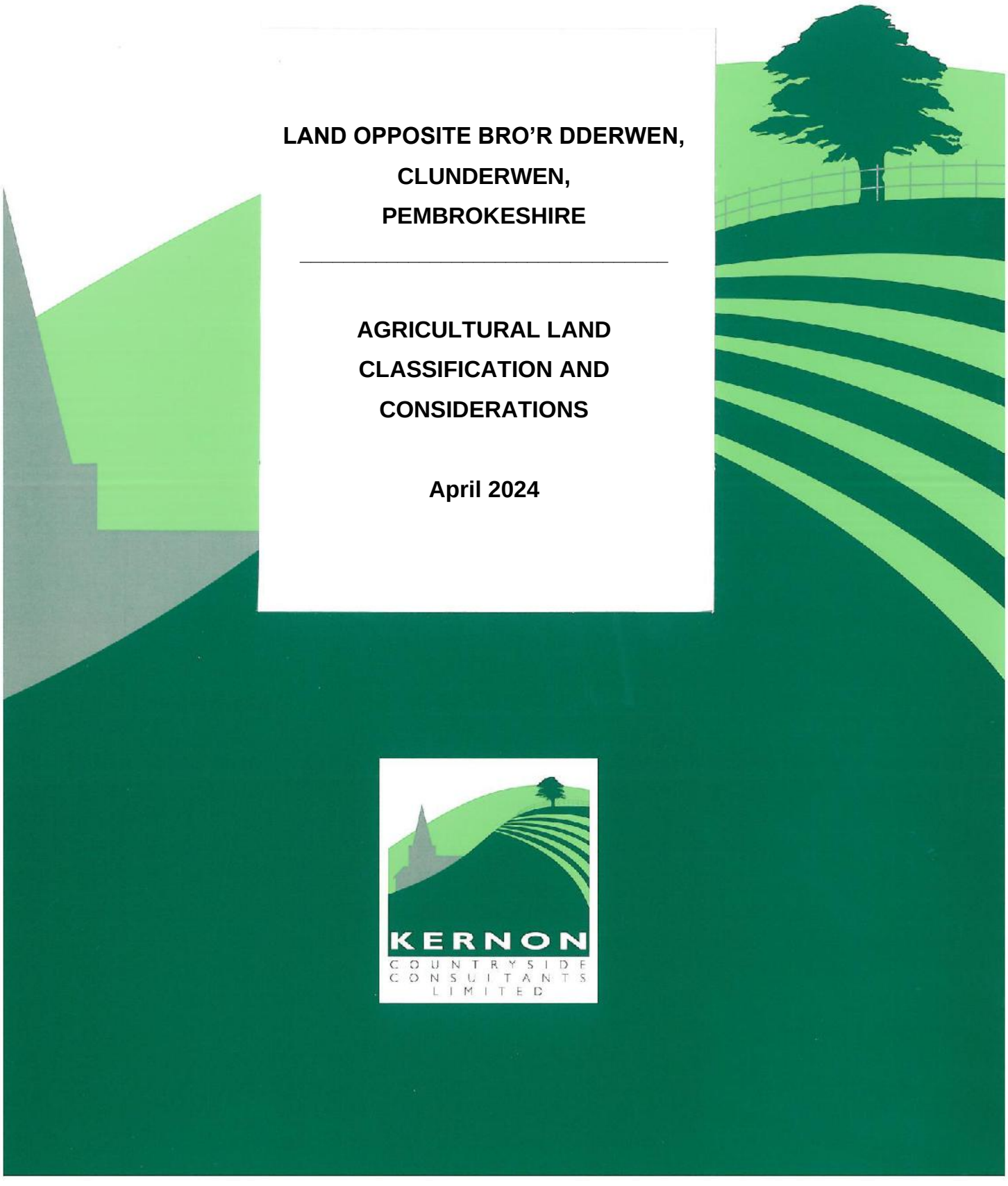
LAND OPPOSITE BRO'R DDERWEN, CLUNDERWEN, PEMBROKESHIRE

AGRICULTURAL LAND CLASSIFICATION AND CONSIDERATIONS

April 2024



KERNON
COUNTRYSIDE CONSULTANTS LIMITED

LAND OPPOSITE BRO'R DDERWEN,
CLUNDERWEN,
PEMBROKESHIRE

AGRICULTURAL LAND CLASSIFICATION AND CONSIDERATIONS

April 2024

Authorised By APK 04/24

Greenacres Barn, Stoke Common Lane, Purton Stoke, Swindon SN5 4LL
T: 01793 771333 Email: info@kernon.co.uk Website: www.kernon.co.uk

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*Directors - **Tony Kernon** BSc(Hons), MRAC, MRICS, FBIAC **Sarah Kernon***
*Consultants – **Ellie Chew** BSc(Hons), **Amy Curtis** BSc(Hons)*

CONTENTS

Appendices

Plans

1 INTRODUCTION

1.1 This report considers the agricultural land quality of a parcel of land extending to 5ha on land opposite Bro'r Dderwen, Clunderwen, Pembrokeshire.

1.2 The Site is shown outlined in red on the aerial image below.

Insert 1. Site Area (Boundary Approx.)

1.3 A detailed Agricultural Land Classification was carried out in March 2024, which has found that 1.9 ha comprises Subgrade 3a. The remaining 3.1 ha is Subgrade 3b.

1.4 This report:

(i) reviews the relevant planning policy in section 2;

(ii) describes the Site and the ALC survey findings in section 3;

(iii) assesses the findings against the policy in section 4; and

(iv) provides a summary and conclusions in section 5.

1.5 This report has been prepared by Kernon Countryside Consultants Ltd. We specialise in assessing the effects of development proposals on agricultural land and businesses.

2 RELEVANT PLANNING POLICY AND GUIDANCE

Planning Policy Wales (PPW)

2.1 Planning Policy Wales (PPW) (Edition 12, February 2024) sets out in paragraph 3.58 that agricultural land of grades 1, 2 and 3a is the "**best and most versatile and should be conserved as a finite resource for the future**".

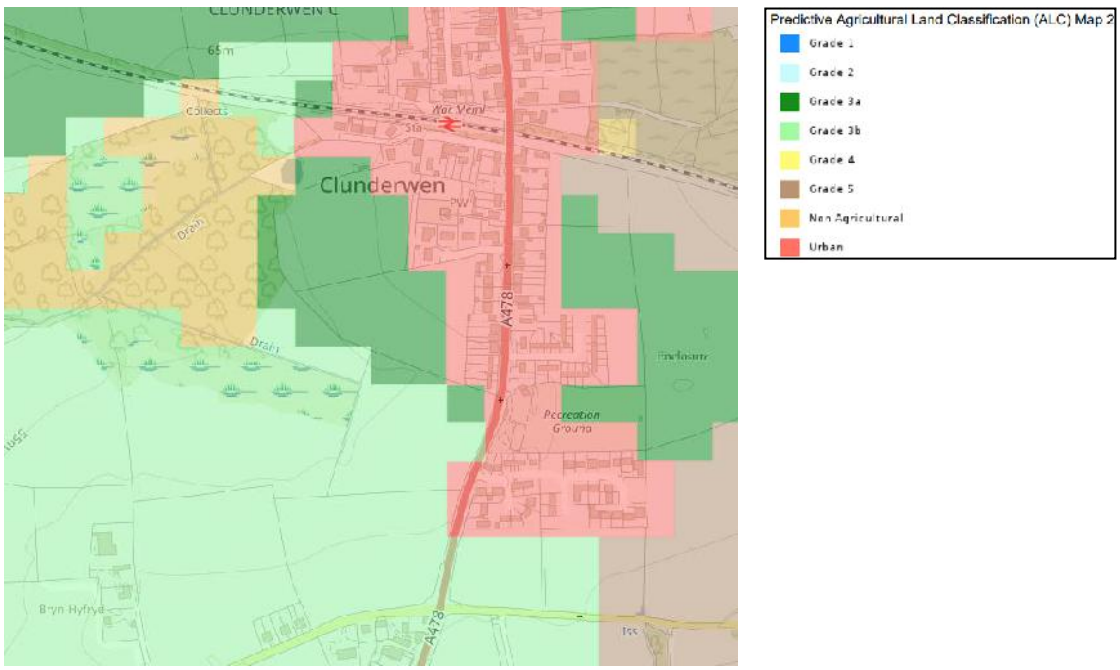
2.2 Paragraph 3.59 sets out policy that seeks to develop land of poorer quality in preference to BMV land unless other considerations outweigh the agricultural considerations, or poorer quality land has recognised environmental value.

Welsh Government Guidance

2.3 The Welsh Government has produced a Predictive Agricultural Land Classification (ALC) map. Version 2 was published in 2020. The accompanying guidance (May, 2021) sets out that where land is shown on the predictive map as potentially of Grades 1, 2 and 3a an ALC survey is required. The Guidance Note v2.1 (May, 2021) is reproduced in **Appendix KCC1**. Where land is shown as grades 3b, 4 or 5, the flowchart states that **"survey is not required"**.

2.4 The Predictive ALC Map 2 shows the Site to be Subgrade 3a and Subgrade 3b. Accordingly, a detailed ALC survey is required on the predictive Subgrade 3a area of the site.

Insert 2: The Site on the Predictive ALC



Local Plan

2.5 The Local Plan does not reference agricultural land explicitly and does not reference best and most versatile agricultural land.

3 AGRICULTURAL LAND QUALITY OF THE SITE

The ALC System

3.1 The Agricultural Land Classification system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impost long-term limitations on the agricultural use of the Site. The ALC system divides agricultural land into five grades. Grade 1 of the ALC is described as being of excellent quality and Grade 5, at the other end of the scale, is described as being of very poor quality. The current guidelines and criteria for ALC were published by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1988.

3.2 The ALC is further described in the Welsh Government's "Frequently Asked Questions" (FAQ) booklet (May 2021), which is reproduced in **Appendix KCC2**.

Detailed ALC Survey Results

3.3 KCC Ltd carried out a detailed ALC survey in March 2024. Three auger inspection points were examined on a regular 100m grid, using a spade and soil auger to a depth of 120cm where possible. The northern part of the site is shown below.

Photo 1: Northern Part of the Site

3.4 A detailed ALC report is set out in **Appendix KCC3**.

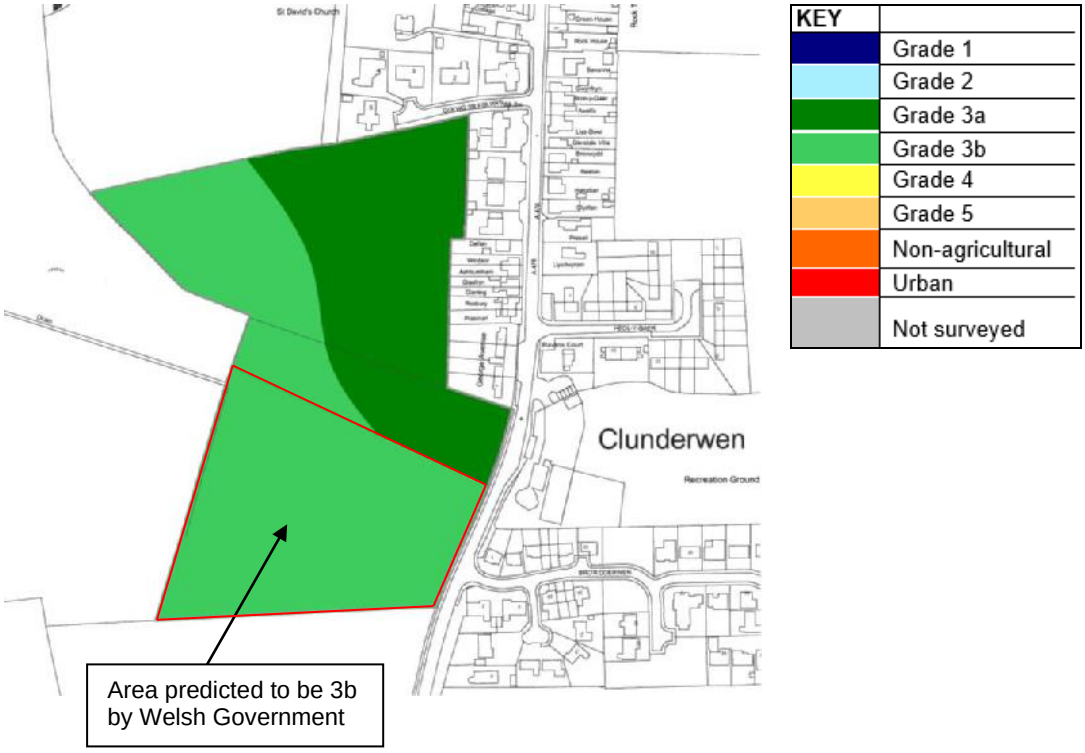
3.5 The results of the survey are provided in the table below.

Table KCC1: ALC Results

ALC Grade	Description	Area (ha)	Proportion (%)
Subgrade 3a	Good	1.9	38
WG Predictive 3b		3.1	62
Total	**-**	**5.0**	**100**

3.6 The distribution of grading can be seen on the extract of the ALC plan below. The full plan can be found at the back of this report.

Insert 3. Extract from the ALC Plan



3.7 As per the WG Guidance Note, the area shown as subgrade 3b was not all surveyed. It is shown below, and the presence of soft rushes indicates that the area is poorer quality land, as mapped by WG.

Photo 2: The Southern Area

4 POLICY ASSESSMENT

4.1 Welsh planning policy seeks to protect best and most versatile agricultural land, because it is a finite resource.

4.2 The Guidance Note identifies that where land is shown on the Predictive ALC Maps as likely falling within Grades 1, 2 and Subgrade 3a of the ALC, field surveys will be required. Such land is defined in Planning Policy Wales (Edition 12, 2024, Paragraph 3.58) as the "**best and most versatile agricultural land**" and is afforded a degree of protection. It also states that poorer quality land should be used in preference unless there are reasons why it cannot be used.

Practical Considerations

4.3 A proportion of the land falls into Subgrade 3a agricultural land and is therefore of BMV quality.

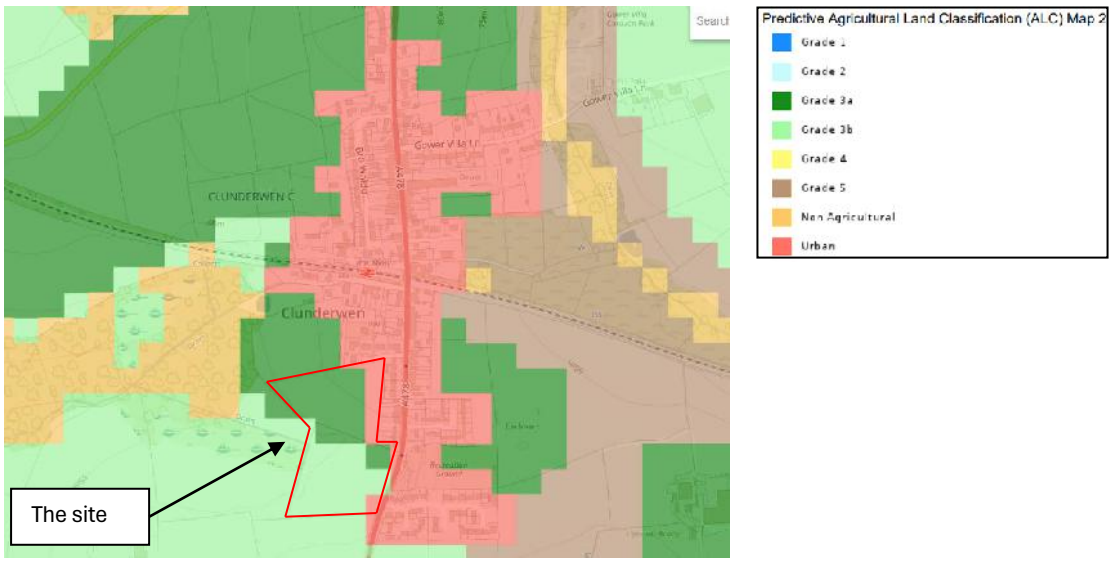
4.4 The Subgrade 3a land extends to just 1.9, which is a moderate area (38%) of the wider 5 ha Site.

Land Quality in the Area Generally and Whether Poorer Quality Land is Available

4.5 On the predictive ALC map v2, the Site is shown to be bordering on to the settlement of Clunderwen. Land to the south of the Site is predicted to be of Subgrade 3b quality and land to the east urban.

4.6 This can be seen on the extract from the Predictive Map below.

Insert 3: Predictive ALC



Policy Considerations

4.7 The Site extends to 5 ha of agricultural land. Of this 1.9 ha of land is classified as being of “best and most versatile” quality.

4.8 The quantum of BMV land involved for the Proposed Development is just 1.9 ha. Whilst PPW does not set a threshold for assessment, to give a sense of the small scale the Design Manual for Roads and Bridges advises that in Wales losses of between 1 and 20ha of agricultural land should be regarded as a "**moderate**" magnitude of impact.

4.9 Paragraph 3.59 of PPWE11 (2024) advises that when considering the search sequence considerable weight should be given to protecting BMV land from development. BMV land should only be developed if land which is of a lower grade is either not available or has a recognised environmental value. It is evident from the predictive BMV maps that land whilst there is some non-BMV land, it is generally in close proximity to BMV land, and a site of this size completely of non-BMV value is unlikely to be possible.

4.10 The ALC system considers the potential of the land, and the current land use does not influence the ALC grade. Nevertheless, it is evident in all Google Earth images since 2006 (the earliest available) that the area of Subgrade 3a has only been used as grazing land, and contains areas of rough grazing. There is no evidence of mowing having taken place.

4.11 Therefore the use of the land for agriculture, given its historic use and its small field size, is limited.

5 SUMMARY AND CONCLUSIONS

5.1 The Proposed Development Site extends to 5 ha.

5.2 A modest area of the land (1.9 ha or 38%) has been classified as comprising Subgrade 3a, as confirmed by a detailed Agricultural Land Classification. Therefore, the Site is partly of best and most versatile land.

5.3 The remaining 3.1 ha of the site is Subgrade 3b.

5.4 Welsh Government requires poorer quality land to be considered in preference. Based on the Welsh Predictive mapping, land to the south of the site is predicted Subgrade 3b and land to the east has already been developed.

5.5 Therefore, based on the land quality within the area, minimal economic farming benefits and the small area of BMV land involved, it is considered that only limited weight should be given to the loss of the small area.

Appendix KCC1

Welsh Government Guidance Note

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

Guidance Note
Version 2.1 - May 2021.

Llywodraeth Cymru
Welsh Government

Contents:

How to Determine the Grade of Agricultural Land:

1. Introduction:

Planning Policy Wales (PPW11) paragraph 3.58 and 3.59 outlines national policy towards conserving Wales' Best and Most Versatile (BMV) agricultural land. Further guidance is provided in Technical Advice Note (TAN) 6, including the consultation arrangements with the Welsh Government included at Annex B.

Best and most versatile (BMV) agricultural land is defined in Planning Policy Wales as Grades 1, 2 and 3a. This is excellent to good quality land which is able to best deliver the food and non-food crops.

The Agricultural Land Classification (ALC) provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. It is the only approved system for grading agricultural land quality in England and Wales.

The Agricultural Land Classification Grade should be determined in order to be able to apply Planning Policy in development management decisions. Wales does not have a national survey programme. To survey the whole of Wales at a detailed level is not a realistic prospect, due to cost and time restraints.

The drive for natural resource management and better evidence provision by the Welsh Government has provided the impetus to produce a Predictive Agricultural Land Classification Map.

The Predictive Agricultural Land Classification Map uses the best available information to predict the Grade of land on national basis. It has been designed to help Local Planning Authorities, Developers, Surveyors and Land Use Managers make informed long term decisions over the use of land in the planning system and to target survey work to the most appropriate locations.

Further detail concerning the Agricultural Land Classification System can be found in the Frequently Asked Questions section of the Welsh Government website.

2. Using the Predictive Agricultural Land Classification Map:

The Predictive Agricultural Land Classification Map is the first step in gathering evidence to inform the user as to whether or not Planning Policy Wales (PPW) paragraph 3.58 and 3.59 should to be taken into account.

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

The Predictive Agricultural Land Classification Map is not intended to replace the need for Agricultural Land Classification survey work. The Map will assist the user in targeting survey work to the most appropriate locations.

It remains the case that the only way to determine the grade of land is by commissioning an agricultural land classification survey. Planning applications and Local Development Plans are expected to be supported by survey evidence where BMV agricultural land is an issue for consideration.

3. When to Commission a Survey:

In spatial assessments and development management decisions the grade of land must be known. The flowchart below sets out the decision process.

Where the Predictive Agricultural Land Classification Map identifies grades 1, 2 or 3a, a survey will be required to determine Grades present and in what proportion.

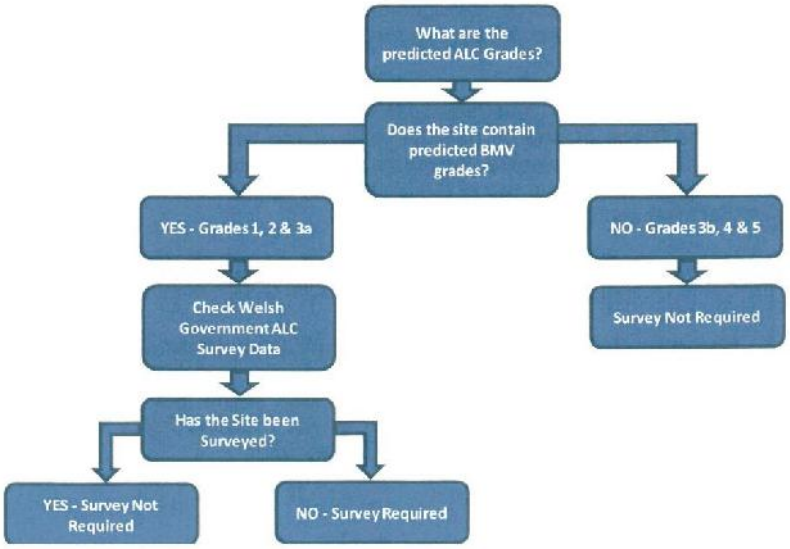
The Welsh Government has also published existing survey data. Before commissioning a survey, these records should be checked to see if the site(s) in question has already been assessed in detail.

If there is no survey record for the site(s) or part remains un-surveyed, an Agricultural Land Classification survey should be commissioned.

The Land Quality Advisory Service will provide advice on survey requirements and validate agricultural land classification surveys for Local Planning Authorities free of charge. This service allows the Authority to have confidence in the information being presented.

Should any party refuse or neglect to commission a survey, or the survey is not accepted by the Welsh Government, the Predictive Map Grade should be accepted as the best available information.

4. Survey Decision Flowchart:



Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

5. Map Creation and Use – Key Points:

- The Predictive Agricultural Land Classification Map replaces the Welsh 'Provisional' 1:250,000 Series of maps produced between 1967 and 1974.

- The 'Provisional' 1:250,000 Series maps were withdrawn in Wales on 27th November 2017 and should not to be used to support any planning proposal or as an evidence base for Local Development Plans (LDP)_.

- Should there be any confusion over which Agricultural Land Classification map to use, please contact LQAS@gov.wales for further guidance.

- The Predictive Agricultural Land Classification Map for Wales is based on the principles of the Agricultural Land Classification System of England & Wales, the Revised Guidelines & Criteria for Grading the Quality of Agricultural Land (MAFF 1988).

- Version 2 (released 2020) of the Predictive Agricultural Land Classification (ALC) Map represents the first significant update since its launch in 2017. The developments are focused on 2 specific areas – inclusion of detailed soil series data were available and an updated ALC survey layer.

  Soil Data:

  Where more detailed mapped soil series information is available, it now replaces the 1:250,000 national soil map (Cranfield University). This represents approximately 50% of Wales' surface area with a focus on lowland areas and parts of the Brecon Beacons. The detailed mapping includes scales of 1:25,000; 1:50,000; and, 1:63,000.

  Where more detailed mapping is available, soil series phases have been include for shallow and rocky areas.

  Where evidence is available, the properties of some soil series have been amended. This is a result of survey work, auger samples, wetness class changes, surveyor knowledge, and recognised mistakes in the mapping digitisation / transcription process

  ALC Survey Layer:

  Surveys commissioned, validated and accepted by Welsh Government since 2017 have been added.

  The Welsh Government survey layer has been updated for surveys commissioned between 1988 and 2017 following a comprehensive file scanning exercise.

  Surveys include those completed by the Welsh Government, the Welsh Office Agricultural Department, ADAS Statutory and commercial organisations. Commercial surveys have only been included when validated by the Welsh Government.

Predictive Agricultural Land Classification Map (Wales)
The Hollington Map

- The Predictive Agricultural Land Classification Map has been designed on a 50m raster (gridded squares). Please note the reliability of background data (especially soils) will vary. The map is a *modelled prediction and not definitive*, albeit based on best available data. For each 50m square the following individual criteria were assessed, and the most limited factor assigned:

  Agricultural Land Classification - Climate
  Agricultural Land Classification - Soil Depth
  Agricultural Land Classification - Slope
  Agricultural Land Classification - Soil Wetness
  Agricultural Land Classification - Drought
  Agricultural Land Classification - Stones
  Agricultural Land Classification - Wind Exposure
  Agricultural Land Classification - Other (Surveyor Experience)

- The Predictive Agricultural Land Classification Map does not take into account the following Agricultural Land Classification criteria.
  Flooding
  Pattern Limitation
  Micro-relief
  Frost
  Chemical Limitations

  Expert advice will need to be sought to assess the risk of these factors imposing a long term limitation on a site by site basis.

- The Predictive Agricultural Land Classification Map has **not** been designed for, and the Welsh Government does not approve of, the following uses:

  Valuing agricultural land
  Assigning agricultural rents
  Allocating financial support

- There are significant differences in the distribution of Agricultural Land Classification Grades between the 'Provisional' and 'Predictive' map products. This is because the Provisional Map is based on criteria pre-dating the introduction of the current 'Revised Guidelines and Criteria for Grading the Quality of Agricultural Land'. (MAFF 1988) and the National Soil Map. The 1988 guidelines are well established in planning, so the grading system used is not new.

- In cases where the predicted grade has been revised from that stated on the Provisional Map, and it is felt this has led to a financial disadvantage or otherwise, the Welsh Government accepts no liability. It is long established that the Agricultural Land Classification system forms the basis for advice given by the Welsh Government on land use planning matters; not for any other uses such as the valuation of land.

- The Welsh Government intends to review and update the Predictive ALC Map as better information becomes available.

- Should it be felt the predicted grade for an area does not fairly reflect agricultural land quality, the Welsh Government will only accept an Agricultural Land Classification survey as evidence the Grade should be changed. The

Welsh Government shall not be liable for any cost incurred. Changes to the Predictive Map are at the discretion of the Welsh Government. Should the Welsh Government accept the proposed changes, these will follow when the Predictive Map is updated.

- The Predictive Agricultural Land Classification Map is available as a GIS layer showing Grades 1-5. This has been made available under Open Government Licence.

- The Predictive Agricultural Land Classification (ALC) Map is derived from soils data which remain the property of Cranfield University. (Soil data © Cranfield University (NSRI) and for the Controller of HMSO 2019).

- For further information, advice and survey validation, please contact the Land Quality Advice Service:

  Email: LQAS@gov.wales

  Web: Agricultural Land Classification Information

Appendix KCC2

Welsh Government's Frequently Asked Questions

Agricultural Land Classification
Frequently Asked Questions
May 2021.

Llywodraeth Cymru
Welsh Government

General Background Questions

What is the ALC system?
The Agricultural Land Classification (ALC) system provides a method for assessing the quality of farmland in England and Wales. The ALC system classifies land into five grades, with 1 being the best and 5 being the worst and Grade 3 subdivided into Subgrades 3a and 3b. The current grading methodology is described in The Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF 1988) sometimes referred to as 'The Blue Book'.

What is agricultural land?
Agricultural land is land which is capable of being used for agricultural purposes (e.g. cropping).The current use of the land does not affect the grade or agricultural potential of the land. Where the potential for agriculture has been irreversibly lost (e.g. through housing development) the land should no longer be classed as agricultural. For planning purposes, it is recommended that the Local Planning Authority is contacted to confirm the status of the land. Also see: Can land be high grade if it is not cropped or is used for grazing?

What is ALC used for?
The ALC is used to grade the quality of agricultural land so that informed decisions can be made over its future use within the planning system. The planning systems in England and Wales seek to conserve the 'Best and Most Versatile (BMV) agricultural land. Government policies in **Wales** with regard to BMV land can be found on the Welsh Government ALC webpages at: Welsh Government Web Topic - Agricultural Land Classification BMV policies in **England** are set out in the National Planning Policy Framework.

What is Best and Most Versatile agricultural land?
National planning policy defines the Best and Most Versatile agricultural land as land within grades 1, 2 and 3a. This is good to excellent quality land which can best deliver the food and non-food crops for the future.

How does the Agricultural Land Classification system grade land?
The criteria for grading are based on the long term physical limitations of land for agricultural use, such as **climate** (temperature, rainfall, aspect, exposure and frost risk), **site** (gradient, micro-relief and flood risk) **and soil** (texture, structure, depth and stoniness, and also chemical properties which cannot be corrected), and interactions between these factors such as soil wetness, droughtiness and erosion. Field survey to obtain site and soil data is required. The current grading methodology is described in: The Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF 1988)

What do the different grades mean?

Generalised Description of the Agricultural Land Classification Grades

Grade & standard colour notations	Description of agricultural land	Detail
1	Excellent quality	No or very minor limitations on agricultural use. Wide range of agricultural and horticultural crops can be grown. High yielding and consistent.
2	Very good	Minor Limitations on crop yield, cultivations or harvesting. Wide range of crops but limitations on demanding crops (e.g. winter harvested veg). Yield high but lower than Grade 1.
3 (subdivided)	Good to moderate	Moderate limitations on crop choice, timing and type of cultivation, harvesting or level of yield. Yields lower and more variable than Grade 2.
3a	Good	Moderate to high yields of narrow range of arable crops (e.g. cereals), or moderate yields of grass, oilseed rape, potatoes, sugar beet and less demanding horticultural crops.
3b	Moderate	Moderate yields of cereals, grass and lower yields other crops. High yields of grass for grazing/ harvesting.
4	Poor	Severe limitations which restrict range and/or level of yields. Mostly grass and occasional arable (cereals and forage), but highly variable yields. Very droughty arable land included.
5	Very poor	Severe limitations which restrict use to permanent pasture or rough grazing except for pioneering forage crops.

A full description of the grades can be found in Appendix 1.

Can land be high grade if it is not cropped or is used for grazing?
The current land use does not affect the grade or longer term agricultural potential of the land. Land use is an economic and management choice of the land manager. The ALC grade describes what the land is potentially capable of, not what it is currently used for.

Can the ALC grading be changed by farming practices?
Normal agricultural land management will rarely, if ever, affect the ALC grading of land. The grading is based on the long term physical and chemical limitations of land for agricultural use. The current or historic agricultural management, or intensity of use, does not affect the ALC grade. ALC grading could potentially only be improved by very major and expensive interventions, well beyond the scope of normal agricultural works. Examples could include major new drainage schemes, new flood defence systems or infilling / levelling of highly uneven land. It is extremely unlikely that an ALC grading would drop because of neglect or poor agricultural management.

Will fertilizer improve the grade?
Applications of fertiliser or lime are part of the normal management of agricultural land and do not affect the grade. Normal fertiliser levels in the soil have no bearing on ALC grade. Chemical limitations in ALC relate to major long term problems that cannot easily be remediated. These can include extreme acidity, saline environments and presence of toxic elements.

What can I grow on my land? (Crop suitability)
The suitability of land for certain crops is determined by a variety of factors. The ALC Grade of the land doesn't determine what can be grown, but indicates the type of crops that are generally suited to land of that quality and versatility. Typical crops are given in Appendix 1.

Are land values determined by ALC grade?
The ALC system was developed to inform land use planning decisions. The use of the ALC system for land valuation has never been intended and should not be used for this purpose.

Grade and Map Questions

What is the grade of my land?
The only way to accurately determine the agricultural grade of land is by way of a detailed field survey in accordance with the current ALC 1988 guidelines. What does a detailed field survey involve?

In **Wales**, the Welsh Government holds detailed field survey information for selected areas and a predictive map which can be found at http://lle.gov.wales/map/alc2. For further information please contact LQAS@gov.wales.

The most up-to-date information on ALC Grades in **England** can be found on www.Magic.gov.uk/ (Landscape tab). Detailed field surveys (Post 1988 ALC layer on the Magic website) are available for selected areas. Also see: What about strategic maps showing the likely occurrence of best and most versatile land mentioned in TIN049?

Why do different maps show different grades for the same area?
ALC assessments became more field based and site specific from 1976, partly due to limitations of the Provisional mapping. On 1 January 1989, the current system of ALC grading was introduced: (*The Revised guidelines and criteria for grading the quality of agricultural land*: MAFF 1988). The guidelines provide the most definitive ALC grading and normally supersede any earlier surveys. In some areas there will be several different levels of detail of ALC data. Soils are variable and the grade of the land can vary over small distances. The ability to map this variation depends on the scale of the survey and the associated scale of mapping. The most detailed survey will usually represent the most definitive grading.

What are the 'Revised Guidelines'?
The ALC was devised and introduced in the 1960s and Technical Report 11 (MAFF, 1966: Technical Report 11, Agricultural Land Classification of England and Wales) outlined the national system. Following a review of the system, criteria for the sub-division of Grade 3 (3a, 3b & 3c) were published in 1976 and Technical Report 11/1 (MAFF, 1976: Technical Report 11/1, Agricultural Land Classification of England and Wales. The definition and identification of Sub-grades within Grade 3) outlined the updated.

The new and most up-to-date guidance was issued in 1988 "The *Revised guidelines and criteria for grading the quality of agricultural land*". This was implemented from 1 January 1989. The 1988 Revised guidelines were developed and tested with the aim of updating the system without changing the original concepts. This recognises two subgrades within in Grade 3: Subgrade 3a and Subgrade 3b, the latter being a combination of the previous Subgrades 3b and 3c. Consequently, modern ALC surveys are sometimes referred to as 'post 1988' or post revision. Any surveys carried out using the old guidelines (sometimes referred to as pre 1988 surveys or pre revision) would need to be reassessed under the current criteria.

Survey Related Questions

There is no detailed survey of my land, is a field survey required?
It depends why you want to know the grade of your land. For a planning purpose you should contact your local planning authority for advice.

What does a detailed field survey involve?
ALC surveys are undertaken, according to the published Guidelines by field surveyors using hand held augers to examine soils to a depth of 1.2 metres. This usually consists of one boring per hectare, supplemented by digging occasional small pits (usually by hand) to inspect the soil profile at representative locations to provide more detailed information about soil conditions to depths up to 1.2 metres. Information obtained by these methods is combined with climatic and other data to produce an ALC map and report, which will normally include individual soil profile and pit descriptions, and written explanations to support the grading applied. ALC maps are normally produced on an Ordnance Survey base at varying scales from 1:10,000 for detailed work to 1:50 000 for reconnaissance survey. It is important that ALC surveys are completed by an experienced ALC surveyor to ensure that the evidence is accurate and robust to inform planning decisions.

Can you recommend an ALC surveyor?
The Institute of Professional Soil Scientists (the professional body of the British Society of Soil Science) maintains a register of competent soil surveyors who have experience of carrying out ALC surveys. www.soils.org.uk. Other professional bodies may also maintain lists of their members who undertake ALC work. It is important that ALC surveys are completed by an experienced ALC surveyor to ensure that the evidence is accurate and robust to inform planning decisions.

Is urban land subject to ALC surveys?
Urban land may be shown on ALC survey maps. It will normally not be surveyed because the land has relatively little potential for return to agricultural use. The full definition of urban and other non-agricultural categories in the ALC system can be found in Appendix 1. You should contact your local planning authority for advice on whether an ALC survey is required to support a planning application.

Does the Welsh Government carry out ALC (detailed field) surveys?
Yes. The Welsh Government does carry out detailed Agricultural Land Classification (detailed field) surveys. These surveys are undertaken largely in response to requests from Local Planning Authorities for individual sites or areas at the urban edge which are being considered for development. The Welsh Government also holds copies of detailed individual Agricultural Land Classification (ALC) surveys carried out by them, as well as the former Welsh Office or Welsh Assembly Government. In addition the Welsh Government also provides a site survey validation service for Local Planning Authorities providing a technical assessment of submitted reports and enables them to fully consider land quality in the decision making process.

Does Natural England carry out ALC surveys?
Natural England provides advice to Local Planning Authorities on ALC matters, but does not carry out ALC field surveys. Natural England holds copies of detailed individual Agricultural Land Classification (ALC) surveys carried out by the former Ministry of Agriculture, Fisheries and Food until the late 1990s. These surveys were undertaken largely in response to requests from Local Planning Authorities for individual sites or areas at the urban edge which were to be considered for development; not all agricultural land was surveyed at the time. There is no longer a national programme to survey all areas in detail and since the late the 1990's, the Government no longer undertakes detailed field surveys itself. Specialist consultants are engaged by developers, Local Planning Authorities, landowners and others

to carry out detailed Agricultural land Classification surveys for local plans and other development proposals.

What sampling density should I use in my ALC field survey?
There is no prescribed guidance on the sample density of field surveys; however, most experienced ALC surveyors use an average density of 1 sample point per hectare (carried out on the Ordinance Survey 100m grid). Soil pits are also useful to obtain further information about soil structure, porosity and stone content, rock layers etc. to enable confirmation of the grading found on site. The number of soil pits is difficult to specify in advance of starting field survey work. In general, one soil pit is dug for each of the main grades or soil types on the site, though not necessarily for each map unit, but it should be left to the professional judgement of the surveyor as to the appropriate minimum number required.

Surveys at this detailed level can also enable an assessment of the soil resources in line with the Defra Code of Practice for the Sustainable Use of Soils on Construction Sites and will allow users to present the land quality case to public inquiry level if required.

Depending upon the type of development, location, scale, purpose of the survey, availability of existing ALC data etc., less detailed surveys (or sometimes more detailed) surveys may be undertaken, but expert advice must be sought from a soil scientist or other practitioner experienced in undertaking ALC survey work. All data captured in ALC surveys is done to the same standard (i.e. standard recording of soil colour, texture etc. plus pits). The only difference in a less detailed survey is the grid spacing, not the quality or detail of data capture at the points examined.

It is important that ALC surveys are completed by an experienced ALC surveyor to ensure that the evidence is accurate and robust to inform planning decisions. The British Society of Soil Scientists run training courses and has a competency scheme, ***Working with Soil***, covering aspects of soil survey and the ALC system.

What climate data is used for ALC?

The definitive climatic data used for assessing the overall climatic limitation (and for the wetness and droughtiness limitations) are obtained from a series of grid point datasets compiled specifically for ALC (Meteorological Office 1989: Climatological Data for Agricultural Land Classification). They provide long term average values of the required variables on a 5km grid covering the whole of England and Wales. These variables are interpolated for the location (grid reference) and altitude for intermediate sites.

I am a consultant/soil scientist undertaking a detailed ALC site survey and the land benefits from irrigation. Should I be taking this into account in my grading assessment?
No. The advice that irrigation should be removed from the ALC assessment was expressed in a consultation on the ALC system in 1996.

APPENDIX 1: AGRICULTURAL LAND CLASSIFICATION (ALC)

Descriptions of the Grades and Subgrades

The ALC grades and subgrades are described below in terms of the types of limitation which can occur, typical cropping range and the expected level and consistency of yield. In practice, the grades are defined by reference to physical characteristics. The grading guidance and cut-offs for limitation factors in the MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land enable land to be ranked in accordance with these general descriptions.

Descriptions are also given of other land categories which may be used on ALC maps.

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

> Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

> Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Descriptions of other land categories used on ALC maps

Urban
Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural
'Soft' uses where most of the land could be returned relatively easily to agriculture, including: golf courses, private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/ airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland
Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland. Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (e.g. polythene tunnels erected for lambing) may be ignored.

Open water
Includes lakes, ponds and rivers as map scale permits.

Land not surveyed
Agricultural land which has not been surveyed. Where the land use includes more than one of the above land cover types, e.g. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will usually be shown.

Source: Section 2: MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.

Appendix KCC3

Agricultural Land Classification Report

AGRICULTURAL LAND CLASSIFICATION

1 This section of the report outlines the findings of a detailed Agricultural Land Classification (ALC). It is based on a desktop study of relevant published information on climate, topography, geology, and soil in conjunction with a soil survey. The ALC Study Area, which measures approximately 3.0-hectares (ha) in area, is shown in Figure 1.

Methodology

2 The work has been carried out by a Chartered Scientist (CSci), who is a Fellow (F. I. Soil Sci) of the British Society of Soil Science (BSSS). This ALC survey has been carried out by a soil scientist who meets the requirements of the BSSS Professional Competency Standard (PSC) scheme for ALC (see BSSS PCS Document 2 '*Agricultural Land Classification of England and Wales*'[1]). The BSSS PSC scheme is endorsed, amongst others, by the Welsh Government, the Science Council, and the Institute of Environmental Assessment and Management (IEMA).

3 This assessment is based upon the findings of a study of published information on climate, geology and soil in combination with a soil investigation carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF)[2] '*Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*', October 1988 (henceforth referred to as the 'the ALC Guidelines').

4 The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. Agricultural land classified as Grade 1, 2 and Subgrade 3a falls in the 'best and most category as set out in at paragraph 3.54 of Planning Policy for Wales (2018) and Technical Advice Note 6. Further details of the ALC system and national planning policy implications are set out by the Welsh Government (WG) in a guidance note which is available online[3].

[1] British Society of Soil Science. Professional Competency Scheme Document 2 'Agricultural Land Classification of England and Wales'. Available online @ https://www.soils.org.uk/sites/default/files/events/flyers/ipss-competency-doc2.pdf Last accessed April 2024

[2] The Ministry of Agriculture, Fisheries and Food (MAFF) was incorporated within the Department for Environment, Food and Rural Affairs (Defra) in 2001

[3] Welsh Government (2021). Agricultural land classification: frequently asked questions. Available online at https://www.gov.wales/agricultural-land-classification-frequently-asked-questions Last accessed April 2024

5 The WG's Predictive ALC Map Version 2 online predicts that agricultural land within the Study Area is Subgrade 3a. The remainder of the agricultural land in the southern end of the field is classified by the WG as Subgrade 3b and this area has not been re-surveyed.

6 The ALC survey involved the examination of the soil's physical properties at three locations at a density of one auger bore per hectare (ha) of agricultural land within the Study Area, as shown in Figure 1. One soil pit was excavated near auger bore 3 with a spade to examine specific soil physical properties, such as stone content and subsoil structure, in more detail (see Figure 1 also).

7 The sample locations were located using a hand-held Garmin E-Trec Geographic Information System (GIS) to enable the sample locations to be relocated for verification, if necessary.

8 The soil profile was examined at each sample location to a maximum depth of approximately 1.2 m by hand with the use of a 5 cm diameter Dutch (Edleman) soil auger. The soil profile at each sample location was described using the '*Soil Survey Field Handbook: Describing and Sampling Soil Profiles*' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed a grade following the ALC Guidelines.

9 As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:

- climate;
- site;
- soil; and
- interactive limitations.

10 These factors are considered in turn below.

Climate

11 Interpolated climate data relevant to determining the ALC grade of land at the Study Area is given in Table 1 below.

Table 1: ALC Climate Data for Clunderwen, Pembrokeshire

Climate Parameter	**Grid Ref:** SN120190
Average Altitude (m)	67
Average Annual Rainfall (mm)	1295
Accumulated Temperature above 0˚C (January – June)	1486
Field Capacity Days (FCD)	256
Moisture Deficit (mm) Wheat	68
Moisture Deficit (mm) Potatoes	651
Grade according to climate	2

12 Agricultural land quality at the Study Area suffers a climate limitation with reference to Figure 1 '*Grade according to climate*' on page 6 of the ALC Guidelines. In this case, agricultural land in the Study Area cannot be graded higher than Grade 2 due to an overriding climate limitation.

13 The soil profiles across the Study Area are predicted to be at field capacity (i.e., the amount of soil moisture or water content held in the soil after excess water has drained away) for approximately 256 Field Capacity Days (FCD) per year, mainly over the late autumn, winter and early spring. The climate interacts with soil physical properties, i.e., soil texture and wetness class. It can limit agricultural land quality due to soil wetness as per Table 6 of the ALC Guideline 'Grade according to soil wetness'. The number of FCD in this Study Area falls in the >225 FCD category, which significantly affects the grade's determination according to soil wetness (see 'Soil Limitations' below).

Study Area

14 As shown in Figure 1, the Study Area is located on the southwestern urban edge of Clunderwen. The Study Area is located at National Grid Reference SN120190. It is bordered by the A478 along the southeastern boundary, and by agricultural land on all other sides. The land was under grassland at the time of the survey, but no livestock were present.

15 With regard to the ALC Guidelines, agricultural land quality can be limited by one or more of three main site factors as follows:

- gradient;
- micro-relief (i.e., where complex change in slope angle over short distances, or the presence of boulders or rock outcrops, even on level ground or gentle slopes, can severely limit the use of agricultural machinery); and
- risk of flooding.

Gradient and Micro-Relief

16 The Study Area is located on a gentle south-facing slope, with the highest elevation in the north at approximately 65 metres (m) Above Ordnance Datum (AOD), and the lowest ground in the south at approximately 63mAOD. The quality of agricultural land in the Study Area is not limited by gradient, as it does not exceed 7°. There are no 'micro-relief' limitations.

Risk of Flooding

17 From the Government Flood Map for Planning website[4], the Study Area has a very low risk of flooding, with <0.1% flood risk from rivers, the sea, surface water, and small watercourses. There is no evidence to show that agricultural land in any part of the Study Area is limited by flooding, according to the criteria for frequency and/or duration in Table 2 '*Grade according to flood risk in summer*' and/or Table 3 '*Grade according to flood risk in winter*' of the ALC Guidelines.

Soil

18 **Geology/Soil Parent Material.** From British Geological Survey (BGS) maps at 1:50,000 scale, the land in the Study Area is underlain by mudstone bedrock in the Slade and Redhill Formation. The bedrock in the Study Area is covered by glaciofluvial deposits (sand and gravel). The bedrock to the south of the Study Area, i.e., the area predicted by the WG to in Subgrade 3b, is not covered by any superficial deposits and the soil is developed directly from mudstone.

19 **Published Information on Soil.** Soil information on the National Soil[5] indicates that land in the Study Area is covered by soils in the Rheidol Association.

20 As described by the Soil Survey of England and Wales (SSEW)[6], the Rheidol Association consists mainly of well drained permeable fine loamy brown earths over gravels. It is mapped on river terraces and glaciofluvial outwash deposits mainly in narrow strips along rivers and in larger areas around river confluences. It is most extensive in Dyfed along the middle reaches of the Teifi and Tywi. Locally there are kettle holes, small enclosed depressions, some of which contain small lakes surrounded by ground-water gley soils. The Rheidol series which belongs to the typical brown earths is most extensive with the typical brown podzolic Nefern series distinguished by its brighter ochreous subsoils. In hollows, gleyic brown earths of the Hopsford series occur with fine loamy wetter soils

[4] Welsh Government Flood Map website. Available online @ Geocortex Viewer for HTML5 (cyfoethnaturiolcymru.gov.uk) Last accessed February 2024
[5] Cranfield University (2024) Soil site report, Soil Report for location 212000E, 218894N, 1km x 1km, Cranfield University.
[6] Cranfield University (2023). *The Soils Guide.* Available: www.landis.org.uk. Cranfield University, UK Available online at https://www.landis.org.uk/soilsguide/index.cfm Last accessed April 2024

related to the Rockland series. Deeper soils include the East Keswick, Meline and Wigton Moor series. Southminster soils are rare. The soils are generally well drained.

Soil Survey

21 The soil profiles recorded at each auger-bore location are given in **Attachment 1**. A detailed description of Soil Pit 1 is given in **Attachment 2**, as shown in **Plan kCC3659/01**. The soil survey determined reddish brown (Munsell colour 7.5YR4/2), very slightly stony medium clay loam topsoil over strong brown (7.5YR5/6), very slightly stony medium clay loam upper subsoil, and light brownish grey (2.5Y6/2) gravelly sandy clay loam in Wetness Class I.

22 One sample was sent to an accredited laboratory for analysis. This is attached in **Attachment 3**. It confirmed that the sample was HCL, and from that the land in that area was subgrade 3b.

Interactive Limitations

23 From the information above, together with the findings of the detailed soil survey (see Soil Profile Log given as **Attachment 1**), it has been determined that the quality of agricultural land at the Study Area is limited by soil wetness, as described below

24 **Soil Wetness.** From the ALC Guidelines, a soil wetness limitation exists where '*the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock*'. Agricultural land quality at the Study Area is limited by soil wetness as per Table 3 below (based on Table 6 'Grade According to Soil Wetness – Mineral Soils' in the ALC Guidelines):

Table 3: ALC Grade According to Soil Wetness

Wetness Class	Texture of the Top 25 cm	>225 Field Capacity Days
I	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	2
	Sandy Clay Loam/Medium Silty Clay Loam /**Medium Clay Loam***	**3a**
	Heavy Silty Clay Loam/Heavy Clay Loam**	3b
	Sandy Clay/Silty Clay/Clay	3b
II	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3a
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	3b
	Sandy Clay/Silty Clay/Clay	3b
III	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3b
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	4
	Sandy Clay/Silty Clay/Clay	4
IV	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3b
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	4
	Sandy Clay/Silty Clay/Clay	5
Key: * 18% to <27% clay; and ** 27% to 35% clay		

25 In a climate area with 256 FCD, soil profiles that are well drained (Wetness Class I) are limited by soil wetness to Subgrade 3a where the topsoil is medium clay loam.

ALC Grading at the Study Area

26 It has been determined that the quality of agricultural land at the Study Area is limited by soil wetness to Subgrade 3a (i.e., 256 FCD/medium clay loam topsoil/Wetness Class I). The area and proportion of agricultural land in each ALC grade have been measured from an ALC map given in **Plan KCC3659/02**. The findings are reported in Table 4 below.

Table 4: Agricultural Land Classification – Clunderwen, Pembrokeshire

ALC Grade	Area (Ha)	Area (%)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	0	0
Subgrade 3a (Good)	1.9	38
Subgrade 3b (Moderate)	3.1	62
Grade 4 (Poor)	0	0
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	0	0
Total	**5.0**	**100**

Attachment 1

Soil Profile Log

Point	Grid ref.			Alt (m)	Slope °	Aspect	Land use	Depth (cm)			Matrix	Ochreous Mottles		Grey Mottles		Gley	Texture	Stones - type 1				Stones - type 2				Ped			SUBS STR	CaCO3	Mn C	SPL	Drought			Wet		Final ALC			
	NGR	X	Y					Top	Bttm	Thick	Munsell colour	Form	Munsell colour	Form	Munsell colour			%	> 2cm	> 6cm	Type	%	> 2cm	> 6cm	Type	Strength	Size	Shape					MBw	MBp	Gd	WC	Gw	Limitation 1	Limitation 2	Limitation 3	Grade
1	SN 12000 18900	212000	218900	64	≤7	Level	CER	0	32	32	7.5YR4/2					No	MCL - Clay loam (medium)	2	1	0	GH - Gravel with non-porous (hard) stones								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	74	58	1	WC I	3a	Wetness			3a
								32	50	18	7.5YR5/6					No	MCL - Clay loam (medium)	5			GH - Gravel with non-porous (hard) stones								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
								50	120	70	2.5Y6/2					No	SCL - Sandy clay loam	20			GH - Gravel with non-porous (hard) stones								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
2	SN 12000 19000	212000	219000	67	≤7	Level	CER	0	30	30	7.5YR4/2					No	MCL - Clay loam (medium)	1	1	0	GH - Gravel with non-porous (hard) stones								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	48	52	1	WC I	3a	Wetness			3a
								30	45	15	7.5YR5/6					No	MCL - Clay loam (medium)	5			GH - Gravel with non-porous (hard) stones								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
								45	100	55	2.5Y6/2					No	SCL - Sandy clay loam	35			GH - Gravel with non-porous (hard) stones								Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
3	SN 11900 19000	211900	219000	66	≤7	Level	CER	0	32	32	7.5YR4/2					No	HCL - Clay loam (heavy)	1	1	0	GH - Gravel with non-porous (hard) stones					Firm	F - Fine	SAB - Subangular Blocky	Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	45	55	1	WC I	3b	Wetness			3b
								32	52	20	7.5YR5/6					No	MCL - Clay loam (medium)	5			GH - Gravel with non-porous (hard) stones					Firm	M - Medium	AB - Angular Blocky	Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
								52	90	38	2.5Y6/2					No	SCL - Sandy clay loam	35			GH - Gravel with non-porous (hard) stones					Firm	M - Medium	AB - Angular Blocky	Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No									
	END																																						

Attachment 2

Description of Soil Pit

Soil Survey						Surveyor	RWA
Easting (X)	211900	Northing (Y)	219000	Alt (m)	66	Grid Reference	SN 11900 19000
Land Use	CER	Reference	3 (Pit 1)	Slope °	≤7		
Bedrock	Slade and Redhill Formation - Mudstone	Superficial	Glaciofluvial Deposits - Sand and gravel	Aspect	Level	Date	05/03/2024

Layer		Topsoil	2	3	4	5	6	7
Lower Depth (cm)		32	52	90				
Texture		HCL - Clay loam (	MCL - Clay loam (medium)	SCL - Sandy clay loam				
Matrix Colour		7.5YR4/2	7.5YR5/6	2.5Y6/2				
Gley (Y/N)		No	No	No				
Ochreous Mottles	Form							
	Munsell Colour							
Grey Mottles	Form							
	Munsell Colour							
Manganese (Y/N)		No	No	No				
% Stones (type 1)		1	5	35				
Stones > 2cm		1						
Stones > 6cm		0						
Stone Type		GH - Gravel with	GH - Gravel with non-poro	GH - Gravel with non-porous (hard) stones				
% Stones (type 2)								
Stones > 2cm								
Stones > 6cm								
Stone Type								
CaCO3		NON - Non-calca	NON - Non-calcareous (<0.	NON - Non-calcareous (<0.5% CaCO3)				
Shape of Peds.		SAB - Subangular	AB - Angular Blocky	AB - Angular Blocky				
Size of Peds.		F - Fine	M - Medium	M - Medium				
Subsoil Structure		Not Applicable	Moderate	Moderate				
Soil or Ped. Strength		Firm	Firm	Firm				
Degree of Ped. Development		M - Moderate	M - Moderate	M - Moderate				
Slowly Permeable Layer (Y/N)		No	No	No				

MDw	MDp	FCD
68	51	256

Wetness	Class (WC)	WC I
	Grade (WE)	3b

Notes	Calculated Moisture Balance (MB) Values: Wheat = 45mm; Potatoes = 55mm (Grade according to soil droughtiness = Grade 1)

Attachment 3
Laboratory Analysis

ANALYTICAL REPORT

Report Number	26189-24	P248	SARAH KERNON	Client	CLUNDERWEN
Date Received	07-MAR-2024		KERNON COUNTRYSIDE		PEMBROKE
Date Reported	15-APR-2024		CONSULTANTS LTD		
Project	KCC3659		GREENACRES BARN		
Reference	CLUNDERWEN PEMBROKE		PURTON STOKE		
Order Number	KCC3659		WILTSHIRE SN5 4LL		

Laboratory Reference		SOIL684931
Sample Reference		2 KCC3659
Determinand	**Unit**	**SOIL**
Sand 2.00-0.063mm	% w/w	30
Silt 0.063-0.002mm	% w/w	40
Clay <0.002mm	% w/w	30
Textural Class **		HCL

Notes

Analysis Notes: The sample submitted was of adequate size to complete all analysis requested.
The results as reported relate only to the item(s) submitted for testing.
The results are presented on a dry matter basis unless otherwise stipulated.

** Please see the attached document for the definition of textural classes.

Reported by: *Teresa Clyne*

Natural Resource Management, a trading division of Cawood Scientific Ltd.
Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS
Tel: 01344 886338
Fax: 01344 890972
email: enquiries@nrm.uk.com

Technical Information

ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand, loamy sand, sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

- vf Very Fine (more than 2/3's of sand less than 0.106 mm)
- f Fine (more than 2/3's of sand less than 0.212 mm)
- c Coarse (more than 1/3 of sand greater than 0.6 mm)
- m Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam classes* according to clay content are indicated as follows:

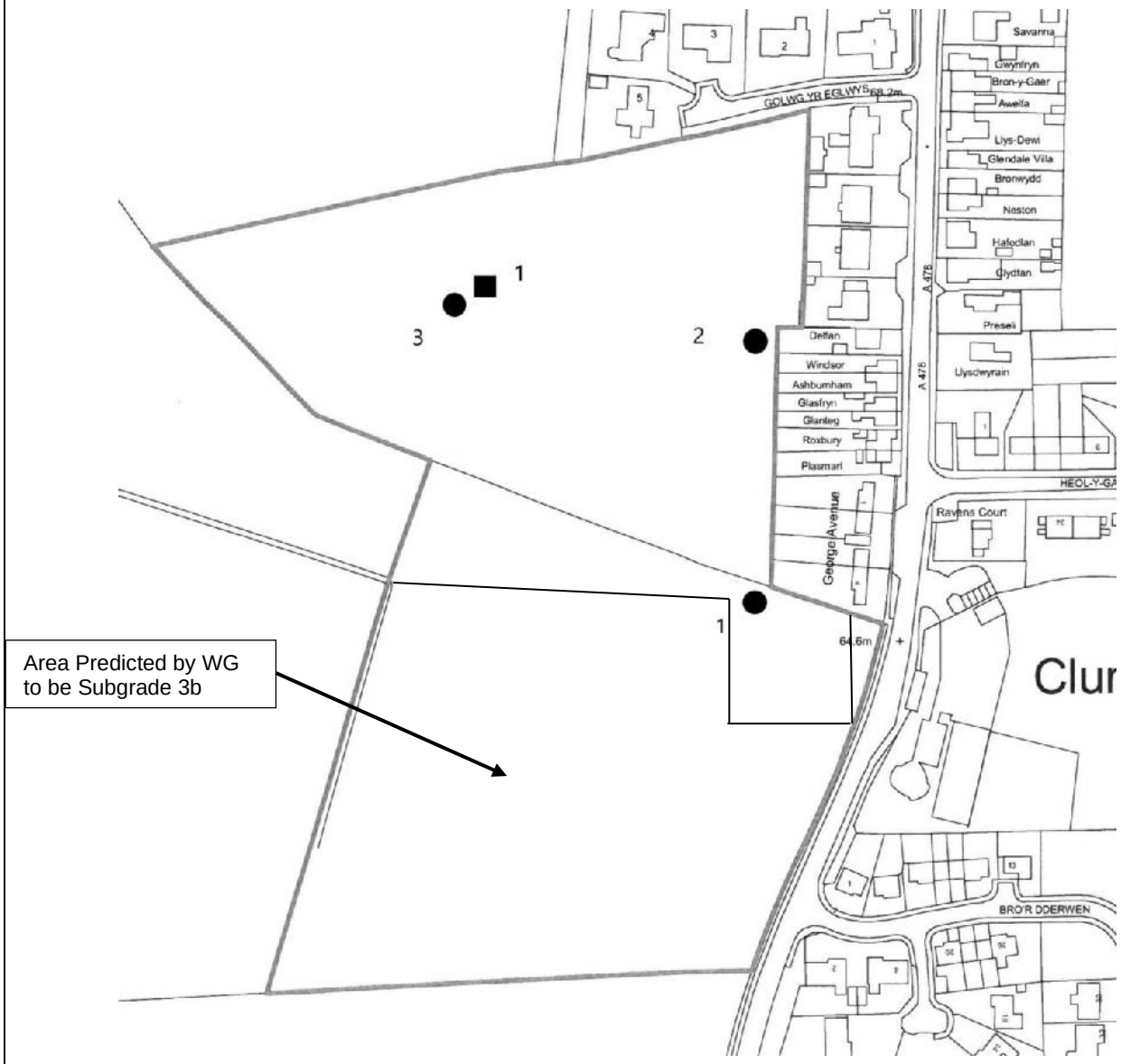
- M medium (less than 27% clay)
- H heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

Plan KCC3659/01

Auger Point Plan



KEY

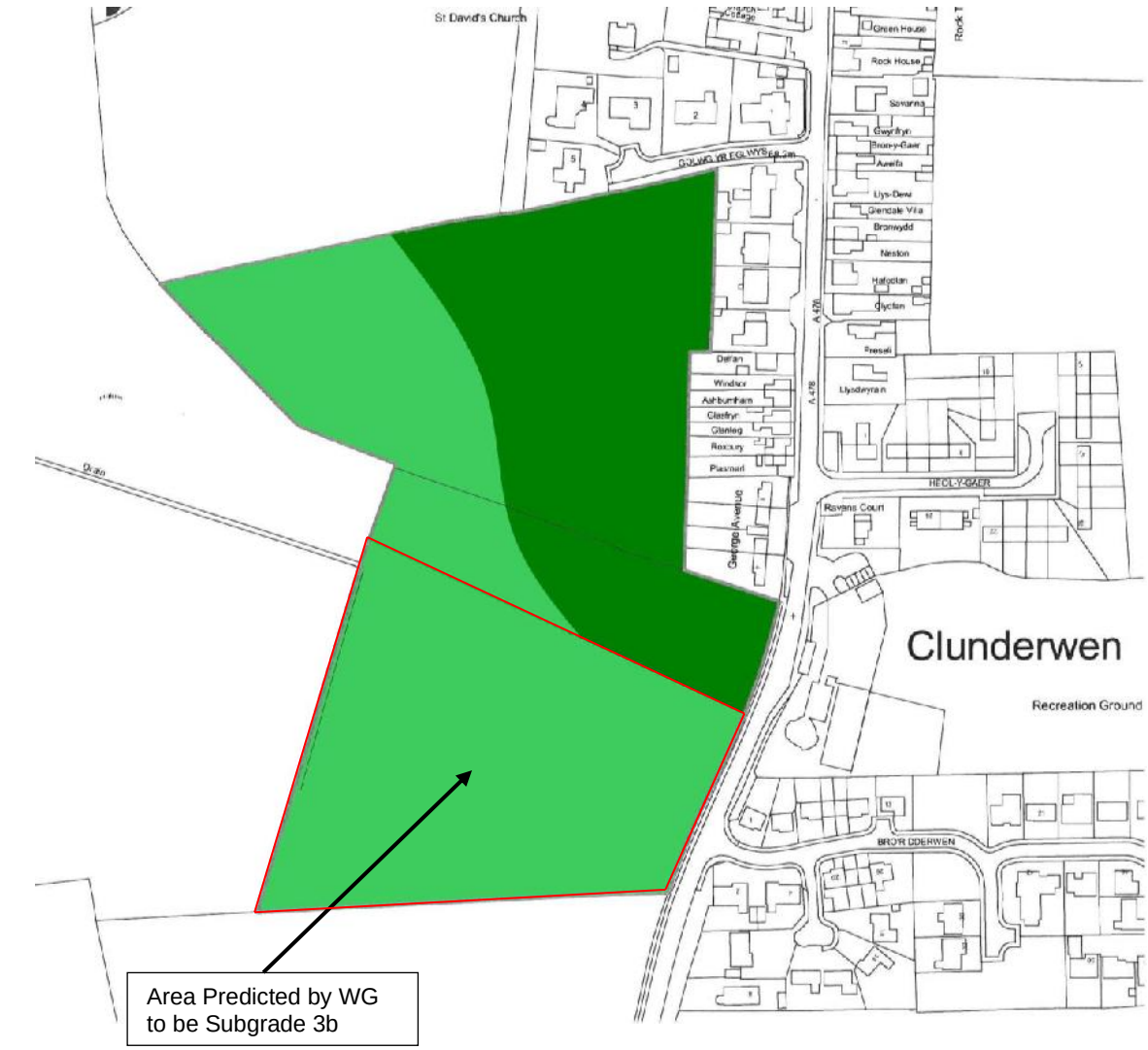
- Auger sample location
- Topsoil sample
- Soil Pit

PLAN	**KCC3659/01**		
TITLE	**Auger Points Plan**		
SITE	Bro'r Dderwen, Clunderwen, Pembs		
CLIENT	Wales and West Housing		
NUMBER	**KCC3659/01 04/24hr**		
DATE	April 2024	**SCALE**	NTS

KERNON COUNTRYSIDE CONSULTANTS LTD
GREENACRES BARN, PURTON STOKE, SWINDON,
WILTSHIRE SN5 4LL
Tel 01793 771 333 Email: info@kernon.co.uk

Plan KCC3659/02

Agricultural Land Classification Plan



KEY		Ha	%	PLAN	KCC3659/02		
	Grade 1			TITLE	Agricultural Land Classification Plan		
	Grade 2			SITE	Bro'r Dderwen, Clunderwen, Pembs		
	Grade 3a	1.9	38	CLIENT	Wales and West Housing		
	Grade 3b	3.1	62	NUMBER	KCC3659/02 04/24hr		
	Grade 4			DATE	April 2024	SCALE	NTS
	Grade 5			KERNON COUNTRYSIDE CONSULTANTS LTD GREENACRES BARN, PURTON STOKE, SWINDON, WILTSHIRE, SN5 4LL Tel 01793 771 333 Email: info@kernon.co.uk 		
	Non-agricultural						
	Urban						
	Not surveyed						

Greenacres Barn, Stoke Common Lane, Purton Stoke, Swindon, Wiltshire SN5 4LL
Telephone: 01793 771333 • Email: info@kernon.co.uk • Website: www.kernon.co.uk

Sustainability Appraisal of Land opposite Bro'r Dderwen, Clunderwen, Pembrokeshire, SA66 7NE

Pembrokeshire County Council LDP Proposed Site Submission

December 2024

Contacts

Arcadis (UK) Limited

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Revision Control

Revision	Date	Author	Checker	Reviewer	Approver	Changes
1	10.12.24	ST/AP	CB	ST	AP	Version for client review
2	12.12.24	ST	MS	ST	AP	Revised version following comments

Contents

Tables

Figures

1 Introduction

1.1 Overview

Arcadis Consulting (UK) Limited has been commissioned by Amity Planning Limited to undertake the Sustainability Appraisal (SA) of Four Sites for Residential Site Promotion. This document contains the SA undertaken for Land opposite Bro'r Dderwen, Clunderwen, Pembrokeshire, SA66 7NE, which extends to 5 hectares. This SA has been written so that its findings could be directly inputted into the Sustainability Appraisal of the Pembrokeshire County Council (PCC) Local Development Plan (LDP2), and its findings compared to the other sites assessed in the SA. This is not intended to be a standalone SA Report and is intended to be read alongside the SA Report accompanying the second Deposit LDP2 for consultation 2024.

1.2 Pembrokeshire County Council Local Development Plan Review (LDP2)

The second Deposit LDP2 identifies a need for 5,840 new homes between 2017 and 2033 (365 a year) including 2,000 affordable homes. Consultation on the plan runs between 21 October and 16 December 2024. The Plan proposes revised town and village boundaries (known as settlement boundaries) and a range of sites are allocated (identified) for different land uses, including 54 sites for housing.

1.3 The Proposed Site

The Proposed Site is submitted to PCC as an alternative site, via an objection to the second Deposit LDP2. The Proposed Site comprises undeveloped land, and would be split into a North and South site, providing a total of 98 dwellings.

A Location Plan; Existing Block Plan; Proposed Block Plan; SWOT Analysis Plan; Landscape Character and Visual Impact Assessment; Transport Statement; Preliminary Ecological Appraisal; and Agricultural Land Classification Survey will be submitted in support of the Proposed Site. These have been used as the basis of this SA.

1.4 Sustainability Appraisal Methodology

The second Deposit LDP2 'Sustainability Appraisal and Strategic Environmental Assessment Report – Re-Deposit Plan' is available on the PCC website (Part1.pdf) (SA Report).

The assessment of the Proposed Site for promotion is based on the existing SA undertaken on the second Deposit LDP2. The assessment has been undertaken using the adapted SA Framework that has been used to assess the other sites. Further details of how the SA Framework has been developed is included within the SA/SEA reporting available online. Other key sources of information used in this appraisal include:

- Local policies of relevance (see Section 2)
- Baseline information, key issues and opportunities and future trends data (SA Report September 2024)
- Existing appraisals so that the assessment of the proposed site is proportionate and consistent with the approach taken - Appendix 6, assessment of allocations, SA Report September 2024
- Interactive Constraints Map, available: Deposit - Pembrokeshire County Council
- Natural Resources Wales, Check your flood risk

1.5 Assessment Criteria

The SA Report notes that, in addition to the SA Framework, 'more site-specific appraisal criteria' were used to assess the impact of the proposed development sites. This is included within the Candidate Site Methodology. The SA Framework and scoring criteria are presented below and have been used in the assessment of the Proposed Site. In relation to the Candidate Site Assessment Methodology, it is noted this was undertaken ahead of the SA process, and not as an integral part of the assessment. It has not been possible to fully replicate this process for the Proposed Site (for example, in terms of consulting internal PCC departments and key organisations). However, the relevant criteria have been mapped against the SA Objectives, and included within the assessment, as presented in section 2. Deliverability of the site is assessed in the Site Representation Statement that supports the submission package.

2 SA of the Proposed Site

As set out in the SA Report (Appendix 6), the assessment of the effects of the sites against the Sustainability Objectives includes the following considerations of whether the effect would be:

- Negative (adverse), neutral or positive (beneficial);
- Direct or indirect;
- Short, medium or long term;
- Isolated or cumulative; and/or
- Reversible or irreversible.

Appendix 6 also notes that any site allocations would need to include mitigation measures to minimise or obviate any predicted negative effects. These include key mitigation measures that are required by the following policies, which have been taken to consideration in this assessment. Any additional measures will be included within the assessment, as necessary.

Figure 2-1 LDP Development Management Policies of relevance

Key	Policy Reference	
A.	GN1 (2)	**Local Amenity**: It would not result in a significant detrimental impact on local amenity in terms of visual impact, loss of light or privacy, odours, smoke, fumes, dust, air quality or an increase in noise or vibration levels.
B.	GN1(4)	**Soil Quality:** It would not cause an unacceptable adverse effect (a harmful impact that cannot be satisfactorily mitigated) on soils
C.	GN(5)	**Biodiversity:** It respects and protects the natural environment with no unacceptable adverse effects (a harmful impact that cannot be satisfactorily mitigated) on the environment including protected sites, habitats and species;
D.	GN1(6)	**Sustainable Transport:** It will incorporate sustainable transport and accessibility principles and would not result in a detrimental impact on highway safety or in traffic exceeding the capacity of the highway network.
E.	GN1(9)	**Water Quality:** It would not have a significant adverse impact on water quality (see also policy GN 47);
F.	GN1(10)	**Light Pollution:** Any proposal with significant light pollution potential must include a lighting scheme. Proposals must minimise their light impact through appropriate mitigation wherever possible.
G.	GN1(11)	**Waste and Pollution:** It minimises the generation of waste during implementation and manages any waste generated.
H.	GN1(12)	**Health and Safety:** It would not cause or result in unacceptable harm to health and safety, including through flood risk
I.	GN2	**Sustainable Design**
J.	GN1(3)	**Landscape:** It would not cause an unacceptable adverse effect (a harmful impact that cannot be satisfactorily mitigated) on landscape character, quality or diversity .. including the special qualities of the Pembrokeshire Coast National Park and neighbouring authorities;
K.	GN28	**Historic Environment:** Development will only be supported where it conserves, protects, preserves or enhances the following cultural and historic assets and their setting
L.	GN1(8)	**Flooding:** It would not cause or result in unacceptable harm to health and safety, including through flood risk.
M.	SP19	**Welsh language:** Must not have an unacceptable impact on the vitality and viability of the Welsh language and development to be managed sensitively through mitigation and measures to enhance the interests of the Welsh language and culture.

In addition, emerging LDP Policy GN15 stipulates that all new build residential development on sites of 5 or more units must provide a minimum of 20% of properties built to Lifetime Homes Standards. Policy GN20 sets the requirements for Affordable Housing.

The full assessment of the Allocations can be found in Appendix 6 here: Appendices Appendix 1 SA of the LDP Vision (1).pdf

Table 2-1 Scoring Matrix

++	There is a generally consistent strong positive association between the policy option and the Sustainability Objective
+	There is a weak or inconsistent, but generally positive association between the policy option and the Sustainability Objective.
0	There is not a significant association between the policy option and the Sustainability Objectives, or the association is neutral (the combination +/- is used where it is believed a policy will have both positive and negative effects with regard to a particular Sustainability Objective).
-	There is a weak or inconsistent, but generally negative association between the policy option and the Sustainability Objectives.
--	There is a generally consistent strong negative association between the policy option and the Sustainability Objectives.
?	The association between the policy option and the Sustainability Objectives is uncertain, may be used in association with other symbols to indicate a degree of uncertainty in the conclusion.

2.1 Assessment

Table 2-2 Sustainability Appraisal of Proposed Site

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
1.	Develop and maintain a balanced population structure.	Provision of housing sites can have direct positive effects on the population structure, in the short, medium and long term. For instance, in the short-term younger people may be able to stay in the county if there is suitable housing at an affordable price. Over time, these communities may stay in the area and have families, leading to a cumulative positive effect.	+	n/a	n/a
2.	Promote and improve human health and well-being through a healthy lifestyle, access to healthcare and recreation opportunities and a clean and healthy environment.	The Proposed Site would comprise the development of high-quality housing. The site is opposite an allocated Recreational Open Space and Amenity Open Space and the masterplan includes new multifunctional public open spaces for residential amenity and ecological enhancement. This could have health benefits for the local population in terms of providing opportunities for physical activity and social interaction. The site is also within 85m of another allocated Open Space Area. The closest GP surgery (Narberth Heath Centre) is approximately 3 miles (6 minutes via car and 1 hour 8 minutes' walk) from the site. It is unclear as to whether this is accessible by public transport, and if not, this could have negative effects on health and wellbeing, particularly for those without access to a private car. Therefore, both positive and negative effects have been precited against this objective, leading to an overall neutral effect in accordance with the scoring matrix.	0	D	n/a
3.	Improve education opportunities to enhance the skills and knowledge base.	The closest schools to the site are Ysgol Gymunedol Brynconin, approximately 1.6miles away (3 minutes via car and 31-minute walk), Ysgol Beca approximately 4.3 miles away (8 minutes via car) and Narberth Cp School 2.7 miles away (5 minutes via car and 1 hour walk). The nearest secondary school, Dyffryn Taf, approximately 6.7 miles away.	+	D	n/a

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
		Portfield School (12 minutes by car) is a special school for pupils aged 3-19 years located in Haverfordwest, with pupils taught through the medium of English. Porttfield School also have two satellite centres: Y Porth based at Ysgol y Preseli in Crymych (16 minutes by car) where pupils are taught through the medium of Welsh and at Haverfordwest High VC School (20 minutes), which is English medium. The Proposed Site could support the enhancement of the community skills base in the medium to longer terms, through the provision of housing in relative proximity to educational facilities.			
4.	Minimise the need to travel and encourage sustainable modes of transport.	There are two bus stops opposite the site (Clunderwen Playing Fields bus stop), which would enable new residents to access services and facilities, as well as employment, via public transport. The available of sustainable modes of transport could lead to beneficial effects against this objective. Clunderwen has a railway station and is well connected to Narberth and Cardigan via Pembrokeshire bus service 430. All of Clunderwen's amenities are within walking distance. The Site is accessible to pedestrians from the footways that run alongside the A478 on the site's eastern boundary. The A478 has a 7m wide carriageway with footways on both sides. It is subject to a 20mph speed limit. Pedestrian access is also available via Golwg yr Eglwys, however on only its southern side. More frequent transport services can be accessed at Clunderwen railway station, which is located approximately 500m to the north of the site. Both buses and trains provide access to nearby towns, where a wider range of services can be accessed. The site is accessible to pedestrians, cyclists and public transport users.	+	n/a	The street has a 2m wide grass verge where a footway could be constructed. A safe means of access can be delivered by the creation of a new junction with the A478 and by connection to Golwg yr Eglwys.
5.	Provide a range of high-quality housing including affordable housing to meet local needs.	The development of the Proposed Site would lead to the delivery of a range of high-quality housing, to meet local needs leading to a permanent beneficial effect. As a large site, the scheme creates the potential to generate a large proportion of affordable housing within the local area. 20% of properties built to Lifetime Homes Standards will also be supported.	++	GN15 and GN20	The scheme could commit to ensure that affordable housing remains affordable over time.

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
6.	Build safe, vibrant and cohesive communities which have improved access to key services and facilities.	It is considered that the use of the site would lead to an improvement for community cohesion and vibrancy. The site is situated within Clunderwen which is nearby Llys Y Fran Country Park, Llawhaden Castle, the Preseli Mountains, campsites, caravan site alongside facilities such as village shops, railway station, public house, park, church and village hall.	+	n/a	n/a
7.	Protect and enhance the role of the Welsh language and culture.	Welsh is the day-to-day language at Ysgol Gymunedol Brynconin, which is located 1.4 miles away. The area around SA66 7NE has a larger than average concentration of Welsh speakers (at 37% of the resident population). The development of this site could support the enhancement of the role of the Welsh language, through the provision of housing in relative proximity to Welsh medium educational facilities in a Welsh speaking area.	+	n/a	n/a
8.	Provide a range of good quality employment opportunities accessible to all sections of the population.	The provision of high-quality housing in the local area could lead to an increase in the number of skilled workers living locally. Temporary and short-term employment opportunities may result from the construction of the site and the marketing and selling of the dwellings, leading to short term positive effects against this objective.	+	n/a	n/a
9.	Support a sustainable and diverse local economy.	There may be some long-term and indirect benefits to the local economy through the increase in the population locally as well as the provision of affordable housing, which could enable local people to continue to live locally.	+	n/a	n/a
10	Prepare for and reduce the impact of Pembrokeshire's contribution to climate change.	The proposed masterplan for the site will include the provision of Sustainable Urban Drainage Systems (SuDS), which could contribute to climate change mitigation. Alongside the requirements for development provided by the LDP policies, it is considered that the development of the scheme could have a net beneficial effect.	+	B, C, D, E, G, I, L	There is opportunity to increase the current proposed tree coverage and hedgerows alongside retaining the existing surrounding tree line.
11	Maintain and improve air quality.	Although the development of additional residential accommodation would be likely to lead to an increase in air pollution, it is considered that the	-	GN1(2)	n/a

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
		combined effect of biodiversity enhancement measures, open space and SuDS provision and the potential use of sustainable transport modes to access nearby services and facilities, alongside policy requirements would reduce the significance of this effect.			
12	Minimise the generation of waste and pollution.	The development of a residential site is likely to increase the amount of waste being generated locally, leading to a potential negative effect. However, the potential for this effect to be significant will be minimised through the masterplan design. The site location may minimise potential pollution, through the use of sustainable modes of transport, and other measures, such as sustainable design, as stipulated by LDP policy.	-	A-G, I	The scheme could commit to using locally sourced materials to reduce pollution.
13	Encourage the efficient production, use, re-use and recycling of resources.	The development of the site would result in the loss of unused agricultural land. 1.9ha of this land comprises Subgrade 3a land and the remaining 3.1ha is Subgrade 3b land. This will therefore reduce the availability of agricultural land with 1.9a of the site classified as being “of best and most versatile” quality. However, given the small size of the site the land provides minimal economic farming benefits and does not, therefore, provide a sustainable use of resources. Notwithstanding this, its loss would lead to permanent and irreversible negative effects. However, this effect may be reduced in significance through measures to reduce the loss of soils.	-	In line with Spatial Strategy	The scheme could commit to re-using existing materials on site as much as is feasible.
14	Maintain and protect the quality of inland and coastal water. Candidate site methodology: Presence of species/watercourse	The southeast corner of the site is adjacent to a Flood Zone 2 for Surface water and a small watercourse, which may be potentially negatively affected by the development. Mitigation would need to be in place to protect against surface water runoff into the river. Alongside the requirements for development provided by the LDP policies, it is considered that the development of the scheme would have a neutral effect against this objective.	**0**	E	Use of SuDS throughout the site will be critical to reduce the risk of Flood Zone 2.

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
15	Reduce the impacts of flooding and sea level rises. *Candidate site methodology*: spatial assessment: flood risk Is the site itself at risk of flooding or causing pollution?	The site is at 'very low risk' of flooding from rivers, the sea or from surface water and small watercourses. However, the southeast corner of the site is adjacent to a Flood Zone 2. The proposed masterplan for the site shows some tree coverage and there are opportunities for additional vegetation cover above the existing site, including the provision of SuDS. Alongside the requirements for development provided by the LDP policies, mitigation methods such as Sustainable Drainage System could help to alleviate the risk of flooding, which could reduce the significance of the predicted negative effect.	-	L	n/a
16	Use land efficiently and minimise contamination. *Candidate site methodology:* spatial assessment: contaminated land.	The development of the site would comprise the use of greenfield land. This would lead to permanent and irreversible effects. However, this effect may be reduced in significance through measures to reduce pollution as a result of new development.	-	B	
17	Safeguard soil quality and quantity. *Candidate site methodology:* spatial assessment: mineral and soil safeguarding	The development of the site would comprise developing unused agricultural land. However, 1.9ha of land is Grade 3a which is classified as being "of best and most versatile" quality. The remaining 3.1ha of the site is Subgrade 3b. A section of the site is also in a Sand and Gravel Area of Search. The site is 162m from a designated peatland. The Agricultural Land Classification Survey concludes that, based on the land quality within the area, there are minimal economic farming benefits of this land and the small area of BMV land involved means the effect of its loss is not considered to be significant.	-	B	Limit the amount of soil removed and areas where appropriate conduct soil remediation. Consultation with the mineral authority to prevent sterilisation of resources. Consideration in construction methods must be taken to limit

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
					impacts to the nearby designated peatland.
18	Maintain, enhance and value biodiversity and promote the resilience of ecosystems. *Candidate site methodology:* spatial assessment: sites protected for nature conservation importance. Does the current habitat provide valuable ecosystem service? Is loss of protected woodland/trees/hedgerows proposed? Are there protected or locally important species or habitats present?	The site is not within an area protected for nature conservation. The site is located 20m from a broadleaved woodland within the National Forest Inventory 2020. The proposed masterplan for the site shows some improvement in vegetation cover above the existing site, with opportunities to enhance further including additional trees, woodland areas and hedgerow. Landscape mitigation and enhancement proposals will be developed to sensitively integrate the development into the landscape, which will also have positive effects for biodiversity. Existing field boundary hedgerows will be retained and enhanced with new planting where required. Additionally, new native hedgerows will link to existing green infrastructure. Development parcels are to be integrated into the existing field pattern. Alongside the requirements for development provided by the LDP policies, and national guidance, it is considered that the development of the scheme could have a net benefit for biodiversity, over the medium and long term.	+	C	Ensure existing tree belt/hedgerow is maintained and additional trees are planted.
19	Protect and enhance the landscape and geological heritage. *Candidate site methodology:* How does the site relate to the landscape,	The site is not covered by any local or national landscape designations. New hedgerow trees may improve agricultural character and soften the boundaries of the development. Once landscape mitigation measures are established, visual and landscape character effects would be reduced. Overall, it is therefore considered that the site can accommodate a new residential development without unacceptable landscape character or visual	0	J	Landscape mitigation and enhancement proposals will be developed to sensitively integrate the development into the landscape. Proposals will include:

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
	landform and other site features?	amenity impacts upon its immediate setting or the wider landscape in which it is located, leading to neutral effects overall.			• The retention of all existing field boundary hedgerows and associated hedgerow trees wherever possible. • The infilling of any gaps / thin spots within existing hedgerows to conserve and enhance existing landscape features • Allowing selected superior hedgerow plants to grow on as hedgerow trees. • New native tree planting to improve the site's arboricultural character. • New multifunctional public open spaces for residential amenity and ecological enhancement.
20	Encourage quality locally distinct design that complements the built heritage.	The proposed site is adjacent to existing residential accommodation. There are opportunities to ensure the proposed site is in keeping with the design of the surrounding area and reflects the built heritage. Also, due to views of existing residential properties adjacent to the site, additional built form will not be out of context and will not appear visually incongruous.	+	I	n/a
21	Protect, enhance and value the built heritage	The site is not considered to be valuable for heritage importance. The site is approximately 238 meters from a Scheduled Monument (Earthworks of SE Clyn-Derwen). However, there is built development between these sites.	0	I	n/a

No.	SA Objective	Appraisal commentary	Effect Score	Mitigation	Proposed Project Commitments
	and historic environment. *Candidate site methodology:* spatial assessment: sites, areas and buildings protected for heritage importance.	Whilst any proposed development would change the character of the site itself, the development would be in keeping with the character within the site's immediate setting, leading to neutral effects against this objective.			

2.2 Cumulative Effects

The SA Report doesn't seem to have a full assessment of cumulative effects including the site assessments, so it has not been possible to consider how the Proposed Site should be considered within these.

2.3 Summary of Findings

Overall, it is considered that the Proposed Site would lead to potentially significant benefits against SA Objective 5: providing a range of high-quality housing including affordable housing to meet local needs.

Positive effects have also been predicted for SA Objectives relating to: developing and maintaining a balanced population structure; improving educational opportunities; minimise the need to travel and encourage sustainable transport; building safe, vibrant and cohesive communities; protecting and enhance the Welsh language; providing employment opportunities; supporting the local economy; preparing for and reducing the impact of Pembrokeshire's contribution to climate change; maintaining, enhancing and valuing biodiversity and ecosystems; and encouraging quality locally distinct design.

Minor negative (not significant) effects were predicted against SA Objectives relating to: air quality; waste and pollution; use of resources; flood risk; land contamination; and soil quality.

Neutral effects were predicted against SA Objectives relating to: human health and wellbeing; water quality; landscape and geological heritage; and built heritage and historic environment.

Arcadis (UK) Limited

Suite 4D, Fourth Floor
Hodge House
114-116 St Mary Street
Cardiff CF10 1DY

T: +44 (0)29 2092 6700

arcadis.com

CIAT CHARTERED PRACTICE

A | SWOT Analysis Plan. | 27/11/23

Neighbouring Facilities and Opportunities.

- Clunderwen Public Park.
- Tarmaced Tennis Court.
- Public Toilet Facilities.
- Bus Service adjacent to the site (Area edged in blue).
- Car Parking east of the Public Toilets.
- Recycling Facilities adjacent to the site.

Housing estate road.

Main Public Highway.

Neighbouring Dwellings & Buildings.

Surface Water Drainage Run.

Mains Sewer Run.

Mains Water Suuply Run.

Aerial view of proposed development site with neighbouring cul-de-sacs and businesses noted.

Northern and Southern views of the A487 showing easterly face and frontage of the proposed development site with existing adjacent housing developments.

St David's Church

Stoneleigh

Potential position of secondary access road.

Erwyn

Lansdowne

Fron Haul

Fall in site terrain from East to West of around 7670mm.

Pembrokeshire Hedgebank to entire perimeter of proposed development site.

NORTHERN SITE

Fall in site terrain from North to South of around 5720mm.

Position of access road to northern part of development site.

Possible position for Sustainable Drainage (SAB).

Existing manhole.

Fall in site terrain from East to West of around 4300mm.

Pembrokeshire Hedgebank to entire perimeter of proposed development site.

Fall in site terrain from South to North of around 1500mm.

SOUTHERN SITE

A487 Public Highway.

Potential position of access road to proposed development site.

A487 Public Highway to Narberth.

68.2m

64.6m

Public Toilets adjacent to proposed development site.

PC

Rock I
Gwyn
Bron-y
Awel
Llys-D
Glenda
Bronv
Nes
Hafod
Clydfa
Preseli
Llysdwyr
Delfan
Windsor
Ashburnham
Bro Derwen
Glanteg
Roxbury
Plasmarl
George Avenue
Penygaer
Tennis
Play

1 SWOT Site Plan

ARCHITECTURAL DESIGN CONSULTANTS LTD

Site adj. to Bro'r Dderwen, Clunderwen, Pembs.

SWOT Analysis Plan. Date 23/11/2023

Drawn by: LL.B Page Size: A1 Drawing No: 22031/103 Rev:A

acstro

Transport Statement

Land Opposite Bro'r Dderwen
Clunderwen
Pembrokeshire

October 2024

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Appendices

Revision History

A	25th October 2024	First Issue

1580-ACS-ZZ-XX-RP-T-001-A Transport Statement.docx

Acstro Ltd., Yr Hen Farchnad, Unit 19, Carmarthen Street,
Llandeilo, SA19 6BJ
www.acstro.com

1 Introduction

1.1 Acstro has been appointed to prepare a Transport Statement to support the promotion of land opposite Bro'r Dderwen, Clunderwen as a alternative site for inclusion, as suitable for residential development, in Pembrokeshire County Council's Replacement Local Development Plan (LDP2).

1.2 The alternative site extends to 2.75 hectares and is considered capable of accommodation up to 118 new homes.

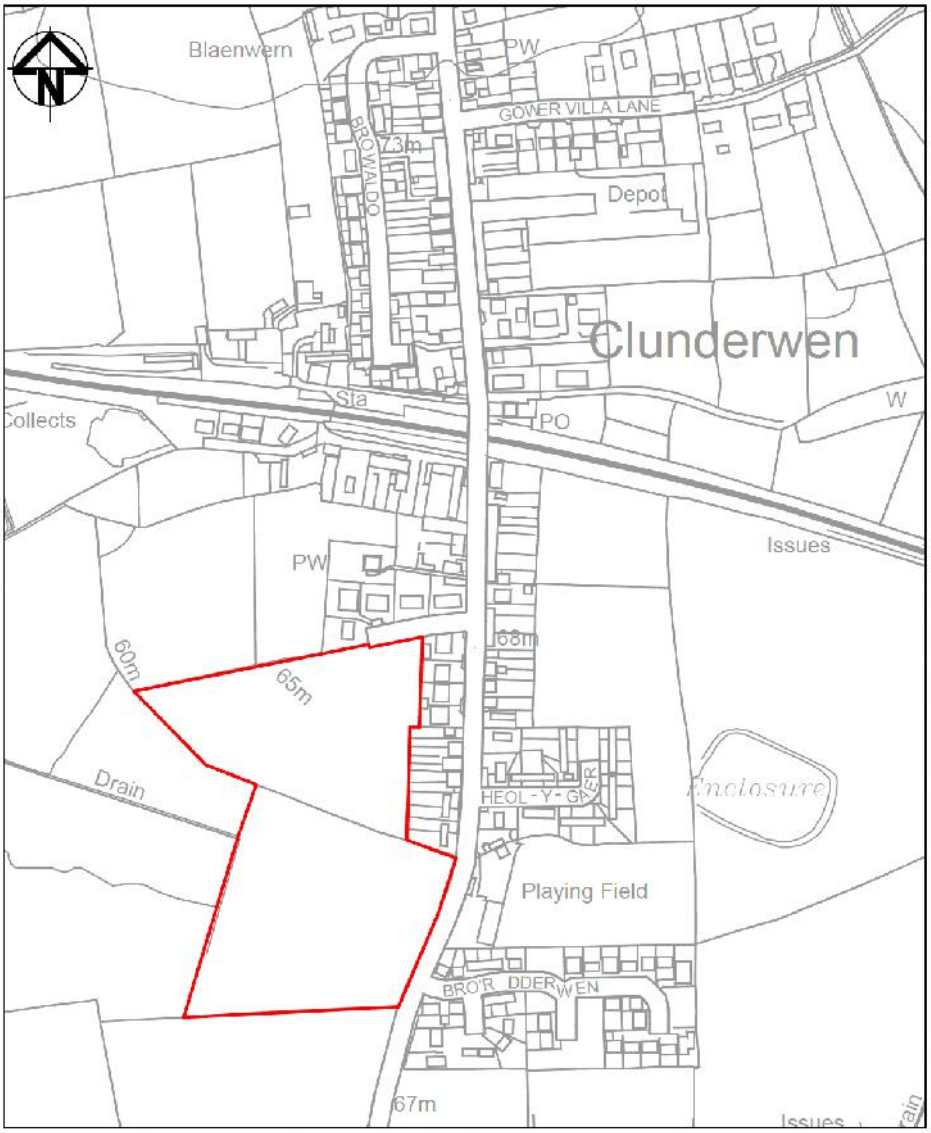


Figure 1 Location Plan

1.3 This document considers the transport implications of the development of the alternative site. In particular, this Transport Statement demonstrates that the alternative site is in a sustainable location that is closely related to existing facilities and services and is accessible to pedestrians, cyclists and public transport users. It is also demonstrated that safe vehicular access to the site can be provided.

1.4 The structure of the Transport Statement is as follows:

- Section 2 describes the relevant planning policy context that is relevant in terms of transport issues;
- Section 3 describes the site's location, its proximity to services and facilities and its accessibility by all forms of transport.
- Section 4 describes the proposed development and its access arrangements. An estimate of the likely trip generation of the proposed development of the land is also provided.
- Section 5 provides a summary and conclusion.

2 Policy Context

Future Wales - The National Plan 2040

2.1 This is the national development framework that sets out the direction for development in Wales to 2040.

2.2 Policies 11 and 12 relate to national and regional connectivity, respectively. These seek to encourage longer-distance trips to be made by public transport, while also making longer journeys possible by electric vehicles. In urban areas, to support sustainable growth and regeneration, the priorities are improving and integrating active travel and public transport. In rural areas the priorities are supporting the uptake of ultra-low emission vehicles and diversifying and sustaining local bus services. Active travel must be an essential and integral component of all new developments.

2.3 Planning authorities must act to reduce levels of car parking in urban areas, including supporting car-free developments in accessible locations and developments with car parking spaces that allow them to be converted to other uses over time. Where car parking is provided for new non-residential development, planning authorities should seek a minimum of 10% of car parking spaces to have electric vehicle charging points.

Planning Policy Wales (12th Edition)

2.4 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.

2.5 In terms of transport related policies paragraph 4.1.1 states that "the planning system should enable people to access jobs and services through shorter, more efficient and sustainable journeys, by walking, cycling and public transport".

2.6 Paragraph 4.1.10 states that "the planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:

- are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car;
- are designed in a way which integrates them with existing land uses and neighbourhoods; and
- make it possible for all short journeys within and beyond the development to be easily made by walking and cycling."

2.7 PPW advocates a sustainable transport hierarchy for planning, the hierarchy being, from top to bottom:

- Walking and Cycling
- Public Transport
- Ultra Low Emission Vehicles
- Other Private Motor Vehicles

2.8 It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of the private motor vehicles.

2.9 The transport hierarchy recognises that Ultra Low Emission Vehicles (ULEV) also have an important role to play in the decarbonisation of transport, particularly in rural areas with limited public transport services. To this end the provision of ULEV charging points is encouraged within new developments.

2.10 PPW recommends (4.1.51) that "a design-led approach to the provision of car parking should be taken, which ensures an appropriate level of car parking is integrated in a way which does not dominate the development. Parking provision should be informed by the local context, including public transport accessibility, urban design principles and the objective of reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport. Planning authorities must support schemes which keep parking levels down, especially off-street parking, when well designed".

Llwybr Newydd – The Wales Transport Strategy 2021

2.11 This document sets out the Welsh Government's vision for how the country's transport system can help deliver on a pathway to creating a more prosperous, green and equal society. It lists its priorities as being:

1. Bringing services to people in order to reduce the need to travel. To this end a target has been set that of 30% of the workforce works remotely on a regular basis.
2. Allow people and goods to move easily from door to door by accessible, sustainable and efficient transport services and infrastructure.
3. Encourage people to make the change to more sustainable transport.

2.12 Modal shift is at the heart of Llwybr Newydd. This means the proportion of trips made by sustainable modes increases and fewer trips are made by private cars.

2.13 The Welsh Government has set a target of 45% of journeys to be made by public transport, walking and cycling by 2040. This represents an increase of 13 percentage points on the estimated baseline (2021) mode share of 32%.

TAN18 Transportation

2.14 Planning Policy Wales Technical Advice Note 18 (TAN18) details the Welsh Government Government's policies in terms of transportation and repeats the general principles advocated in PPW i.e. that development is encouraged in sustainable, accessible, locations that will reduce the need to travel by car. Its aim is to promote an efficient and sustainable transport system and to counter the negative impacts associated with road traffic growth, for example increased air pollution, green house gases and congestion (2.1). It sees the integration of transport and land use planning as key (2.3) in achieving the Welsh Government Governments' sustainable development policy objectives by:

- promoting travel efficient settlement patterns;
- ensuring new development is located where there is good access by public transport, walking and cycling thereby minimizing the need for travel and fostering social inclusion;
- managing parking provision;
- ensuring that new development includes appropriate provision for pedestrians, cycling, public transport, and traffic management and parking/servicing;
- encouraging the location of development near other related uses to encourage multi-purpose trips; and
- ensuring that transport infrastructure necessary to serve new development allows existing transport networks to continue to perform their identified functions.

2.15 The needs of walkers and cyclists must be taken into consideration and the use of these most sustainable forms of transport encouraged in all developments (TAN18 Chapter 6). Similarly, all development should be accessible by public transport (Chapter 7).

The Active Travel (Wales) Act 2013

2.16 The Active Travel (Wales) Act 2013 is Welsh Government legislation aimed to support an increase in the level of walking and cycling in Wales; to encourage a shift in travel behaviour to active travel modes, and to facilitate the building of walking and cycling infrastructure.

2.17 The Active Travel (Wales) Act 2013 requires local authorities in Wales to produce maps of walking and cycling networks in their local area, known as Active Travel Network Maps (ATNMs). These maps are designed to show two main things:

- **Existing routes** – those current walking and cycling routes that already meet Welsh Government active travel standards, meaning they can be readily used for everyday journeys, and
- **Future routes** – new routes that the local authority proposes to create in the future, as well as current routes that are planned for improvement to bring them up to the standards.

Figure 2 Extract from Active Travel Network Map

2.18 An extract from the ATNM is provided in Figure 2 and shows that there are proposals for the development of future walking and cycling route along the A478 that will link Clunderwen with Narberth, Llandissilio and Efailwen (PCC-FR-NB010).

3 Existing Conditions

3.1 The site is shown in context in Appendix 1.

Appendix 1 Site Context

3.2 The site is currently undeveloped and located to the west of the A478. The southern part of the site is located opposite Bro'r Dderwen and has a boundary with the A478. Further north the eastern site boundary continues along the rears of a row of houses and meets Golwg yr Eglwys at its north eastern corner.

3.3 There are a number of amenities in Clunderwen including a convenience store, railway station, public house, park, village hall and church

3.4 A wider range of services and facilities can be accessed in Narberth, some 6km to the south.

Active Travel

3.5 All of Clunderwen's amenities are within walking distance to the alternative site.

3.6 The alternative site is accessible to pedestrians from the footways that run alongside the A478 on the site's eastern boundary. Pedestrian access is also available via Golwg yr Eglwys. Golwg yr Eglwys has a footway along its southern side only, the opposite side of the street to the application site. However, the street has a 2m wide grass verge where a footway can be constructed.

3.7 As mentioned earlier (see 2.18) the Council's ATNM indicates that there are aspirations to deliver a future walking and cycling route along the A478.

Public Transport

3.8 The nearest bus stops are located on the A478, adjacent to the site (playing field stops). some 300m walk from the alternative site. These provide access to the 430 bus service, the details of which are provided below.

3.9 More frequent public transport services can be accessed at Clunderwen railway station, which is located some 500m to the north of the site.

	Service	Route	General Details
Bus	430	Cardigan - Narberth	2 Journeys per day in each direction (Mon – Sat) Journey times: Narberth – 10 minutes Cardigan – 1 hour
Rail	Milford Haven – Carmarthen – Llanelli - Swansea		Every 2 hours in each direction Journey times: Haverfordwest – 15 minutes Carmarthen – 25 minutes Llanelli – 50 minutes

Table 1 Public Transport Services

Highway Network

3.10 The site will be accessed from the adjacent A478, which links Clunderwen to Narberth to the south and Crymych and Cardigan to the north.

3.11 Adjacent to the site the A478 has a 7m wide carriageway with footways on both sides. It is subject to a 20mph speed limit.

3.12 The north eastern corner of the site has a boundary with Golwg yr Eglwys, a cul-de-sac of five properties. Golwg yr Eglwys has a 5.5m wide carriageway with a 2m wide footway along its northern side and 2m wide verge along the southern side.

3.13 A review of injury collision records (STATS19 records) for the latest 5-year period (2019 – 2023) has been undertaken. There has only been one, slight severity, incident recorded during that period. This is evidently an isolated incident and the absence of clusters of collisions indicates that the highway network operates safely.

4 Proposed Development

4.1 It is considered that the alternative site is capable of delivering up to 118 dwellings.

Access

4.2 The proposed access arrangement is shown in Appendix 2.

Appendix 2 Proposed Access

4.3 The principal access to the site will be from a new junction with the A478. This will provide a 5.5m wide, adoptable, estate road with 2m wide footways on both sides. Visibility splays of at least 2.4m x 43m can be provided in both directions from the new junction. These splay dimensions are appropriate for a 30mph design speed.

4.4 The opportunity exists to provide a secondary access to the site from Golwg yr Eglwys. The are several options in terms of the design and operation of the secondary access ranging from one that is restricted to pedestrians and cyclists only, one that provides vehicular access to the development only in emergency (when the principal access is blocked) or one that can be used by vehicles on a day-to-day basis. This can be considered further and in consultation with stakeholders at the time of preparing a planning application.

Trip Generation

4.5 The potential trip generation of the proposed development of the site has been estimated by reference to the TRICS trip rate database, a database of over 7,100 traffic surveys of various types of development throughout the UK and Ireland.

4.6 From the TRICS database evidence of the trip rates of developments of privately owned houses in urban locations (but not town/city centres) in mainland Britain (excluding Greater London) have been analysed. Full details are provided as Appendix 3 and summarised below.

Appendix 3 TRICS Trip Rate Data

Time Range	Trip Rate per House			Trip Generation (118 Houses)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
am peak Hour 08:00-09:00	0.148	0.343	0.491	17	40	58
pm Peak Hour 17:00-18:00	0.317	0.153	0.47	37	18	55

Table 2 Vehicle Trip Rates & Proposed Development Trip Generation

4.7 The TRICS data suggests that the proposed development will generate around 55 to 58 peak hour vehicle movements.

4.8 It is considered that this volume of traffic will not have a significant impact on the operation of the surrounding highway network. However, detailed analysis and consideration of whether mitigation measures are necessary will be undertaken at planning application stage.

5 Summary & Conclusion

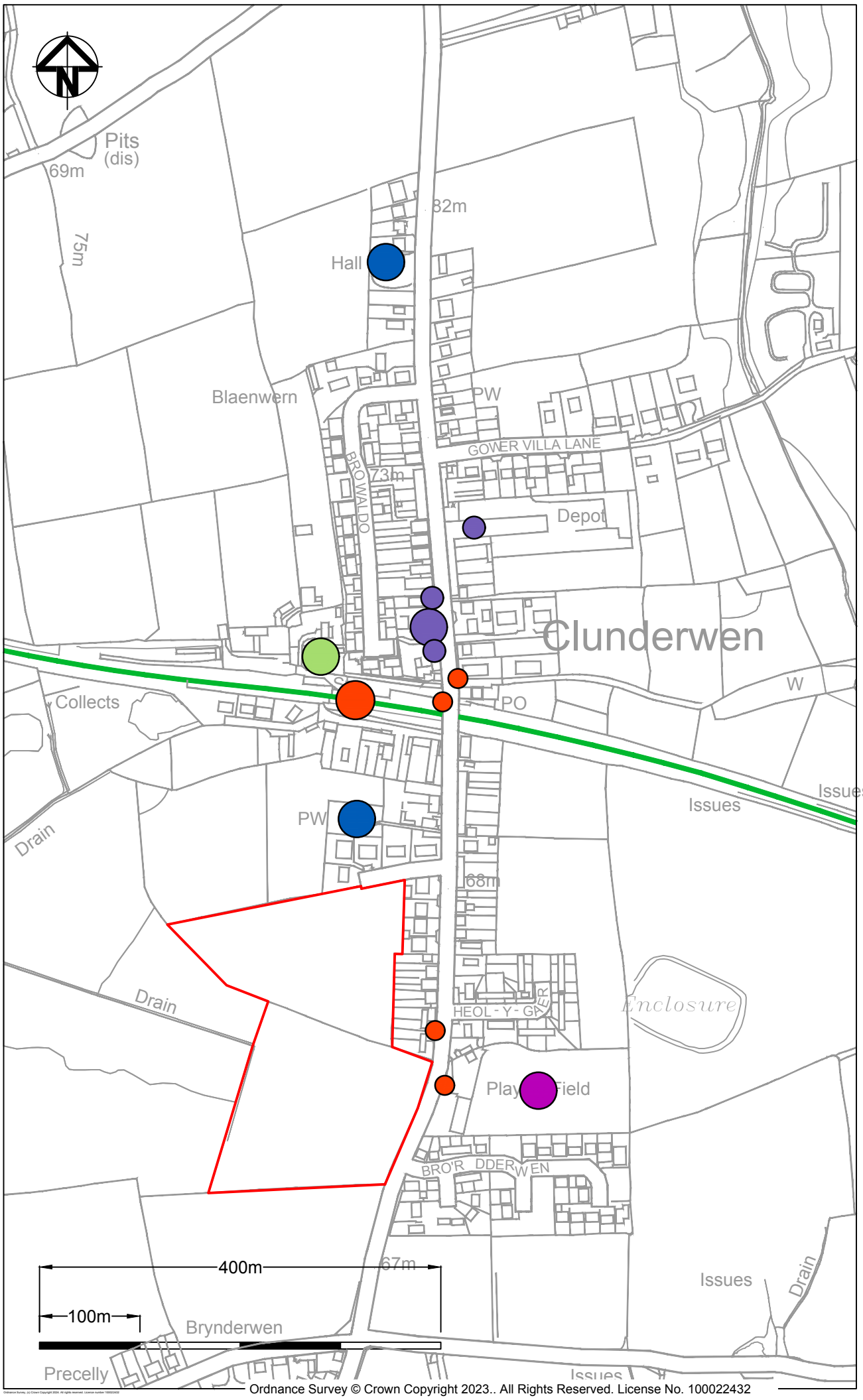
5.1 In summary this Transport Statement has demonstrated that:

- The alternative site is in an appropriate location being within walking and cycle distance to the facilities available in Clunderwen. The site is located near to bus stops and a railway station that provide access to services into nearby towns, where a wider range of services can be accessed;
- The site is accessible to pedestrians, cyclists and public transport users.
- A safe means of access can be delivered by the creation of a new junction with the A478 and by connection to Golwg yr Eglwys.
- The development's traffic generation is modest at 55 to 58 peak hour movements. It is considered that this volume of traffic will not have a significant impact on the operation of the surrounding highway network. However, detailed analysis and consideration of whether mitigation measures are necessary will be undertaken at planning application stage.

5.2 As such it is considered that the alternative site meets planning policy requirements in terms of being in an appropriate location that is safely accessible by all forms of transport and that the impacts of the development on the continued operation and safety of the surrounding highway network would be acceptable or can be suitably mitigated.

5.3 It is concluded therefore that there are no transport related issues that should prevent the inclusion of this alternative site in Pembrokeshire County Council's LDP2.

Appendix 1 Site Context



KEY

- Site
- Bus Stop
- Railway Station
- Village Hall / Places of Worship
- Convenience Store
- Shops
- Public House
- Park

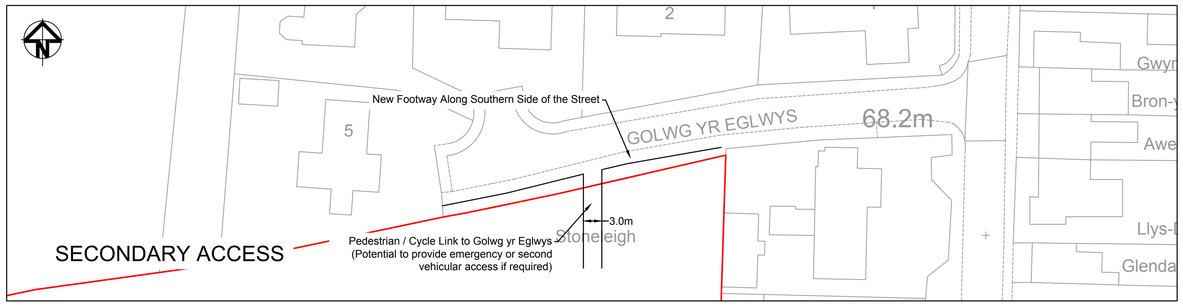
acstro
Unit 19, Yr Hen Farchnad,
Carmarthen Street, Llandeilo SA19 6BJ

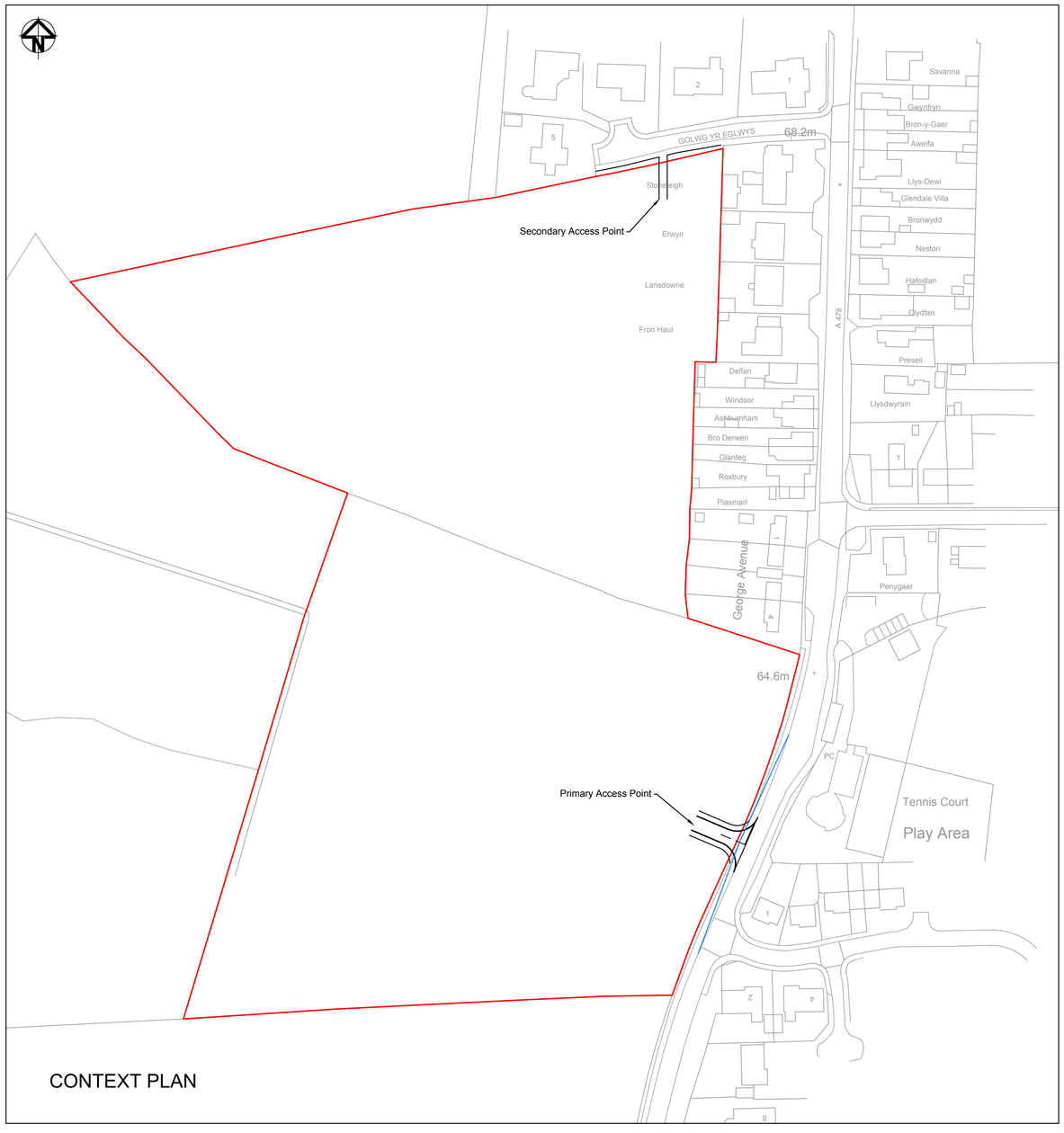
E–mail: mail@acstro.com
www.acstro.com
Tel: 01558 824021

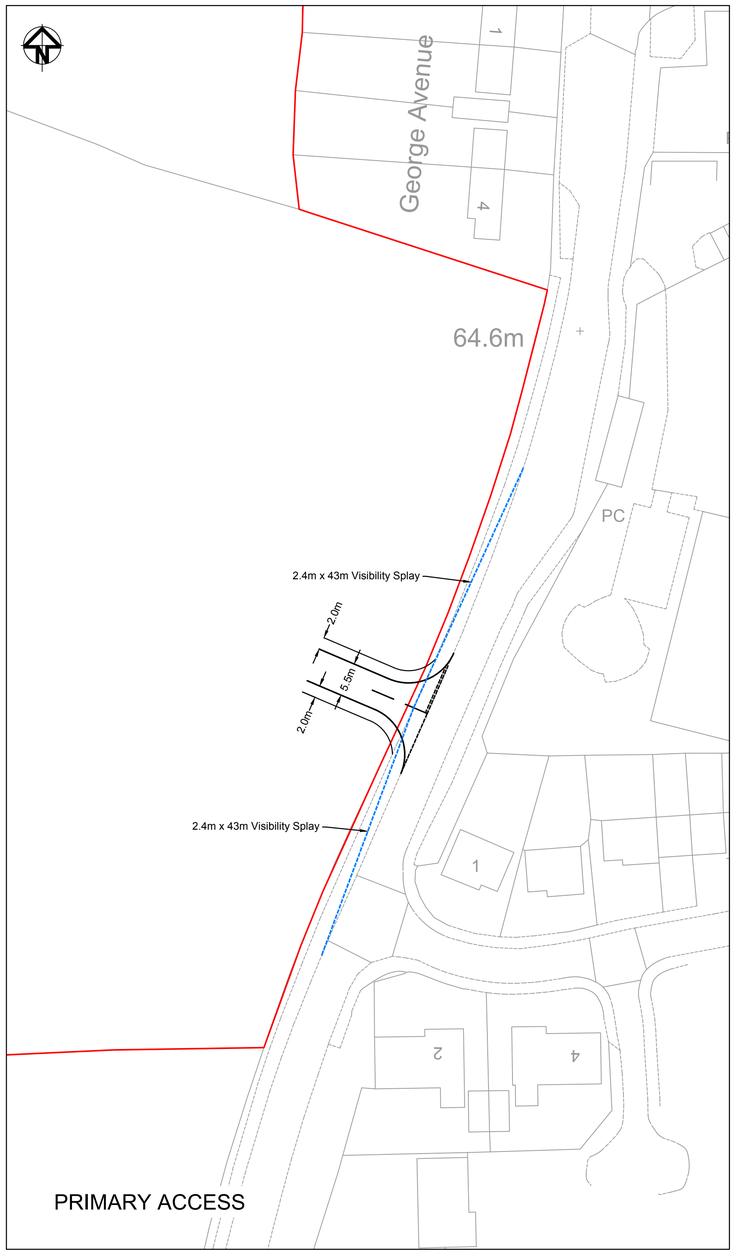
A	First Issue	25-10-24

Project	**CLUNDWERWEN**
Drawing	**SITE CONTEXT**
Drawing No.	**1580-ACS-XX-ZZ-DR-T-002-A**
Scale	**1:1500 @ A3**

Appendix 2 Proposed Access







A	First Issue	25-10-24

acstro
Unit 19, Yr Hen Farchnad,
Carmarthen Street, Llandeilo SA19 6BJ
E-mail: mail@acstro.com
www.acstro.com
Tel: 01558 824021

Project: **CLUNDERWEN**

Drawing: **INDICATIVE ACCESS ARRANGEMENT**

Drawing No.: **1580-ACS-XX-ZZ-DR-T-003-A**

Scale: **1:1000 & 1:500 @ A1**

Appendix 3 TRICS Trip Rate Data

Calculation Reference: AUDIT-648801-241025-1016

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	CT	CENTRAL BEDFORDSHIRE	1 days
	ES	EAST SUSSEX	6 days
	EX	ESSEX	2 days
	HC	HAMPSHIRE	6 days
	KC	KENT	3 days
	SC	SURREY	2 days
	WB	WEST BERKSHIRE	1 days
	WS	WEST SUSSEX	5 days
03	SOUTH WEST		
	DC	DORSET	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	12 days
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	LE	LEICESTERSHIRE	1 days
08	NORTH WEST		
	AC	CHESHIRE WEST & CHESTER	1 days
09	NORTH		
	DH	DURHAM	3 days
11	SCOTLAND		
	AS	ABERDEENSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	No of Dwellings
Actual Range:	50 to 150 (units:)
Range Selected by User:	50 to 150 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 14/05/24

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	5 days
Tuesday	16 days
Wednesday	9 days
Thursday	13 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	43 days
Directional ATC Count	5 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	31
Neighbourhood Centre (PPS6 Local Centre)	12

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	35
Village	10
Out of Town	1
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	9 days - Selected
Servicing vehicles Excluded	56 days - Selected

Secondary Filtering selection:

Use Class:

C3	48 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	12 days
5,001 to 10,000	13 days
10,001 to 15,000	9 days
15,001 to 20,000	7 days
20,001 to 25,000	6 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	8 days
25,001 to 50,000	9 days
50,001 to 75,000	6 days
75,001 to 100,000	6 days
100,001 to 125,000	3 days
125,001 to 250,000	14 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	8 days
1.1 to 1.5	34 days
1.6 to 2.0	6 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	34 days
No	14 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	47 days
2 Poor	1 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AC-03-A-06 DETACHED HOUSES CHESHIRE WEST & CHESTER
COMMON LANE
NEAR CHESTER
WAVERTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 99
Survey date: FRIDAY *29/04/22* *Survey Type: MANUAL*

2 AS-03-A-02 MIXED HOUSES ABERDEENSHIRE
FARROCHIE ROAD
STONEHAVEN

Edge of Town
Residential Zone
Total No of Dwellings: 131
Survey date: WEDNESDAY *20/04/22* *Survey Type: MANUAL*

3 CA-03-A-08 DETACHED & SEMI-DETACHED CAMBRIDGESHIRE
GIDDING ROAD
SAWTRY

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 83
Survey date: THURSDAY *13/10/22* *Survey Type: MANUAL*

4 CT-03-A-03 MIXED HOUSES CENTRAL BEDFORDSHIRE
ARLESEY ROAD
STOTFOLD

Edge of Town
Residential Zone
Total No of Dwellings: 73
Survey date: TUESDAY *27/06/23* *Survey Type: MANUAL*

5 DC-03-A-11 MIXED HOUSES DORSET
A350
SHAFTESBURY

Edge of Town
No Sub Category
Total No of Dwellings: 141
Survey date: TUESDAY *31/10/23* *Survey Type: MANUAL*

6 DH-03-A-01 SEMI DETACHED DURHAM
GREENFIELDS ROAD
BISHOP AUCKLAND

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

7 DH-03-A-02 MIXED HOUSES DURHAM
LEAZES LANE
BISHOP AUCKLAND
ST HELEN AUCKLAND
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 125
Survey date: MONDAY *27/03/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 DH-03-A-03 SEMI-DETACHED & TERRACED DURHAM
PILGRIMS WAY
DURHAM

Edge of Town
Residential Zone
Total No of Dwellings: 57
Survey date: FRIDAY *19/10/18* *Survey Type: MANUAL*

9 ES-03-A-07 MIXED HOUSES & FLATS EAST SUSSEX
NEW ROAD
HAILSHAM
HELLINGLY
Edge of Town
Residential Zone
Total No of Dwellings: 91
Survey date: THURSDAY *07/11/19* *Survey Type: MANUAL*

10 ES-03-A-08 MIXED HOUSES & FLATS EAST SUSSEX
WRESTWOOD ROAD
BEXHILL

Edge of Town
Residential Zone
Total No of Dwellings: 110
Survey date: WEDNESDAY *12/10/22* *Survey Type: MANUAL*

11 ES-03-A-10 MIXED HOUSES & FLATS EAST SUSSEX
WATERGATE
BEXHILL-ON-SEA

Edge of Town
Residential Zone
Total No of Dwellings: 139
Survey date: THURSDAY *28/09/23* *Survey Type: MANUAL*

12 ES-03-A-11 MIXED HOUSES EAST SUSSEX
BISHOPS LANE
RINGMER

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 105
Survey date: THURSDAY *28/09/23* *Survey Type: MANUAL*

13 ES-03-A-12 MIXED HOUSES & FLATS EAST SUSSEX
HOREBEECH LANE
HORAM

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 123
Survey date: TUESDAY *03/10/23* *Survey Type: MANUAL*

14 ES-03-A-14 MIXED HOUSES & FLATS EAST SUSSEX
RATTLE ROAD
NEAR EASTBOURNE
STONE CROSS
Edge of Town
Residential Zone
Total No of Dwellings: 120
Survey date: TUESDAY *30/04/24* *Survey Type: MANUAL*

15 EX-03-A-02 DETACHED & SEMI-DETACHED ESSEX
MANOR ROAD
CHIGWELL
GRANGE HILL
Edge of Town
Residential Zone
Total No of Dwellings: 97
Survey date: MONDAY *27/11/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

16 EX-03-A-03 MIXED HOUSES ESSEX
KESTREL GROVE
RAYLEIGH

Edge of Town
Residential Zone
Total No of Dwellings: 123
Survey date: MONDAY *27/09/21* *Survey Type: MANUAL*

17 HC-03-A-23 HOUSES & FLATS HAMPSHIRE
CANADA WAY
LIPHOOK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 62
Survey date: TUESDAY *19/11/19* *Survey Type: MANUAL*

18 HC-03-A-27 MIXED HOUSES HAMPSHIRE
DAIRY ROAD
ANDOVER

Edge of Town
Residential Zone
Total No of Dwellings: 73
Survey date: TUESDAY *16/11/21* *Survey Type: MANUAL*

19 HC-03-A-28 MIXED HOUSES & FLATS HAMPSHIRE
EAGLE AVENUE
WATERLOOVILLE
LOVEDEAN
Edge of Town
Residential Zone
Total No of Dwellings: 125
Survey date: MONDAY *08/11/21* *Survey Type: MANUAL*

20 HC-03-A-32 MIXED HOUSES & FLATS HAMPSHIRE
GREEN LANE
FARNHAM
WEYBOURNE
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 105
Survey date: THURSDAY *29/06/23* *Survey Type: MANUAL*

21 HC-03-A-36 MIXED HOUSES & FLATS HAMPSHIRE
HAVANT ROAD
EMSWORTH

Edge of Town
Residential Zone
Total No of Dwellings: 145
Survey date: TUESDAY *12/09/23* *Survey Type: MANUAL*

22 HC-03-A-37 MIXED HOUSES HAMPSHIRE
REDFIELDS LANE
FLEET
CHURCH CROOKHAM
Edge of Town
Residential Zone
Total No of Dwellings: 50
Survey date: WEDNESDAY *27/03/24* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

23 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 51
Survey date: THURSDAY 14/07/16 Survey Type: MANUAL

24 KC-03-A-04 SEMI-DETACHED & TERRACED KENT
KILN BARN ROAD
AYLESFORD
DITTON
Edge of Town
Residential Zone
Total No of Dwellings: 110
Survey date: FRIDAY 22/09/17 Survey Type: MANUAL

25 KC-03-A-10 MIXED HOUSES KENT
HEADCORN ROAD
STAPLEHURST

Edge of Town
Residential Zone
Total No of Dwellings: 106
Survey date: TUESDAY 09/05/23 Survey Type: MANUAL

26 LE-03-A-02 DETACHED & OTHERS LEICESTERSHIRE
MELBOURNE ROAD
IBSTOCK

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 85
Survey date: THURSDAY 28/06/18 Survey Type: MANUAL

27 NF-03-A-14 MIXED HOUSES NORFOLK
BEAUFORT WAY
GREAT YARMOUTH
BRADWELL
Edge of Town
Residential Zone
Total No of Dwellings: 150
Survey date: THURSDAY 05/10/17 Survey Type: DIRECTIONAL ATC COUNT

28 NF-03-A-24 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 127
Survey date: WEDNESDAY 22/09/21 Survey Type: DIRECTIONAL ATC COUNT

29 NF-03-A-25 MIXED HOUSES & FLATS NORFOLK
WOODFARM LANE
GORLESTON-ON-SEA

Edge of Town
Residential Zone
Total No of Dwellings: 55
Survey date: TUESDAY 21/09/21 Survey Type: MANUAL

30 NF-03-A-26 MIXED HOUSES NORFOLK
HEATH DRIVE
HOLT

Edge of Town
Residential Zone
Total No of Dwellings: 91
Survey date: WEDNESDAY 22/09/21 Survey Type: DIRECTIONAL ATC COUNT

LIST OF SITES relevant to selection parameters (Cont.)

31 NF-03-A-27 MIXED HOUSES & FLATS NORFOLK
YARMOUTH ROAD
NEAR NORWICH
BLOFIELD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 93
Survey date: THURSDAY *16/09/21* *Survey Type: MANUAL*

32 NF-03-A-33 MIXED HOUSES NORFOLK
LONDON ROAD
ATTLEBOROUGH

Edge of Town
Residential Zone
Total No of Dwellings: 143
Survey date: THURSDAY *29/09/22* *Survey Type: MANUAL*

33 NF-03-A-34 MIXED HOUSES NORFOLK
NORWICH ROAD
SWAFFHAM

Edge of Town
Out of Town
Total No of Dwellings: 80
Survey date: TUESDAY *27/09/22* *Survey Type: MANUAL*

34 NF-03-A-35 MIXED HOUSES & FLATS NORFOLK
REPTON AVENUE
NORWICH

Edge of Town
Residential Zone
Total No of Dwellings: 116
Survey date: WEDNESDAY *28/09/22* *Survey Type: MANUAL*

35 NF-03-A-36 MIXED HOUSES NORFOLK
LONDON ROAD
WYMONDHAM

Edge of Town
No Sub Category
Total No of Dwellings: 75
Survey date: THURSDAY *29/09/22* *Survey Type: MANUAL*

36 NF-03-A-44 MIXED HOUSES NORFOLK
MILL LANE
NEAR NORWICH
HORSFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 125
Survey date: WEDNESDAY *21/09/22* *Survey Type: DIRECTIONAL ATC COUNT*

37 NF-03-A-49 MIXED HOUSES NORFOLK
BRANDON ROAD
SWAFFHAM

Edge of Town
Residential Zone
Total No of Dwellings: 141
Survey date: FRIDAY *14/09/18* *Survey Type: DIRECTIONAL ATC COUNT*

LIST OF SITES relevant to selection parameters (Cont.)

38 NF-03-A-52 MIXED HOUSES NORFOLK
LYNNSPORT WAY
KING'S LYNN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 130
Survey date: TUESDAY *07/11/23* *Survey Type: MANUAL*

39 SC-03-A-09 MIXED HOUSES & FLATS SURREY
AMLETS LANE
CRANLEIGH

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 136
Survey date: TUESDAY *24/05/22* *Survey Type: MANUAL*

40 SC-03-A-11 MIXED HOUSES SURREY
FOLLY HILL
FARNHAM

Edge of Town
Residential Zone
Total No of Dwellings: 96
Survey date: TUESDAY *14/05/24* *Survey Type: MANUAL*

41 SF-03-A-07 MIXED HOUSES SUFFOLK
FOXHALL ROAD
IPSWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 73
Survey date: THURSDAY *09/05/19* *Survey Type: MANUAL*

42 SF-03-A-10 TERRACED & SEMI-DETACHED SUFFOLK
LOVETOFTS DRIVE
IPSWICH
WHITEHOUSE
Edge of Town
Residential Zone
Total No of Dwellings: 149
Survey date: TUESDAY *22/06/21* *Survey Type: MANUAL*

43 WB-03-A-03 MIXED HOUSES WEST BERKSHIRE
DORKING WAY
READING
CALCOT
Edge of Town
Residential Zone
Total No of Dwellings: 108
Survey date: FRIDAY *09/09/22* *Survey Type: MANUAL*

44 WS-03-A-07 BUNGALOWS WEST SUSSEX
EMMS LANE
NEAR HORSHAM
BROOKS GREEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 57
Survey date: THURSDAY *19/10/17* *Survey Type: MANUAL*

45 WS-03-A-14 MIXED HOUSES WEST SUSSEX
TODDINGTON LANE
LITTLEHAMPTON
WICK
Edge of Town
Residential Zone
Total No of Dwellings: 117
Survey date: WEDNESDAY *20/10/21* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

46 WS-03-A-16 DETACHED & SEMI-DETACHED WEST SUSSEX
BRACKLESHAM LANE
BRACKLESHAM BAY

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 58
Survey date: WEDNESDAY 09/11/22 Survey Type: MANUAL

47 WS-03-A-19 MIXED HOUSES & FLATS WEST SUSSEX
TURNERS HILL ROAD
EAST GRINSTEAD

Edge of Town
Residential Zone
Total No of Dwellings: 92
Survey date: MONDAY 15/05/23 Survey Type: MANUAL

48 WS-03-A-22 MIXED HOUSES & FLATS WEST SUSSEX
SHOPWHYKE ROAD
CHICHESTER

Edge of Town
Residential Zone
Total No of Dwellings: 129
Survey date: TUESDAY 19/03/24 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	48	103	0.078	48	103	0.288	48	103	0.366
08:00 - 09:00	48	103	0.148	48	103	0.343	48	103	0.491
09:00 - 10:00	48	103	0.125	48	103	0.165	48	103	0.290
10:00 - 11:00	48	103	0.122	48	103	0.148	48	103	0.270
11:00 - 12:00	48	103	0.125	48	103	0.138	48	103	0.263
12:00 - 13:00	48	103	0.153	48	103	0.142	48	103	0.295
13:00 - 14:00	48	103	0.155	48	103	0.152	48	103	0.307
14:00 - 15:00	48	103	0.158	48	103	0.179	48	103	0.337
15:00 - 16:00	48	103	0.254	48	103	0.168	48	103	0.422
16:00 - 17:00	48	103	0.258	48	103	0.162	48	103	0.420
17:00 - 18:00	48	103	0.317	48	103	0.153	48	103	0.470
18:00 - 19:00	48	103	0.253	48	103	0.134	48	103	0.387
19:00 - 20:00	1	97	0.062	1	97	0.052	1	97	0.114
20:00 - 21:00	1	97	0.031	1	97	0.021	1	97	0.052
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.239			2.245			4.484

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 150 (units:)
Survey date date range:	01/01/16 - 14/05/24
Number of weekdays (Monday-Friday):	48
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	17
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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Acstro Ltd., Yr Hen Farchnad, Unit 19, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6BJ

(01558) 824021
www.acstro.com