacent/north), and Junction 16 is adjacent to Lavan Sands SPA (0.3km/north); the qualifying features of these internationally designated sites are summarised below.

Table 1: Designated Site Details

Qualifying Features	Feature Type	% of Population
Liverpool Bay SPA		
Red-throated Diver *Gavia stellata* (non-breeding)	Annex I species	6.89% GB
Little Gull *Hydrocoloeus minutus* (non-breeding)	Annex I species	N/A
Common Scoter *Melanitta nigra* (non-breeding)	Regularly occurring migratory species	10.31% of NW European
Waterbird assemblage[1]	Assemblage	N/A
Little Tern *Sternula albifrons* (breeding)	Annex I species	6.84% GB
Common Tern *Sterna hirundo* (breeding season)	Annex I species	1.80% GB
Lavan Sands SPA		
Oystercatcher *Haematopus ostralegus* (in non-breeding season)	Regularly occurring migratory species	0.5% Europe & Northern/Western Africa

1 Red-throated Diver, Common Scoter, Little Gull, Red-breasted Merganser *Mergus serrator*, Cormorant *Phalacrocorax carbo*; (less than 1% GB or less than 2000 Individuals) Black-headed Gull *Chroicocephalus ridibundus*, Common Gull *Larus canus*, Eider *Somateria mollissi*ma, Fulmar *Fulmarus glacialis*, Great Black-backed Gull *Larus marinus*, Great Crested Grebe *Podiceps cristatus*, Guilimot *Uria aalge*, Gannet *Morus bassanus*, Puffin *Fratercula arctica*, Herring Gull *Larus argentatus*, Kittiwake *Rissa tridactyla*, Lesser Black-backed Gull *Larus fuscus*, Great Northern Diver *Gavia immer*, Shag *Phalacrocorax aristotelis*, Razorbill *Alca torda*, Velvet Scoter *Melanitta fusca*.

2. METHODOLOGY

2.1 Study Areas

The study areas (Figure 1) included all areas that will be subject to direct impact during the proposed works and where disturbance to qualifying features could occur (including the adjacent inter-tidal areas) as a consequence of the proposed works.

2.2 Scoping Survey

To assess usage by SPA/Ramsar qualifying features of areas in the vicinity of the proposed junction upgrades, surveys of the inter-tidal area and areas inland which could support qualifying features were completed.

To ensure appropriate coverage of the required survey areas, an initial scoping visit was completed in October 2017. During this scoping visit all accessible parts of the two survey areas were reviewed, and habitats with the potential to support qualifying features of the adjacent designated sites identified. A number of viewpoints and transects were then determined (Figure 2), which afforded appropriate coverage of all relevant areas.

2.3 Through the Tide Surveys

A total of six Through The Tide Count (TTTC) surveys of each of the two survey areas was completed, with monthly surveys between October 2017 and March 2018 (inclusive). Each survey encompassed one complete tidal cycle during daylight hours, starting at either high or low tide. During each survey, three full counts were completed (i.e. counts around low, mid and high tide). Surveys took place utilising vehicles or vegetation/structures (e.g. hedgerows, buildings, sea walls etc.) as a hide or screen to avoid unnecessary disturbance to waders as far as possible. The viewpoints were carried out in conjunction with the TTTC.

All waders and wildfowl were recorded, with their locations recorded on a map.

All fieldwork was completed by an experienced bird surveyor, Martyn Owen MCIEEM (Biome Consulting).

Table 1: Survey details

Date	Tide Times	Survey Times	Weather Conditions
Junction 15			
13/10/2017	LT: 11:44 (2.05m) HT: 17:49 (6.36m)	11:44 – 17:49	Cloud(Oktas): 7/8-8/8 Temp(°C): 13-14 Wind: 2-3 SW Precip.: Occasional heavy rain
09/11/2017	LT: 08:21 (1.20m) HT: 14:11 (7.32m)	08:21 – 14:11	Cloud (Oktas): 3/8 – 8/8 Temp(°C): 12 - 16 Wind: 1-2 W Precip.: Occasional light rain
15/12/2017	HT: 08:52 (6.88m) L: 15:22 (1.55m)	08:50 – 15:22	Cloud (Oktas): 6/8-8/8 Temp(°C): 5-7 Wind: 2-4N Precip.: Nil
23/01/2018	LT: 08:40 (1.50m) HT: 14:29 (7.00m)	08:35 – 14:30	Cloud (Oktas): 8/8 Temp(°C): 9-10 Wind: 4-5 SW Precip.: Rain
21/02/2018	LT: 08:13 (1.08m) HT: 14:03 (7.30m)	08:10 – 14:04	Cloud (Oktas): 5/8-7/8 Temp(°C): 6-10 Wind: 0-1 E Precip.: Nil
15/03/2018	HT: 09:39 (6.92m) LT: 16:14 (1.10m)	09:30 – 16:15	Cloud (Oktas): 7/8-8/8 Temp(°C): 8-11 Wind: 1-3 SE Precip.: Light rain
Junction 16			
12/10/2017	LT: 10.31 (1.66m) HT: 16:26 (6.66m)	10:31 – 16:26	Cloud (Oktas): 1/8-5/8 Temp (°C): 15-16 Wind: 1-2W Precip.: Nil
08/11/2017	LT: 07:29 (0.75m) HT: 13:16 (7.74m)	07:29 – 13:16	Cloud (Oktas): 1/8-7/8 Temp(°C): Wind: 1-2 SW Precip.: Nil
14/12/2017	HT: 08:04 (6.64m) LT: 14:35 (1.78m)	08:00 – 14:35	Cloud (Oktas): 4/8-8/8 Temp(°C):4-7 Wind: 3-5 W Precip.: Occasional light rain
22/01/2018	LT: 08:00 (1.30m) HT: 13:48 (7.20m)	08:00 – 14:00	Cloud (Oktas): 6/8 Temp(°C): 7-8 Wind: 6/8-8/8 Precip.: Nil
22/02/2018	LT: 08:58 (1.34m) HT: 14:50 (6.98m)	08:50 – 14:50	Cloud (Oktas): 7/8 – 8/8 Temp: 3-6 Wind: 1-2 SE Precip.: Nil
14/03/2018	HT: 09:01 (6.52m) LT: 15:37 (1.49m)	09:00 – 15:37	Cloud (Oktas): 7/8-8/8 Temp: 8-9 Wind: 3-4 SE Precip.: Occasional light rain

2.4 Limitations

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of animals, such as the time of year, migration patterns and behaviour.

Although efforts were made to avoid double counting, due to the size of the survey area it is possible that, if birds moved within the survey area during a tidal state survey, double-counting may have occasionally occurred.

3. RESULTS

Survey results in relation to SPA qualifying features (refer to Table 1) recorded during surveys of Junction 15 are presented in Figures 3 to 9, with Figures 10 to 18 illustrating the results in relation to Junction 16. Figures 3 (Junction 15) and 10 (Junction 16) present a combined summary of the survey results during all surveys in relation to Oystercatcher (as this was the sole SPA qualifying feature recorded in sufficient numbers to make data presentation worthwhile). The remaining figures present the survey results by month, split by tidal state for SPA qualifying species only.

The below tables (Table 2 and Table 3) present the total counts of all wildfowl and waders within each survey area during each survey month, split by tidal state.

Table 2: Junction 15 Survey Results

	2017			2018		
	October	**November**	**December**	**January**	**February**	**March**
Mute Swan *Cygnus olor*						
High	2	2	7		2	2
Mid	2	2	7		2	
Low	2		7		2	
Greater Scaup *Aythya marila*						
High						1
Mid						1
Low						
Mallard *Anas platyrhynchos*						
High	68	53	31	42	40	14
Mid	57	33	37	38	40	38
Low	5	31	31	43	35	32
Goosander *Mergus merganser*						
High				1		
Mid						
Low						
Great Crested Grebe^						
High		1		2		
Mid		1		1	1	1
Low						
Red-breasted Merganser^						
High						
Mid	1					
Low	1					
Cormorant^						
High						
Mid						
Low	1					
Bar-tailed Godwit *Limosa lapponica*						
High						
Mid	1		19			
Low	1		1			

	2017			2018		
	October	November	December	January	February	March
Curlew *Numenius arquata**						
High			3	27		
Mid	6		1	28		
Low	6	2		1	4	1
Oystercatcher*						
High	28	7	97	105	10	13
Mid	85	65	425	181	28	68
Low	1322	68	226	225	147	163
Redshank *Tringa totanus**						
High				11	12	
Mid	1	1	1	9		1
Low	5	1	5	2		
Ringed Plover *Charadrius hiaticula*						
High	1					
Mid						
Low	3					
Turnstone *Arenaria interpres*						
High	23	5	22		22	
Mid	4	23		1	16	
Low	1	2	1			

Key:
* Lavan Sands SPA Qualifying Feature
^ Liverpool Bay SPA waterbird assemblage species

Table 3: Junction 16 Survey Results

	2017			2018		
	October	November	December	January	February	March
Eider^						
High						
Mid	3	10				
Low					1	
Red-throated Diver#^						
High	1	7				
Mid	2	2				
Low						
Great Crested Grebe^						
High	2	9				3
Mid	4			1		
Low						
Red-breasted Merganser^						
High						
Mid		3				
Low						

	2017			2018		
	October	**November**	**December**	**January**	**February**	**March**
Curlew						
High			12	34		
Mid	1	42	24	40		
Low		2	32	1		
Oystercatcher*						
High	39	82	137	40	16	19
Mid	85	117	118	120	20	15
Low	40	34	94	70	38	28
Ringed Plover						
High	10					
Mid		6				
Low						
Turnstone						
High	3				3	
Mid	10					
Low						

Key:
* Lavan Sands SPA Qualifying Feature
# Liverpool Bay SPA Qualifying Feature
^ Liverpool Bay SPA wintering bird assemblage species

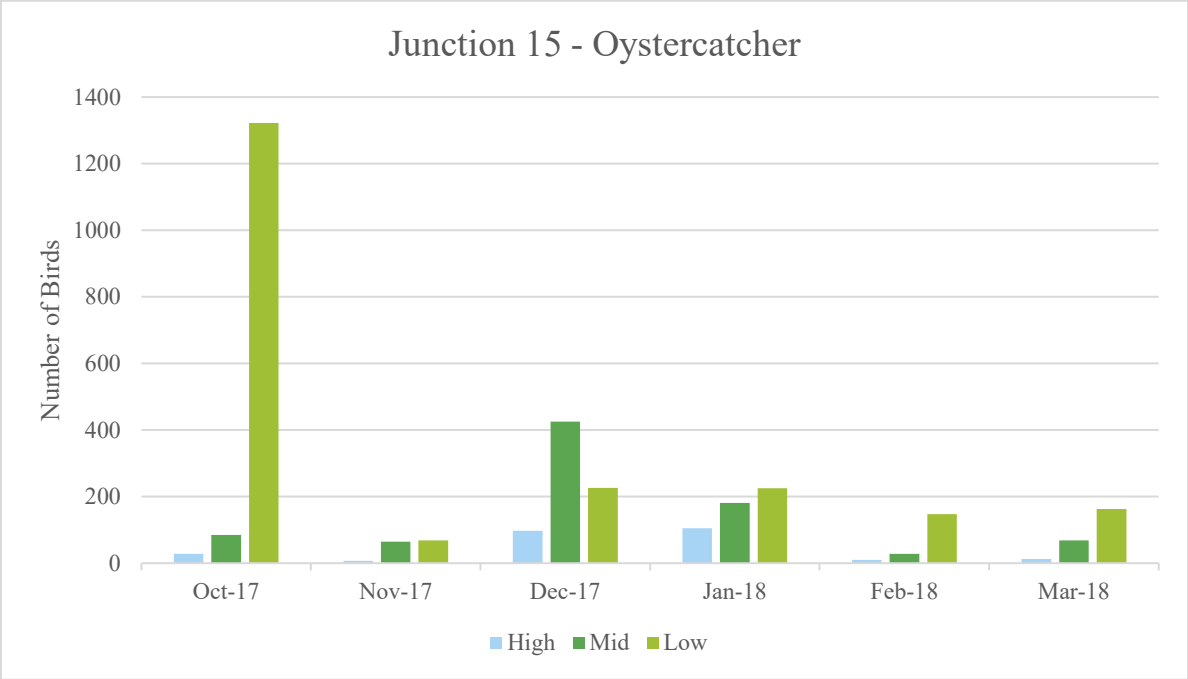
3.1 Junction 15

The results in relation to SPA qualifying species logged within the Junction 15 survey area as well as other waders/wildfowl are discussed in this section.

Oystercatcher

Chart 1 illustrates the survey results in relation to Oystercatcher. As illustrated by this graph and Figure 3, Oystercatcher were most abundant within the survey area during low tide, when a maximum of 1,322 were present (October 2017), predominantly foraging within the intertidal area to the west of Junction 15. Numbers within the survey area reduced as the tide flooded and birds left to forage/roost elsewhere with a maximum of 105 birds present at high tide (January 2018). During high tide, Oystercatcher were recorded using the recreational amenity grassland areas to the north of the A55 and Penmaen Park to the south. Only a small percentage of birds were recorded in areas which would be affected by the scheme (up to 25 individuals as shown on Figure 7).

Chart 1: Junction 15- Oystercatcher Survey Results



Other Species

Mute Swan was recorded during five of six surveys (no records during January 2018), with a maximum count of seven which occurred during each tidal state in December. This species was solely logged on the sailing lake within the recreational area in the west of the survey area.

A single female **Greater Scaup** was recorded during high and mid tide surveys, on the sailing lake within the recreational area, in March 2018.

Mallard were logged during each survey and each tidal state. A maximum survey count of 68 birds was made at high tide in October 2017. This species favoured the stream and sailing lake in the west of the survey area.

A single **Goosander** was logged on the sailing lake in the west of the survey area at high tide in January 2018.

Great Crested Grebe were recorded forging on the sea during four survey months, with a maximum of two birds present (high tide, January 2018).

Single **Red-breasted Merganser** were recorded during mid and low tide surveys in October 2017.

One **Cormorant** was logged in flight during the low tide survey in October 2017.

Bar-tailed Godwit were logged at the stream outflow, and adjacent inter-tidal areas during surveys in October 2017 (one bird) and December 2017 (maximum of 19 birds).

Curlew were recorded during each survey, predominantly at low tide foraging in the inter-tidal area. However, the maximum number of birds occurred in January 2018 (28) when Curlew were recorded foraging at mid and low tide within Penmaen Park.

Redshank were recorded during each survey month, predominantly foraging in the inter-tidal area near the stream outflow in the west of the survey area. A maximum of

12 birds were observed during any survey, roosting just above the high tide line on the beach in the west of the survey area in February 2018 (at high tide).

Ringed Plover were observed at high and low tide in the west of the survey area near the stream outflow in October 2017 (maximum of three birds).

Turnstone were logged during five of six survey months, with up to 23 birds observed (high tide in October 2017 and mid-tide in November 2017). This species favoured the intertidal area in the west of the survey area.

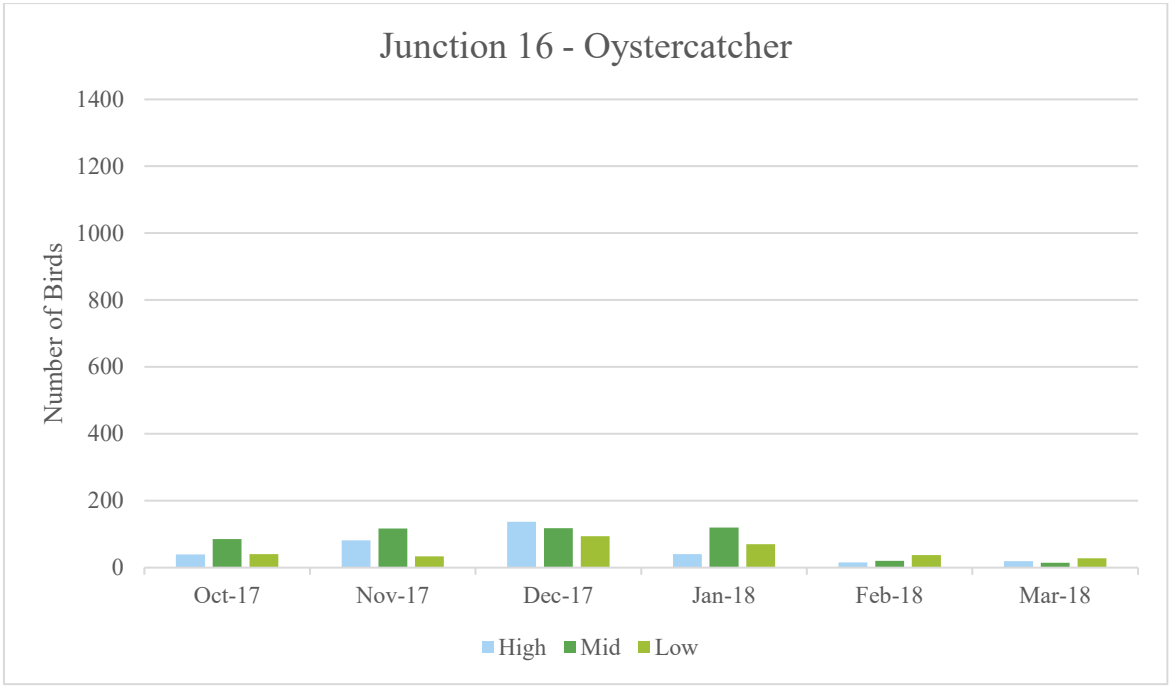
3.2 Junction 16

The results in relation to SPA qualifying species logged within the Junction 16 survey area as well as other waders/wildfowl are discussed in this section.

Oystercatcher

A maximum of 120 Oystercatcher were recording within the Junction 16 survey area, occurring during the mid-tide survey in January 2018 (Figure 14). Numbers within the survey area were typically fairly consistent during each survey during each month. At high tide Oystercatcher moved from the intertidal area to forage within nearby pasture and recreational areas. Only a small percentage of birds were recorded within these areas which would be affected by the scheme up to 41 individuals (Figs 13 and 14).

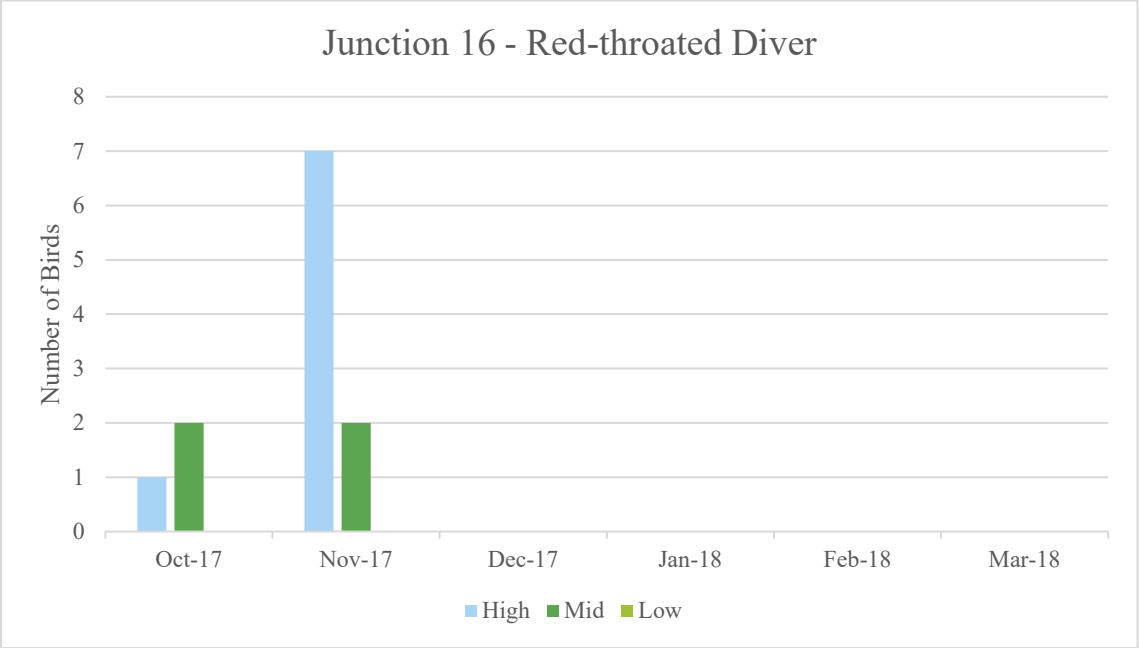
Chart 2: Junction 16- Oystercatcher Survey Results



Red-throated Diver

Recorded during two survey months (October (Figure 17) and November 2017 (Figure 18)), with a maximum of seven birds recorded during any survey (high tide, November 2017).

Chart 3: Junction 16- Red-throated Diver Survey Results



Other Species

Eider was recorded on the sea during three survey months (October 2017, November 2017 and February 2018), with a maximum of ten birds present (mid-tide, November 2018).

Great Crested Grebe were logged on the sea during four of six surveys (no records in December 2017 and February 2018), with a maximum of nine birds present at high tide in November 2018.

Red-breasted Merganser were solely recorded at mid-tide in November 2017, when three birds were present in the west of the survey area.

Curlew were logged during four of six surveys (no records in February or March 2018). A maximum of 40 birds were observed at mid-tide in January 2018, just to the east of the survey area within pasture.

Ringed Plover were logged in October 2017 (ten birds at high tide) and November 2017 (six birds at mid-tide).

Turnstone were logged at high tide (three birds) and mid-tide (ten birds) in October 2017 just above the high-tide line in the centre of the survey area. Three birds were also observed at high tide in February 2018.

APPENDIX A
FIGURES

SIAA - APPENDIX F
ENVIRONMENTAL MANAGEMENT PLANS

Notes

Reference number
Environmental Function
Landscape Element (LE)
Environmental Element (E)
Planning and Policy Feature (P)
Brief description or brief justification for inclusion

Environmental Functions (EF)

Ref	Data Set
EFA	Visual screening;
EFB	Landscape Integration;
EFC	Enhancing the built environment;
EFD	Nature conservation and biodiversity;
EFE	Visual amenity;
EFF	Heritage;
EFG	Auditory amenity;
EFH	Water quality;
EFJ	Agricultural / Highway boundary;
EFK	Access / Landscape management.

Original Features Retained
- Existing roads
- Watercourse or Waterbody
- Tree and shrub areas
- Vegetation requiring pruning

Environmental Elements (E)
- 1.2 Noise Barriers

Planning and Policy Features (P)
- 4.4 Public Right of Way
- 4.4 Altered Right of Way

Landscape Elements (LE)
LE1 Grassland
- 1.2 Grassland with Bulbs
- 1.3 Species Rich Grassland
- 1.6 Open Grassland

LE3 Ornamental Planting
- 3.2 Ornamental Shrubs
- 3.3 Groundcover

LE2 Native Planting
- 2.4 Linear belts
- 2.6 Shrubs

LE5 Trees
- 5.1 Individual Trees

LE6 Wetland Habitats
- 6.2 Banks and Ditches

Hard Landscape Features (LE7)
LE7.2 Retaining Structures
- 7.21 Retaining Walls

LE7.3 Barriers and Fences
- 7.31 Concrete Barriers
- 7.32 Metal Barriers
- 7.33 Masonry Walls
- 7.34 Railings / Fences
- 7.35 Hand Rails

LE7.4 Pavement Surfaces
- 7.41 New Roads
- 7.42 Non-motorised Ways
- 7.43 Block Paving Surfaces
- 7.44 Other Hard Surfaces
- 7.45 Coloured Coating Roads

Environmental Elements (E)
E1 Noise
- E1.1 Noise-reducing surfaces
- E1.2 Noise barrier built elements
- E1.3 Noise-reducing earthworks

E2 Water
- E2.1 Water pollution control measures
- E2.2 Surface-water outfalls
- E2.3 Soakaways

E3 Nature Conservation and Biodiversity
- E3.1 Protected species
- E3.2 Ecological protection measures

E4 Pests and Injurious Weeds
- E4.1 Injurious weeds
- E4.2 Legislated pests

Planning and Policy Features (P)
P1 Nature Conservation Designations
- P1.1 Statutory nature conservation designation
- P1.2 Non-statutory designation

P2 Landscape Designations
- P2.1 Statutory landscape designation
- P2.2 Local landscape designation

P3 Cultural Heritage
- P3.1 Cultural heritage feature
- P3.2 Conservation area

P4 Land Use
- P4.1 Agricultural land
- P4.2 Land management
- P4.3 Public open spaces
- P4.4 Public rights of way

P5 Third Party Claim
- P5.1 e.g. sensitive location or complaint

P6 Water Quality
- P6.1 Watercourse quality
- P6.2 Area of groundwater sensitivity

Rev	Description	Date	By Chk	App
12	JUNCTION 15 REARRANGEMENT	06/07 2020	RhE JS	APCS

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru
Welsh Government

RML YGC Gateley HAMER

RAMBOLL

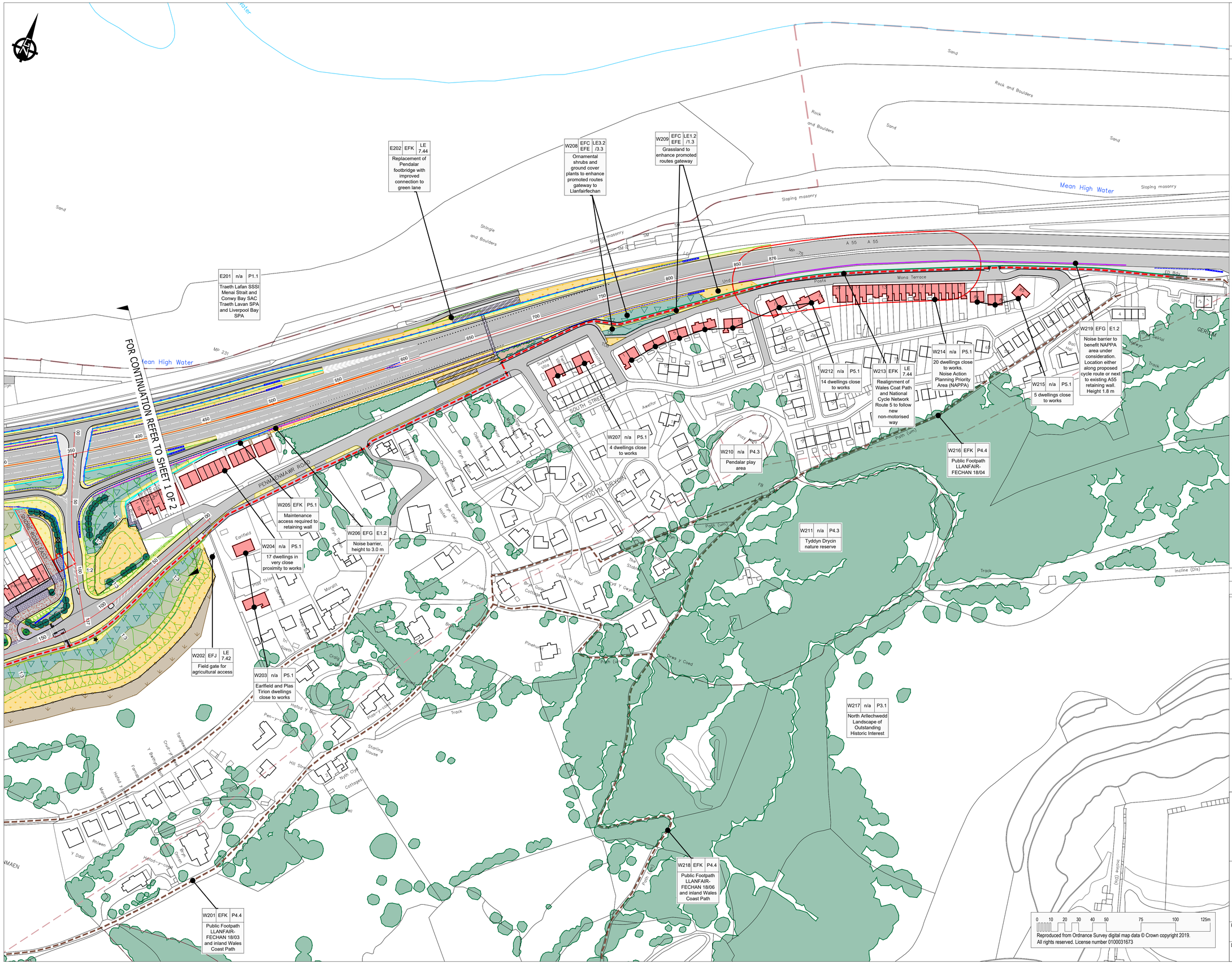
tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

JUNCTION 15 ENVIRONMENTAL MASTERPLAN SHEET 1 OF 2

Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:1,250	RhE	JUL 20

Drawing No: A55J15J16-RML-30-15-DR-X-0201 Rev: 12

06/07/2020 11:43:59



Notes

Reference number
Environmental Function
Landscape Element (LE)
Environmental Element (E)
Planning and Policy Feature (P)
Brief description or brief justification for inclusion

Environmental Functions (EF)

Ref	Data Set
EFA	Visual screening;
EFB	Landscape Integration;
EFC	Enhancing the built environment;
EFD	Nature conservation and biodiversity;
EFE	Visual amenity;
EFF	Heritage;
EFG	Auditory amenity;
EFH	Water quality;
EFJ	Agricultural / Highway boundary;
EFK	Access / Landscape management.

Original Features Retained
- Existing roads
- Watercourse or Waterbody
- Tree and shrub areas
- Vegetation requiring pruning

Environmental Elements (E)
- 1.2 Noise Barriers

Planning and Policy Features (P)
- 4.4 Public Right of Way
- 4.4 Altered Right of Way

Landscape Elements (LE)
LE1 Grassland
- 1.2 Grassland with Bulbs
- 1.3 Species Rich Grassland
- 1.6 Open Grassland

LE3 Ornamental Planting
- 3.2 Ornamental Shrubs
- 3.3 Groundcover

LE2 Native Planting
- 2.4 Linear belts
- 2.6 Shrubs

LE5 Trees
- 5.1 Individual Trees

LE6 Wetland Habitats
- 6.2 Banks and Ditches

Hard Landscape Features (LE7)
LE7.2 Retaining Structures
- 7.21 Retaining Walls

LE7.3 Barriers and Fences
- 7.31 Concrete Barriers
- 7.32 Metal Barriers
- 7.33 Masonry Walls
- 7.34 Railings / Fences
- 7.35 Hand Rails

LE7.4 Pavement Surfaces
- 7.41 New Roads
- 7.42 Non-motorised Ways
- 7.43 Block Paving Surfaces
- 7.44 Other Hard Surfaces
- 7.45 Coloured Coating Roads

Environmental Elements (E)
E1 Noise
- E1.1 Noise-reducing surfaces
- E1.2 Noise barrier built elements
- E1.3 Noise-reducing earthworks

E2 Water
- E2.1 Water pollution control measures
- E2.2 Surface-water outfalls
- E2.3 Soakaways

E3 Nature Conservation and Biodiversity
- E3.1 Protected species
- E3.2 Ecological protection measures

E4 Pests and Injurious Weeds
- E4.1 Injurious weeds
- E4.2 Legislated pests

Planning and Policy Features (P)
P1 Nature Conservation Designations
- P1.1 Statutory nature conservation designation
- P1.2 Non-statutory designation

P2 Landscape Designations
- P2.1 Statutory landscape designation
- P2.2 Local landscape designation

P3 Cultural Heritage
- P3.1 Cultural heritage feature
- P3.2 Conservation area

P4 Land Use
- P4.1 Agricultural land
- P4.2 Land management
- P4.3 Public open spaces
- P4.4 Public rights of way

P5 Third Party Claim
- P5.1 e.g. sensitive location or complaint

P6 Water Quality
- P6.1 Watercourse quality
- P6.2 Area of groundwater sensitivity

Rev	Description	Date	By	Chk	App
12	JUNCTION 15 REARRANGEMENT	06/07 2020	RhE JS		APCS

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru
Welsh Government

RML YGC
Gateley HAMER

RAMBOLL

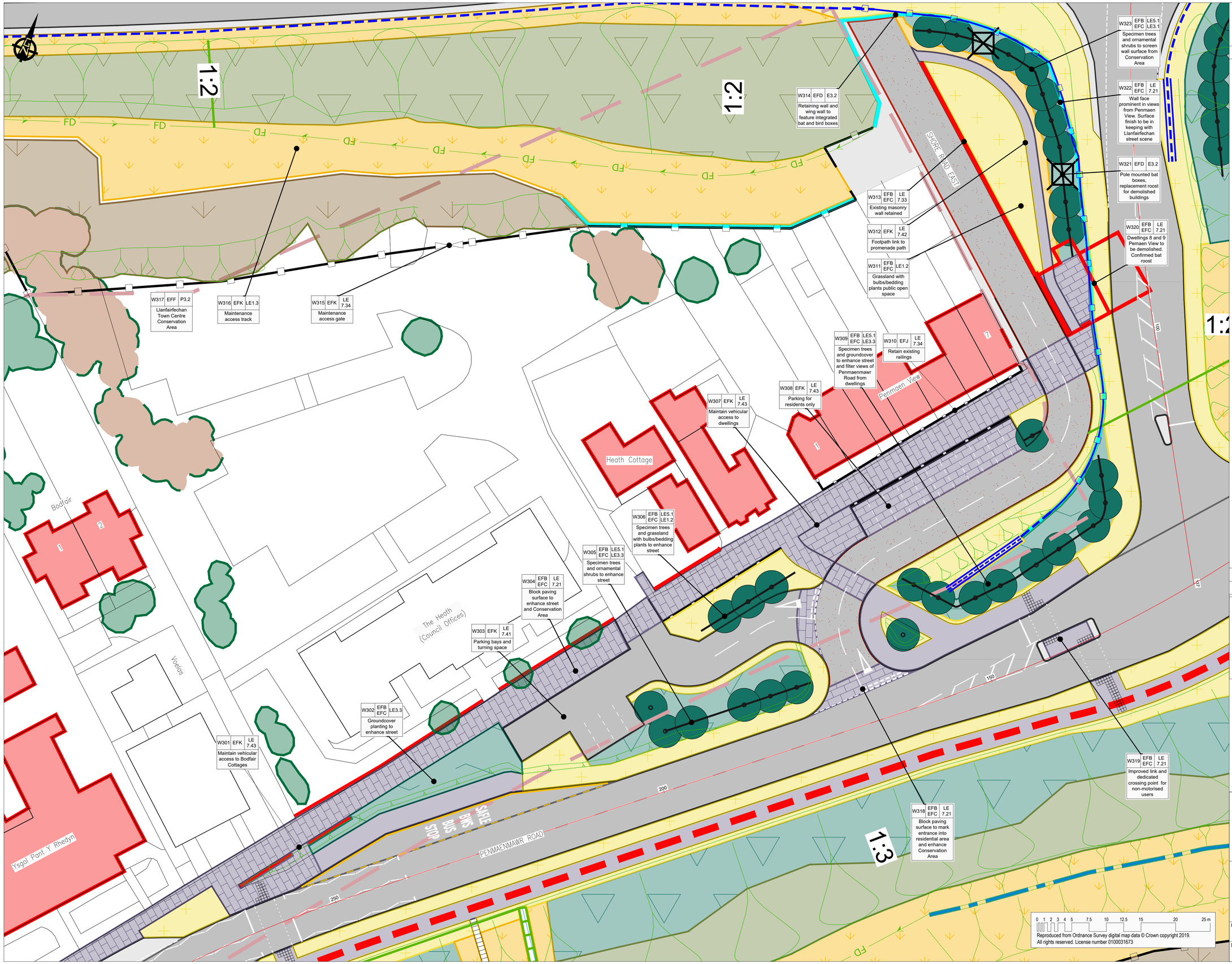
tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

JUNCTION 15 ENVIRONMENTAL MASTERPLAN SHEET 2 OF 2

Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:1,250	RhE	JUL 20

Drawing No: A55J15J16-RML-30-15-DR-X-0202
Rev: 12

06/07/2020 12:48:41



Notes

Reference number
Environmental Function
Landscape Element (LE)
Environmental Element (E)
Planning and Policy Feature (P)
Brief description or brief justification for inclusion

Environmental Functions (EF)

Ref	Data Set
EFA	Visual screening;
EFB	Landscape Integration;
EFC	Enhancing the built environment;
EFD	Nature conservation and biodiversity;
EFE	Visual amenity;
EFF	Heritage;
EFG	Auditory amenity;
EFH	Water quality;
EFJ	Agricultural / Highway boundary;
EFK	Access / Landscape management.

Original Features Retained
- Existing roads
- Watercourse or Waterbody
- Tree and shrub areas
- Vegetation requiring pruning

Environmental Elements (E)
- 1.2 Noise Barriers

Planning and Policy Features (P)
- 4.4 Public Right of Way
- 4.4 Altered Right of Way

Landscape Elements (LE)
LE1 Grassland
- 1.2 Grassland with Bulbs
- 1.3 Species Rich Grassland
- 1.6 Open Grassland

LE2 Native Planting
- 2.4 Linear belts
- 2.6 Shrubs

LE3 Ornamental Planting
- 3.2 Ornamental Shrubs
- 3.3 Groundcover

LE5 Trees
- 5.1 Individual Trees

LE6 Wetland Habitats
- 6.2 Banks and Ditches

Hard Landscape Features (LE7)
LE7.2 Retaining Structures
- 7.21 Retaining Walls

LE7.3 Barriers and Fences
- 7.31 Concrete Barriers
- 7.32 Metal Barriers
- 7.33 Masonry Walls
- 7.34 Railings / Fences
- 7.35 Hand Rails

LE7.4 Pavement Surfaces
- 7.41 New Roads
- 7.42 Non-motorised Ways
- 7.43 Block Paving Surfaces
- 7.44 Other Hard Surfaces
- 7.45 Coloured Coating Roads

Environmental Elements (E)
E1 Noise
E1.1 Noise-reducing surfaces
E1.2 Noise barrier built elements
E1.3 Noise-reducing earthworks
E2 Water
E2.1 Water pollution control measures
E2.2 Surface-water outfalls
E2.3 Soakaways
E3 Nature Conservation and Biodiversity
E3.1 Protected species
E3.2 Ecological protection measures
E4 Pests and Injurious Weeds
E4.1 Injurious weeds
E4.2 Legislated pests

Planning and Policy Features (P)
P1 Nature Conservation Designations
P1.1 Statutory nature conservation designation
P1.2 Non-statutory designation
P2 Landscape Designations
P2.1 Statutory landscape designation
P2.2 Local landscape designation
P3 Cultural Heritage
P3.1 Cultural heritage feature
P3.2 Conservation area
P4 Land Use
P4.1 Agricultural land
P4.2 Land management
P4.3 Public open spaces
P4.4 Public rights of way
P5 Third Party Claim
P5.1 e.g. sensitive location or complaint
P6 Water Quality
P6.1 Watercourse quality
P6.2 Area of groundwater sensitivity

Rev	Description	Date	By	Chk	App
06	JUNCTION 15 REARRANGEMENT	25/06 2020	RhE	JS	APCS

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru
Welsh Government

RML YGC
Gateley HAMER

RAMBOLL

tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

JUNCTION 15 ENVIRONMENTAL MASTERPLAN SHORE ROAD EAST DETAIL

Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:250	RhE	JUN 20

Drawing No: A55J15J16-RML-30-15-DR-X-0203
Rev: 06

0 1 2 3 4 5 7.5 10 12.5 15 20 25 m

06/07/2020 12:49:36

SIAA - APPENDIX G
EXTENT OF LAND TAKE

Notes

- Existing road surface
- Extent of landtake
- Proposed scheme alignment
- Fixed distance buffer

500m

250m

Mean Low Water

Mean High Water

0 20 60 100 150 200 250 m

A55 JUNCTION 15 & 16 IMPROVEMENTS

Llywodraeth Cymru
Welsh Government

RML YGC
Gateley HAMER

RAMBOLL

tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

JUNCTION 15
FIGURE 2.4
EXTENT OF LANDTAKE
SHEET 1 OF 1

Project No:	Scale (@A1):	Drawn:	Date:
1620000620	1:5,000	RhE	FEB 20

Drawing No:	Rev:
A55J15J16-RML-30-15-DR-X-0210	01

13/02/2020 11:16:31

SIAA - APPENDIX H
CONSULTATION RESPONSE NRW

Cyfoeth Naturiol Cymru
Natural Resources Wales

Ein cyf/Our ref: CAS-112174-G2Y9
Eich cyf/Your ref: A55 J15&J16

Maes Y Ffynnon,
Penrhosgarnedd,
Bangor,
Gwynedd
LL572DW

By email: d.hall@rmlconsult.com

ebost/email:
northplanning@cyfoethnaturiolcymru.gov.uk
Ffôn/Phone: 03000 65 4682

22/05/2020

Dear Donna Hall,

Site Address: A55 Junction 15
Proposed Development: A55 Junction 15 & 16 Improvements

Thank you for referring the above proposal which we received on 02/04/2020. NRW has reviewed the information provided in the 'A55 Junction 15: Statement to Inform an Appropriate Assessment (SIAA)' A55J15J16-RML-30-15-RP-X-0058 dated 11/12/2019.

Please note that our comments are without prejudice to any comments we may wish to make when consulted on any subsequent applications. At the time of any application there may be new information available which we will need to take into account in making a formal response.

The Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna provides legal protection for habitats and species of European importance. The Directive is transposed into UK law by the Conservation of Habitats and Species Regulations 2017 SI 2017/1012.

NRW have concerns with regards to the conclusions of the draft SIAA document and advise that the document is updated to take into account the comments below:

Screening

1. We note sections 2.2.3/3.12.1 that the screening assessment identified that in the absence of appropriate mitigation and taking into consideration their conservation objectives, likely significant effects on qualifying features of the following European Sites could not be ruled out at Stage 1:
    a) Traeth Lafan / Lavan Sands, Conway Bay Special Protection Area (SPA)
    b) Liverpool Bay / Bae Lerpwl (Wales) Special Protection Area (SPA)
    c) Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation (SAC).

2. We are in agreement with this statement and further comments are provided below with regards to our review of the detailed potential impacts, mitigation and monitoring.

3. We also note section 2.2.5/3.12.2 - It is considered that it is unlikely that there will be significant effects on the following European Sites, therefore no further assessment is needed.
    a) Coedydd Aber SAC
    b) Mwyngloddiau Fforest Gwydir/ Gwydyr Forest Mines SAC
    c) Coedydd Derw a Safleoedd Ystlumod Meirion/ Meirionnydd Oakwoods and Bat Sites SAC
    d) Glynllifon SAC

4. We are in agreement with this statement that there is unlikely to be a significant effect on the terrestrial Natura 2000 sites.

Potential Impacts on Protected Sites, Mitigation and Monitoring

- Water Quality

5. We note sections 4.3.14 – 4.3.17 and 6.2.4 – 6.2.7 of the SIAA, however, there are two areas of concern for discharges to the marine environment:
    - Construction impacts – run-off of silty and potentially contaminated water from earthworks and building to the marine environment;
    - Operational impacts – day-to-day run-off and accidental spills.

6. The SIAA does not cover the details of the construction or operational impacts, however, this is within the information in the Environmental Statement (ES) and its appendices.

7. Construction impacts are not detailed in the ES, but instead dealt with in the pre-construction environmental management plan (CEMP) (appendix 2.2) and Chapter 20 of the ES (Development of the CEMP). The pre-CEMP details potential mitigation or management which could be utilised by the contractor for the Ground and Surface Water management plan and the Outline pollution prevention and control management plan. While there is lots of detail here, we are concerned there is no mention of the coastal discharges, instead concentrating on surface watercourses. Additionally, the CEMP will be developed when the contractor is onboard, we would ask to be consulted again once completed.

8. In terms of operation, a modelling study (henceforth the “modelling assessment”) was conducted and is presented in Appendix 7.3 of the ES. The modelling study does not use appropriate Environmental Quality Standards (EQSs) for discharges to coastal waters, instead choosing Runoff Specific Thresholds (RST) for Zinc (Zn) and Copper (Cu) alone, specifically set for freshwater biota. We agree there is no Annual Average given for Zn and Cu for saline waters. We note that in the Junction 16 version of Appendix 7.3 where there are discharges to freshwater, only Cu and Zn are used (section 4.1 pg 10), mirroring what has been done for coastal waters. We would expect to see a section listing the contaminants expected in road run-off, which is likely to be more than simply Cu and Zn, and then an appraisal of what their likely concentrations are at discharge. Furthermore, the model used is a freshwater model

(section 2.1.2 pg 2) which the authors state is not suitable for coastal discharges; they then go on to say that there is “no better alternative” (2.1.2 pg 2). NRW have an initial dilution spreadsheet for coastal discharges which can be shared externally. There are also software packages available which deal with coastal discharges appropriately, such as CORMIX. In general, the surface water pollution risk assessment methodology (https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit) for coastal and estuarine waters should be used; this guidance also provides a list of relevant EQSs for coastal waters.

9. The two modelling assessments, J15 Appendix 7.3 (Table 4.1 pg 7) and J16 Appendix 7.3 (Table 4.1 pg 9), show the results are the same for both junctions. We question why this is the case. We also question why the surface water input parameters do not include details such as length or width of road being considered, or the position of drains. In general, the assumption and caveats of the model chosen, other than its none saline nature, have not been described.

10. The modelling assessment uses average rainfall at Colwyn Bay and then goes on to say that this is likely incorrect, as it is too low. No reason is provided as to why it is too low. A much higher value (1100 mm compared to 788 mm) is used for the Groundwater assessment (table 3.1 pg 4). We do accept that a lower value will be more conservative due to a lower level of dilution, as the authors point out.

11. There is no mention in the modelling assessment of how rainfall events (4.1.2 pg 7) are represented or even their definition. This information would be invaluable to the reader. Similarly, there is no information presented to say how climate scenarios have been represented. For example, if we are to experience warmer, drier summers as detailed in Chapter 16 (16.5.5 pg 11), what impact will this have on concentrations? This links to Chapter 17, Table 17.1 pg 17-13 droughts – though not mentioned, droughts could cause environmental damage via contaminant build-up and first flush.

12. The modelling assessment uses a number of vehicles, 44,107, for the year 2037, to predict concentrations at that point (Table 3.1 pg 4). There is no discussion of how pollution might have changed by then bearing in mind the UK Government plan of banning new petrol and diesel cars being brought forward from 2040 to 2035.

13. The modelling assessment for Junction 15 does not split discharges into discharge per pipe, while the J16 version does. It would be useful to understand any differences in spatial discharge.

14. Both ES Chapter 7’s (e.g. J15 ES chapter 7 section 7.7.6 pg 7-19) and section 4.3.16 of the SIAA discuss how the dynamic nature of the marine environment will disperse sediment-bound contaminants. There is no appraisal of what the seashore near the discharge points is like to know whether it would disperse as suggested. Examination of the shore should indicate how energetic and thus dispersive the environment is.

15. Both ES Chapter 7’s and the SIAA discuss the use of SuDS (sustainable urban drainage systems) though these are not considered in either of the Appendix 7.3’s.

There is no discussion given in the Appendix as to what a SuDS system will do to concentration and flows, though attenuated flow rates are discussed in the ES (see J16 ES chapter 7, sections 7.7.2 pg 7-25 and 7.8.2 pg 7-22, for example).

16. Therefore, we cannot agree with the conclusions from the modelling assessment mentioned in the SIAA (section 7.1.3) and therefore cannot agree there will be no impacts from runoff on the marine environment at this time. We do, however, agree that a CEMP (section 3.9.4 pg 19) should be designed and this should provide adequate detail to avoid and mitigate any impacts during construction, we also advise that it should consider the coastal environment as well as watercourses.

- Birds

17. We note section 6.1 Traeth Lafan / Lavan Sands, Conway Bay SPA and Table 13: Effects on Conservation Objectives and are in agreement with the regards to the potential impacts for the designated qualifying features of oystercatcher and curlew for the protection area.

18. In conclusion, we note section 7.1.9 – 7.1.14 and Table 16 and note the mitigation/control measures, being mainly the preparation and implementation of the CEMP. We are, therefore, in agreement there would be no adverse effect on site integrity.

19. We note and agree with section 8.1.1. with regards with what has been outlined with regards to monitoring of birds which are a feature of the SPA during construction.

20. We note section 6.3 Liverpool Bay / Bae Lerpwl SPA and Table 15: Effects on Conservation Objectives and are in agreement with the regards to the potential impacts for the designated qualifying features of this site.

21. It is noted in section 7.3.2, the proposal will not affect the features of interest of the Liverpool Bay / Bae Lerpwl (Wales) SPA. We are, therefore, in agreement there would be no adverse effect on site integrity.

- Air Quality

22. We note sections 4.3.11 – 4.3.12 and Table 10 and are in agreement with the potential impacts of the construction and operational traffic for Traeth Lafan/ Lavan Sands, Conway Bay SPA

23. We note sections 4.3.11 – 4.3.12, Table 10, section 6.2.1 and are in agreement with the potential impacts of the construction and operational traffic for Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC.

24. In conclusion, we note section 7.1.6 and 7.1.7 and note the implementation of pollution control measures through a CEMP. We are, therefore, in agreement there would be no adverse effect on site integrity from construction or operational traffic

and that NOx and Nitrogen Deposition levels are within the objective / Critical Level / Critical Load.

Other Matters

Our comments above only relate specifically to matters included on our checklist, *Development Planning Advisory Service: Consultation Topics* (September 2018), which is published on our website. We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests.

We advise the applicant that, in addition to planning permission, it is their responsibility to ensure they secure all other permits/consents/licences relevant to their development. Please refer to our website for further details.

If you have any queries on the above, please do not hesitate to contact us.

Yn gywir / Yours faithfully

Siôn M. Williams
Cynghorydd - Cynllunio Datblygu / Advisor - Development Planning
Cyfoeth Naturiol Cymru / Natural Resources Wales