



Llywodraeth Cymru
Welsh Government

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Site & Context Analysis Guide: Capturing the value of a site

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This guidance was prepared for the Welsh Government by the Design Commission for Wales.

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

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Outline of the document

The **above diagram** identifies stages in the design and planning process at which analysis is relevant. This guide is structured around the stages of this process and you will find the diagram on each page to help in navigation through the stages you will encounter. Section 1 outlines considerations to be made in the stages leading up to site and context analysis. Section 2 of the document sets out an approach to site and context analysis and addresses the various aspects to be considered. Finally Section 3 focuses on how the analysis informs a design framework, design proposals and planning application.

The objectives of good design, as set out in national planning policy, should feed into an integrated analysis and design process that includes pre-application meetings with the planning authority and consultation with the Design Commission for Wales at appropriate stages. When a planning application is made, it is important that the material submitted clearly and concisely communicates the site analysis process and how it has informed the design. This will assist the local authority in assessing the proposal and determining the application. This document is therefore relevant to applicants and their project teams as well as planners within local authorities.

Good site and context analysis is a crucial step in achieving good design in the planning process.

Section 1

1 Setting the scene

Site analysis is a critical part of the planning and design process. No development takes place in isolation - it will be influenced by the conditions of the site and will have an impact on its context. Good site and context analysis forms the foundation of good design.

1.1

The purpose of the guide

This guide is relevant to those commissioning, undertaking and reviewing development proposals, and is relevant to developments of all types and scales. It advocates a thorough, proportionate analysis of a site and its context as an integral part of the design process. The conclusions of the analysis can be used to inform a design framework which, when combined with key urban design and architectural principles, will establish parameters for development. The result should be an approach that maximises the potential of the site and is presented clearly in a planning application.

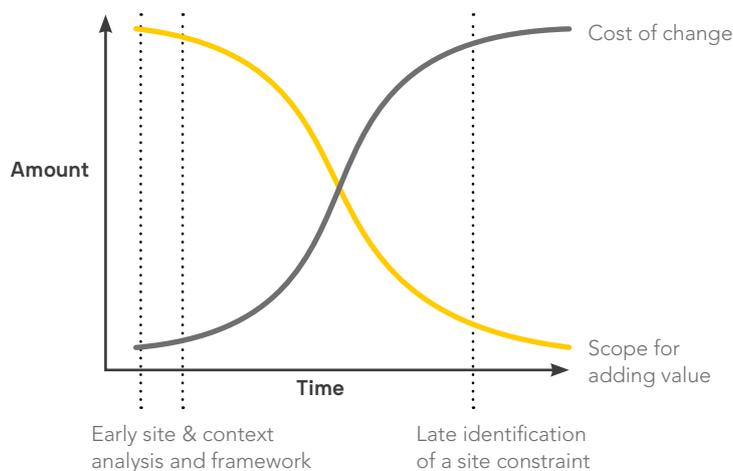
“Design which is inappropriate in its context, or which fails to grasp opportunities to enhance the character, quality and function of an area, should not be accepted, as these have detrimental effects on existing communities.”

TAN 12: Design, Welsh Government, para 2.6

This document sets out an approach, endorsed by the Welsh Government and the Design Commission for Wales, for undertaking relevant and informative site analysis to support all development proposals.

Thorough analysis will help to create the best value from the site and avoid expensive and abortive work. The diagram in Figure 1 helps to illustrate the greater cost effectiveness of identifying features of the site and its context that add value to the project at an early stage, whereas identifying constraints later on in the process provides little scope for adding value. Undertaking good site analysis should lead to better quality design and a smoother planning process.

Fig 1.
Cost/value graph shows how good site analysis at an early stage in the design process can add value to a development, whereas identifying site constraints late in the process can be costly and cause delays



Proposals informed by good site and context analysis can have many advantages including:

- **Better value** – the value of the site can be maximised through identification of its assets and potential
- **Better environmental sustainability** – early consideration of climate, orientation and layout are essential to achieving environmental sustainability
- **Better connectivity** – opportunities for well-planned routes, access to public transport and safe and enjoyable walking and cycling leading to more sustainable settlements
- **Better accessibility** – early decisions are made to ensure that the development is accessible to all
- **Better health and well-being** - quality of life considerations can benefit residents and/or other users of the development
- **Better sense of place** – maximising the use of existing features to give the development identity
- **Better cost effectiveness** - avoid abortive work and the cost of responding to constraints later in the process
- **Better security** - responding to the site context will help to create a more secure development

Good design makes everything better.

Fig 2.
The Royal Welsh College of Music and Drama building in Cardiff utilises its water and park-side location to create an appealing external space. (c) Flanagan Lawrence



Fig 3.
The design of Galeri overlooking Victoria Dock, Caernarfon has been inspired by its dock front location and the surrounding buildings. (c) Richard Murphy Architects



Fig 4.
Ysgol Craig y Deryn in Snowdonia has a strong relationship with the surrounding landscape which was a fundamental consideration in the design of the building in relation to its context. (c) James Morris





1.2

Policy context

The Welsh Government's objectives for good design in the built environment are set out in *Planning Policy Wales* and *Technical Advice Note (TAN) 12: Design*. The latter identifies design as a process of analysis and synthesis where issues are identified and solutions found through the design process. This guide supports and elaborates on Chapter 4 of *TAN 12* in relation to appraising context.

Local Development Plans (LDPs) and Supplementary Planning Guidance (SPG) provide more locally specific expectations and guidance. A review of local planning guidance should be undertaken as part of the analysis process.

This guide is intended for use alongside the Welsh Government's *Practice Guidance: Planning for Sustainable Buildings*, which encourages early consideration of sustainability at the site analysis stage. There are many publications, standards and guides which are helpful to refer to, and it is not the intention that this guide repeats detail published elsewhere, rather relevant cross references are provided here in Section 2 to establish a clear link with existing guidance and literature.

Site analysis will help in achieving performance levels required by Building Regulations and meeting broader sustainability and accessibility targets. The early identification of site constraints and opportunities, and an informed site layout will maximise sustainability, accessibility, security and value for money.

1.3

Site allocation & selection

Site selection is an important factor in the success of a development and for the sustainable growth of settlements. Identifying suitable sites for significant new development should be based on a sound analysis of the context at a settlement-wide scale. Analysis will help to establish how well the site is connected, the accessibility of facilities, and the capacity of the site.

The approach advocated in this guide can help local authorities to review the opportunities and constraints presented by potential development sites in the LDP preparation and review process as well as to produce or review design briefs or masterplans for allocated sites (see section 3.7).

Similarly, developers considering alternative sites could benefit from reviewing the options against the factors highlighted in the following section of this document.

The analysis of sites at this stage should consider the opportunities presented by the site for the creation of a high quality, distinctive and sustainable development. Constraints should be analysed in light of opportunities, as good design is often generated by a creative response to constraints.

1.4

Vision & brief

The importance of a project vision can at times be overlooked. A clear vision and brief for a project is vital to ensure that everyone involved knows what the project is aiming to achieve. A functional brief will set out performance requirements, floor areas, number of units and building types and uses. The vision should concisely describe what kind of place the development will be. When planning the site and context analysis, the design team should have the vision and brief in mind.

A client may have an initial brief and vision from an early stage. The design team appointed should be capable of working towards that vision through the design process. However, the design team should use their skills and experience to develop the brief and vision with their client, through the iterative stages of the project.

Example vision

The following is a good example of a vision for a mixed use settlement expansion:

“The proposed development will offer a range of residential, mixed use and business accommodation that reflects the needs and aspirations of local citizens and benefits the economy. Our aim is to avoid a wasteful sprawl, with the intent to provide a denser, more sustainable place with a variety of public spaces including streets, squares and gardens. The aspiration is to create a sustainable, walkable neighbourhood which retains and enhances the existing nature conservation area. It will bring together the traditional benefits of suburbia - house, garden, privacy, quiet - and the shared benefits of higher densities that include public infrastructure and resources.”

Mitchel Eley Gould

1.5

Site & context analysis

Undertaking or reviewing site and context analysis involves designers, planners and, depending on the scale and nature of the development, a range of specialist consultants. These could include, but may not be limited to:

- Ecologists
- Arboriculturalists
- Landscape architects
- Land surveyors
- Archaeologists
- Transport consultants
- Property market surveyors
- Hydrologists
- Environmental engineers
- Acoustic consultants

Where a project is large or complex it is important that specialist input is well coordinated so that information about the site is obtained in a timely and informative manner. Coordination could be undertaken by the designer/design team, a planning consultant, client or project manager.

Fundamentally it is important that the designer(s) has a thorough understanding of the site and context to inform the design and rationale behind the development proposals.

Section 2 of this document provides detailed guidance to site and context analysis.

1.6

Pre-application meetings & statutory obligations

The Planning (Wales) Act 2015 puts in place new pre-application provisions that require local planning authorities to provide pre-application services to applicants. This guide can be used to prompt discussions at pre-application stage to ensure that appropriate analysis has been carried out and is informing the emerging proposals (see section 3.7).

In some cases, there will be a statutory obligation to undertake certain forms of survey or analysis to support a planning application. Local requirements for supporting information, some of which involve specialist site analysis, are set out by each local planning authority and will vary depending on the scale, nature and location of the application. Pre-application consultation with the local planning authority is important to establish exactly what information is required.

Local requirements which involve specialist site and context analysis might include, but are not limited to:

- Flood Consequences Assessment
- Arboricultural Assessment
- Conservation Area Appraisal
- Ecological Assessment
- Retail Impact Assessment
- Transport Assessment

The findings of these assessments must be integrated with other site studies.

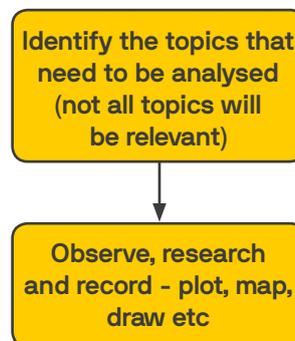
If the proposed development is likely to have a significant effect on the environment, an Environmental Impact Assessment (EIA) might be required. In the first instance, the developer should submit a screening request to the local authority to determine whether an EIA is required. Subsequently, a scoping opinion will be issued by the local authority outlining the information that is to be gathered during the EIA and presented in the Environmental Statement. A link to the EIA regulations is provided in Appendix 1.

Section 2

2 Guidance

This section outlines an approach to the site and context analysis process.

There are many factors that make a site unique. These relate to the landscape, the buildings and structures on and around the site, the people who inhabit and use the buildings and spaces, and the way they move to and through the site. Good design responds to these features which should be identified and interpreted through the analysis process.



Identify topics to be analysed: It is important that the analysis undertaken is appropriate for the project brief and the scale and nature of the site. A development of 1,000 homes on a greenfield site will involve different considerations to a proposal for a new inner-city school, for example. The project team should discern priorities and carry out site analysis which is fitting and informative for each individual project. Development management teams should not necessarily expect all topics to be covered in the documentation supporting a planning application if they are not all relevant. There may also be site-specific issues, which are not discussed in this guide, but which are critical to a particular situation.

Observe, research and record: The initial stage of the analysis process is to identify what already exists using research, observation and surveys. Visiting and spending time at the site and in the surrounding area is an essential part of this process. Some aspects of analysis can be measured and factually recorded but others are about experience of the site and local culture and an interpretation of the impact that it has on all of the senses.

The following subsections of the document identify a range of key topics to be considered in the analysis process. They are organised under four categories shown in Figure 5:

Fig 5. The four categories of site analysis

1 Culture & Community	2 Landscape	3 Movement & Infrastructure	4 Built Form
<ul style="list-style-type: none"> - Site location - Planning context - Surrounding land & building use - Neighbourhood structure - Consultation & engagement - Socio-economics - Market analysis 	<ul style="list-style-type: none"> - Topography - Green & blue infrastructure - Ecology - Ground conditions - Microclimate 	<ul style="list-style-type: none"> - Road hierarchy & access - Public transport - Utilities & infrastructure 	<ul style="list-style-type: none"> - Urban form - History & archaeology - Building scale, height & density - Building character & building traditions

For each topic there is a brief explanation and suggested analysis tools. Further information on these tools is provided in Appendix 2.

Interpret analysis: The most important stage of analysis is the interpretation of all of the information that has been gathered. What difference will all of the information that has been collected about the site and its context make to the proposals?

Interpret analysis - answer the 'So what?' questions

Collate information into a series of plans to summarise findings

A series of 'So what?' questions for each topic will prompt this interpretation in order to usefully inform the design. These questions can be valuable as prompts for pre-application discussions, and preparation and assessment of a design and access statement.

Collate and summarise findings: A series of plans is a helpful way to summarise all of the information that has been collected and interpreted about the site and context. Example plans are provided in the following case studies.

Further reading: Throughout this section, 'Further Reading' references point to other guidance, policy and publications which provide more information. The relevant objectives of good design, as set out in *TAN 12: Design*, are also provided to assist in referencing the objectives in the design process and design and access statement. Readers should be aware that new policy and guidance is produced regularly, and project teams should make sure that they are working with the latest information.

Key: TAN 12 objectives of good design

- A** Access
- C** Character
- CS** Community Safety
- ES** Environmental Sustainability
- M** Movement

Case Studies: Three case studies have been prepared as examples of how to undertake and present the analysis. They have been broken down according to the four categories and are presented at the end of each subsection. The three case studies are based on illustrative sites of different types and scales. The nature of the case studies is as follows:



— **Case Study 1**
Rural, edge of village - an edge of settlement site for proposed residential development



— **Case Study 2**
Urban infill - a site located close to a town centre for proposed residential development



— **Case Study 3**
Town centre plot - an urban site for a public building and public space

 Key: Site location

2.1

Culture & Community

2.1a

Site location

Map the site's location in relation to the nearest settlement(s) and other notable places.

So what?

- 1 Is the site rural or urban in nature and how will the type of development respond to this?
- 2 If the site is residential, how will people travel to work, school and other key facilities? Are these in walking/cycling distance, or would a journey by car or public transport be required or additional facilities required within the development?
- 3 If site is non-residential or mixed use, what is the anticipated catchment? Where will people travel from to get there?
- 4 Is the site near to significant places such as parks, cultural venues, leisure or business locations and is there value in linking to them?

Tools:

Location map, GIS, transport model, LDP

Further reading:

- TAN 12: Design **A** **C** **M**
- *Building for Life 12 Wales*, Question 3
- *Planning for Sustainable Buildings*, p12-13

2.1b

Planning context

Review national and local planning policies, Local Development Plan (LDP) constraints and proposals plans, local Supplementary Planning Guidance (SPG) and the planning history of the site.

So what?

- 1 How do land use designations for the site and surrounding area in the LDP influence proposals for the site?
.....
- 2 How will key policies or guidance be taken into account?
.....
- 3 Does the planning history of the site indicate uses or form/scale/massing that may or may not be appropriate for the site?
.....

Tools:

Planning history, summary of relevant planning policy, map designations

Further reading:

- *Planning Policy Wales*
- *Technical Advice Notes*
- *Local Development Plan*

2.1c

Surrounding land & building use

A review of the functions of buildings and land around the site will inform appropriate uses for the site and how these uses can be arranged best in order to be a good neighbour. Some existing neighbouring uses may produce negative externalities such as noise or smells and appropriate buffer zones or design responses may need to be established. In some cases it will be necessary to consider what future uses are anticipated where further development is expected.

So what?

- 1 What uses are appropriate for the site given the context of surrounding uses?
- 2 Do surrounding land uses pose any limitations that restrict the development of the site e.g. noise, smell, or privacy? What buffer zones or design responses will be required? How will these be treated to add value to the design?

Tools:

Land use plan, buffer zone/mitigation plan

Further reading:

- TAN 12: *Design*, para 4.8 **C**
- *Planning for Sustainable Buildings*, p23
- *A Model Design Guide for Wales, Residential Development*, p27
- *Urban Design Compendium*, p24

2.1d

Neighbourhood structure

A map of facilities within five and ten minute walking distances will help to identify how the future development will relate to the existing neighbourhood structure and what new uses might be required.

So what?

- 1 Will the development become part of an existing neighbourhood and if so how will it help to reinforce that neighbourhood? Who will the future development serve?
- 2 Is there a lack of particular facilities in the area that could be located on the site?
- 3 Could people walk or cycle to facilities and how will these routes be integrated?

Tools:

Map of destinations, isocrone map

Further reading:

- TAN 12: Design **C** **M**
- *A Model Design Guide for Wales, Residential Development*, p27
- *Building for Life 12 Wales*, Questions 2 & 6
- *Planning for Sustainable Buildings*, p12-13

2.1e

Consultation & engagement

Existing occupants know a place best and well-designed engagement will enable the design team to draw on this knowledge as well as develop a sense of local ownership. The Planning (Wales) Act 2015 introduces pre-application provisions that will place a duty on applicants to carry out pre-application consultation with the community and statutory consultees for major developments. The method of engagement, information gained and how the information has been used should be presented.

So what?

- 1 What will change as a result of the knowledge you have gained through consultation?
- 2 How will further engagement be integrated into the lifespan of the project and what approaches will be taken to engage all sections of the community?

Tools:

Engagement meetings/events, local interest groups, access groups, designing out crime officer, village plans, feedback from previous events, Shape My Town

Further reading:

- TAN 12: *Design*, para 3.4 **A** **C** **CS** **M**
- *A Model Design Guide for Wales, Residential Development*, p22
- *Urban Design Compendium*, p20
- *Shape My Town*

2.1f

Socio-economics

The characteristics of the local population will influence how places will be used. For example the age profile, car ownership statistics and ethnic mix of an area will influence how public space, footpaths and public buildings are used. Prevalent instances of crime or antisocial behavior could influence the design of buildings and spaces.

So what?

- 1 What difference (if any) will the local demographics have on the proposed development?
- 2 Are there any distinctive features of the local culture that could be referenced in the proposed development?
- 3 What is the local housing need and what facilities may be appropriate for the area?

Tools:

Statistical analysis, consultation, LDP, community strategy

Further reading:

- TAN 12: Design **A** **CS** **M**
- *A Model Design Guide for Wales, Residential Development*, p13, p26
- *Urban Design Compendium*, p20

2.1g

Market analysis

An assessment of the local property market will help to identify the type and quantum of development that is appropriate for the site. This will include the type, amount and tenure of any residential development and/or the capacity to accommodate commercial, community, employment and other uses. The LDP can also be useful in setting out local requirements. The mix of uses that the site will accommodate will help to shape the design.

So what?

- 1 How many units and what amount of floor space can be accommodated on the site?

- 2 What mix of uses can be accommodated on the site and how can these be used to create a good sense of place?

- 3 How will the vision and design respond to the target market for the development?

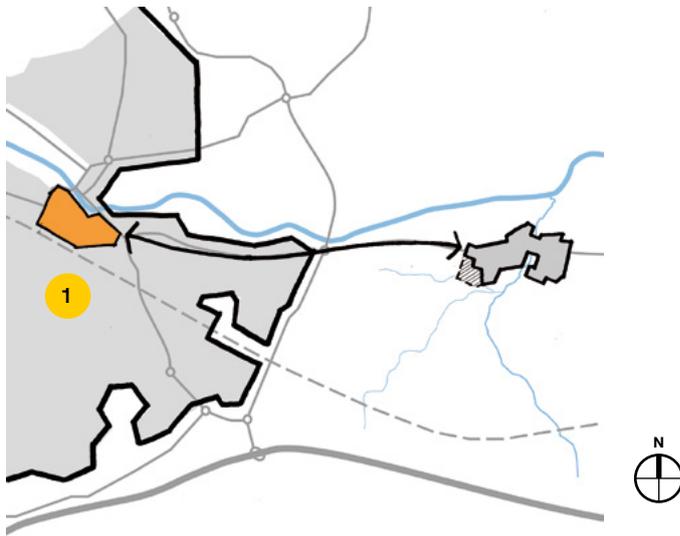
Tools:

Local property market report

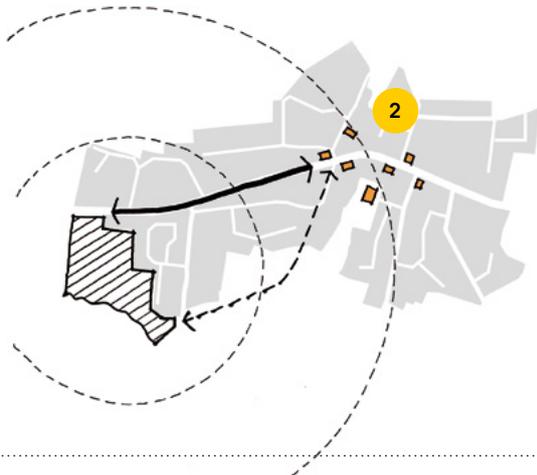
Further reading:

- *Building for Life 12 Wales*, Questions 2 & 4
- *Urban Design Compendium*, p30

Culture & Community
Case Study 1 – Rural, edge of village



1 Site is close to town with wide range of facilities.



2 Local facilities, including a primary school, are within 10min walking distance.

- > There is a known lack of play facilities in the village
- > Good location for housing
- > Site could provide much-needed open space and play facilities to benefit wider community



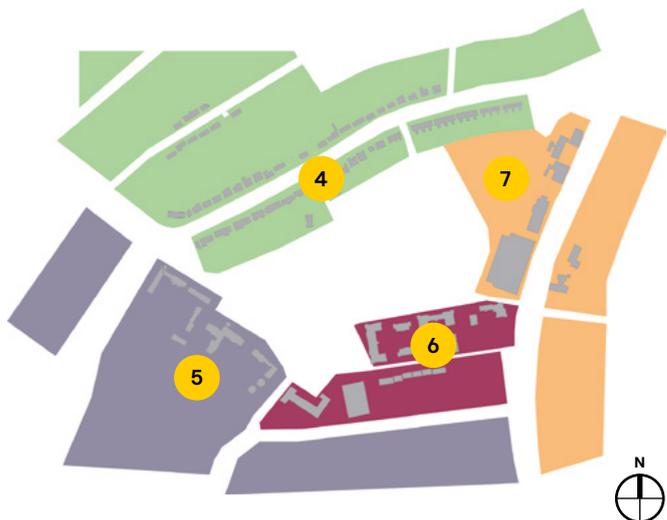
3 Historic maps illustrate that area was known for its orchards

- > Opportunity to incorporate an orchard into the development to strengthen sense of place

Culture & Community Case Study 2 – Urban, infill site



- 1 Centrally located site.
 - 2 In close proximity to shops, services, employment and parks.
 - 3 Surrounded by residential development to north, south and west.
- > Appropriate for residential use which is supported by local planning policy



- Development edges have varied identity:
- 4 Suburban streets to the north.
 - 5 Post-war housing estate to the south-west.
 - 6 Recent high density apartments on infill sites to the south.
 - 7 Mixed uses & surface car park to the north-east
- > Surrounding area is fragmented and has no uniform character. The development needs to establish its own identity.

Culture & Community
Case Study 3 – Town centre plot



Town centre site

- 1 At cross-road of shopping street and...
- 2 ...Area of civic and community building.
- 3 Important cultural building and site of historic gathering point.

> Excellent location for community facility and public square

2.2 Landscape

2.2a

Topography

Plot contours and draw site sections to identify the topographical character of the area (i.e. is it largely flat, sloping, mountainous) and highlight any particularly steep areas.

So what?

- 1 How does the site relate to, and function within, the wider landscape both visually and physically? Is the site visually prominent or isolated from the wider area?
- 2 Would journeys to and from the site involve steep inclines and, if so, how might this be overcome?
- 3 Does the surrounding topography create any prominent views from the site that should be retained/capitalised?
- 4 How are the contours orientated? Streets and buildings are generally best sited either parallel or at right angles to a slope.
- 5 Are there any specific features, such as gullies, dips, mounds or hillocks to be incorporated?
- 6 Are there some parts of the site that are too steep to develop? Would these areas be suitable for other uses e.g. ecology, recreation?
- 7 Is it appropriate to undertake earthworks to change the topography or could a more natural form be retained?
- 8 If earthworks are to be undertaken can the amount of cut and fill be balanced?
- 9 Can level access to entrances be achieved and how will this influence the layout of the site?
- 10 Will a change in level need to be managed within the building(s)?

Tools:

Contour map, sections, photographs, physical model

Further reading:

- TAN 12: Design, paras 4.7, 4.8, 5.5 A C ES
- Planning for Sustainable Buildings, p18, p107
- A Model Design Guide for Wales, Residential Development, p7, p13, p26
- Building for Life 12 Wales, Question 6
- Urban Design Compendium, p25-26, p58

Fig 6.

The view from a site afforded by its topography can add value to a development if it is capitalised (c) DCFW



2.2b

Green & blue infrastructure

Identify and plot significant physical features including existing water bodies, rivers, streams, marshes, lakes, ponds, woodland, fields, hedgerows and trees with their root protection zones within and around the site. Identify any tree preservation orders and determine whether the site is at risk of flooding.

So what?

- 1 Are there features of the wider landscape or along the site boundaries that could or should be extended and/or incorporated into the site design? How should the proposed development relate to these features including landscape edge treatments for the site boundary?
- 2 What on-site features should be retained? What opportunities exist for enhancing green infrastructure? How can they be incorporated to provide greatest amenity and ecological value including providing connectivity of existing green infrastructure assets for people and wildlife (see also 2.2c. Ecology)?
- 3 How might surface water drainage, including sustainable urban drainage systems (SUDS), and any flood mitigation measures be positively integrated?
- 4 What are the open space requirements for the proposed development and how can this best be accommodated in relation to the existing features of the site?

Tools:

Map of features, tree survey, Development Advice Maps (to be used alongside TAN 15)

Further reading:

- TAN 12: *Design*, paras 4.7, 4.8, 4.11, 4.14 **C** **ES**
- *Planning for Sustainable Buildings*, p18, p22, p24, p25
- *A Model Design Guide for Wales, Residential Development*, p7, p13, p25
- *Building for Life 12 Wales*, Questions 5 & 6
- *Urban Design Compendium*, p25-26
- TAN 15: *Development and Flood Risk*
- TAN 10: *Tree Preservation Orders*

Fig 7.
Retention of existing trees provides a mature landscape setting for development (c) DCFW



2.2c

Ecology

Identify features of the site that have ecological value and habitats that must be protected as well as opportunities to enhance the ecological value of the site.

So what?

- 1 How will any protected habitats and landscape features such as wildlife corridors be incorporated and how will the balance between accessibility and preservation be addressed?
- 2 What can be done to enhance and maximise the biodiversity value of the site?
- 3 If land of ecological value is to be lost how will mitigation measures be incorporated?
- 4 How will the proposed development relate to any protected sites or designated landscapes?

Tools:

Map of features and constraints, habitat survey, protected species report, ecological appraisal, EIA studies

Further reading:

- TAN 12: *Design*, paras 4.7, 4.11 **ES**
- *Planning for Sustainable Buildings*, p18, p25
- *A Model Design Guide for Wales, Residential Development*, p7, p25
- *Building for Life 12 Wales*, Question 6
- TAN 5: Nature Conservation and Planning

2.2d

Ground conditions

Identify and plot areas affected by contamination, underground structures, mine shafts and other ground conditions that will impact on the financial or structural viability of future development. Establish the underlying geology of the site. Specialist studies should be undertaken where required.

So what?

- 1 Are there areas that can't be built upon or are suitable for specific land uses only? Are these areas suitable for uses such as open space or habitat improvement?
 - 2 Will specialist ground works or foundations be required and how will the form of the land be changed as a result?
-

Tools:

Historic plans, ground investigation survey, geological/geomorphological/hydrological/hydrogeological reports

Further reading:

- TAN 12: *Design*, para 4.11 **ES**
- *Planning for Sustainable Buildings*, p22
- *Planning Policy Wales*, 13.5, 13.7, 13.9

2.2e

Microclimate

Consider the key elements affecting microclimate, such as the direction of prevailing winds and the sun path across the site. Existing structures, planting and topography can affect microclimate. Understanding microclimate can inform an integrated sustainability strategy.

So what?

- 1 Are there any significant landscape or built features surrounding the site that would have an impact on the microclimate such as providing shelter, creating wind tunnels or overshadowing?
- 2 How will the proposed layout of the site and built forms take advantage of natural solar gain but avoid overheating?
- 3 How will the external spaces be orientated to provide comfortable climatic conditions?

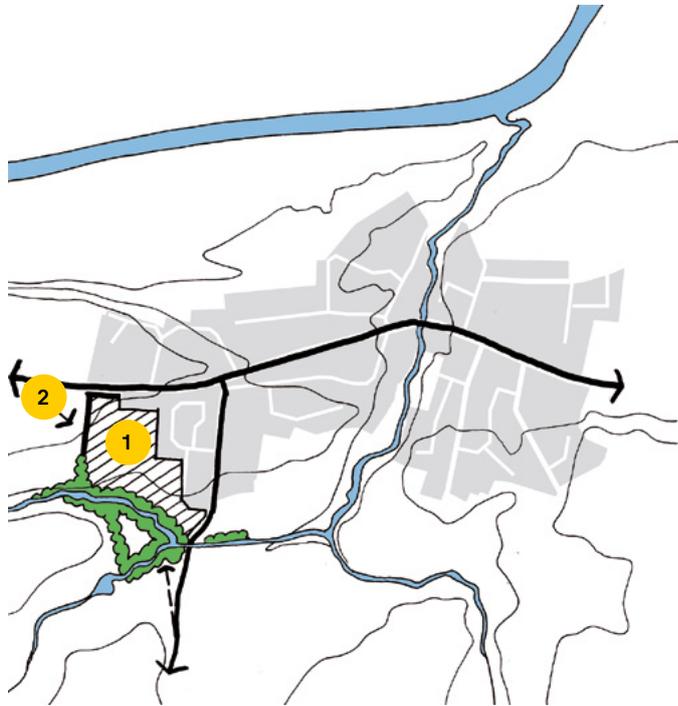
Tools:

3D model, climate analysis plan, site sections, computer modeling

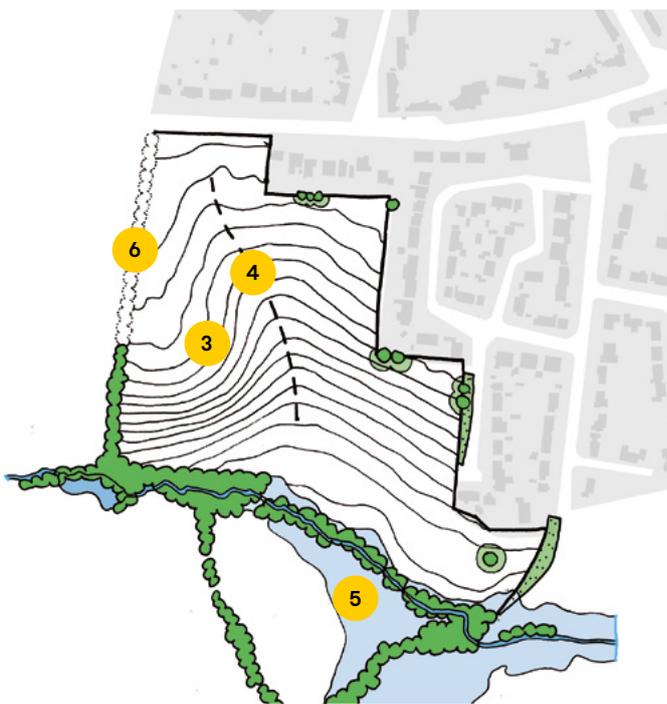
Further reading:

- TAN 12: Design, para 4.7 **ES**
- *Planning for Sustainable Buildings*, p19, p26
- *A Model Design Guide for Wales, Residential Development*, p21
- *Urban Design Compendium*, p25

Landscape
Case Study 1 – Rural, edge of village

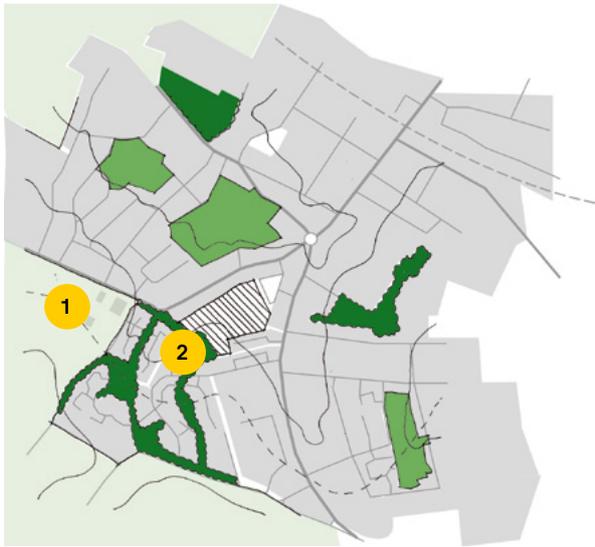


- 1 The topography and existing vegetation limit expansive views of the site.
- 2 Northwest corner visible from main road.
- > Development will be seen as part of the existing settlement.
- > Special attention required to northwest edge to ensure development will complement or enhance settlement character



- 3 The land falls to a stream in the south.
- 4 There is a gentle valley line in the centre of the field.
- 5 The existing stream with associated floodzone and planting to south.
- 6 Historic hedge line has disappeared.
- > Building lines to follow contours, valley line forms natural alignment for the main street accessing the site
- > Stream could form part of a green corridor
- > Historic hedge line could be reinstated to enhance entrance to village and benefit wildlife

Landscape
Case Study 2 – Urban, infill site

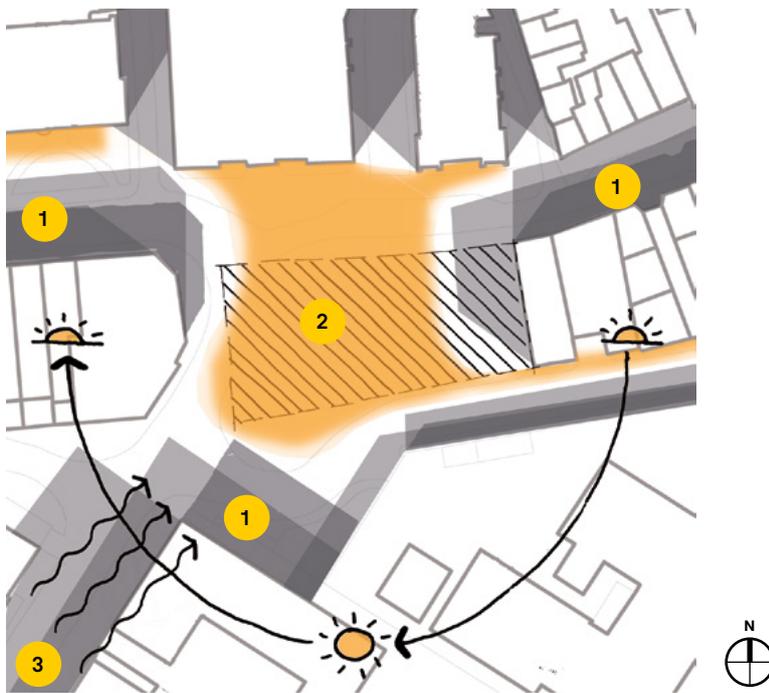


- 1 Site located just below ridgeline, sloping down towards the town centre.
- 2 Established trees/woods separate site from neighbourhood to west.



- 3 Site slopes down to north and east.
 - 4 Views from site across car park towards town centre.
 - 5 Established woodland and mature tree lines along western boundary link site to surrounding roads to north, south and east.
 - 6 Several mature trees within site boundaries.
- > Potential to retain long views towards the town centre and connect site with surrounding development and landscape via established woodland
 - > Street pattern to follow topography
 - > Retain existing trees

Landscape Case Study 3 – Town centre plot



Urban location - limited green space within town centre

- 1 Areas mostly in shade.
 - 2 Areas mostly in sun.
 - 3 Prevailing wind direction.
- > Microclimate of the site is favourable to a comfortable public space.
 - > Building could benefit from solar gain in winter but would need to be protected from over-heating in summer.
 - > Strong, gusty wind conditions could occur around building corners. Wind modelling should be used to test for comfort in public spaces.

2.3

Movement & Infrastructure

2.3a

Road hierarchy & access

Plot surrounding roads, cycle routes, public rights of way and other footpaths as well as existing and future desire lines. Identify the hierarchy of the road network.

Note: For many larger developments a Transport Assessment (TA) would be required to consider issues such as traffic impact, junction capacity, safety etc. The conclusions of the TA would feed into the design analysis.

So what?

- 1 Could the accessibility and legibility of the wider area (town, village, landscape) be improved by creating new routes, either vehicular or pedestrian and cycle only, across the development site?
- 2 If the site connects to main roads through existing development what is the nature of this development and what would the impact on existing inhabitants be? Are there alternative options?
- 3 Where will the main vehicle access point be located? Is there a secondary access? How will the main site access route be incorporated?
- 4 Are there opportunities for pedestrian/cycle access routes to match desire line to nearby destinations?
- 5 Can existing public rights of way be incorporated or is diversion preferred/required?
- 6 Can active travel routes be improved, extended or created?

Tools:

Map, traffic model/simulation, local authority Active Travel Plans

Further reading:

- TAN 12: Design, para 4.13 **A** **M**
- Planning for Sustainable Buildings, p20, p24
- A Model Design Guide for Wales, Residential Development, p9, p27
- Building for Life 12 Wales, Questions 1, 8 & 9
- Urban Design Compendium, p28
- Manual for Streets, p26-31, p41-49
- Planning Policy Wales, Chapter 8
- TAN 18, Chapters 5 & 6
- Design Guidance: Active Travel (Wales) Act 2013

2.3b

Public transport

Plot bus stops and railway stations in the area. Note frequency and destinations.

So what?

- 1 Is the proposed development of a scale that will support and require new public transport stops or routes?
.....
- 2 How will the proposed development density respond to proximity to public transport stops?
.....
- 3 How will safe, convenient and attractive walking routes to public transport stops be integrated into the design?
.....

Tools:

Map, public transport data, consultation with public transport providers

Further reading:

- TAN 12: *Design*, paras 4.7, 4.13, 5.9.3 A M
- *Planning for Sustainable Buildings*, p27
- *A Model Design Guide for Wales, Residential Development*, p27
- *Building for Life 12 Wales*, Question 3
- *Urban Design Compendium*, p28
- *Manual for Streets*, p41, p72-73
- *Planning Policy Wales*, paras 8.1, 8.3, 8.7
- TAN 18, Chapter 7

2.3c

Utilities & infrastructure

Establishing the existing supplies of water, power and communications in the area as well as foul and surface water drainage capacity will determine the quantum of new development that could be accommodated within the existing provision or the costs associated with upgrading.

So what?

- 1 Does the existing capacity limit the number of units that can be accommodated on the site?
.....
- 2 If new infrastructure is required where is a logical place for it go?
.....
- 3 Do existing substations or underground or overhead utilities prevent development of any parts of the site and how will the proposed development address these routes?
.....
- 4 How can sustainable surface water drainage be incorporated?
.....

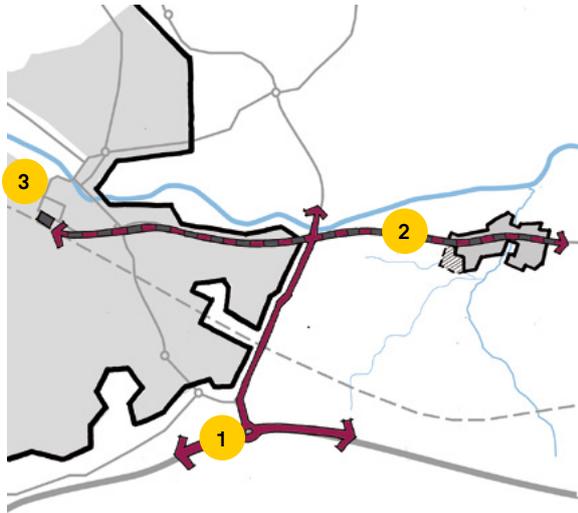
Tools:

Utility capacity surveys, engage utility providers, site survey

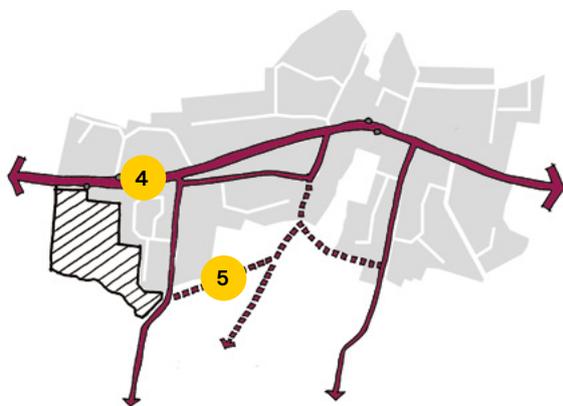
Further reading:

- *Planning for Sustainable Buildings*, p26
- *Manual for Streets*, p18, p131-132
- *Planning Policy Wales*, Chapter 12

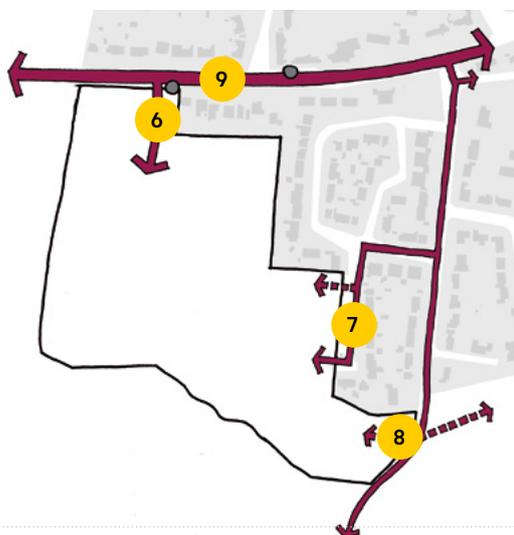
Movement & Infrastructure Case Study 1 – Rural, edge of village



- 1 Site is in easy reach of motorway and wider road network.
- 2 Most traffic would travel west and therefore not go through settlement.
- 3 Existing bus service to main town and railway station.



- 4 Site fronts onto main road.
- 5 Existing footpath to the southeast of the site.



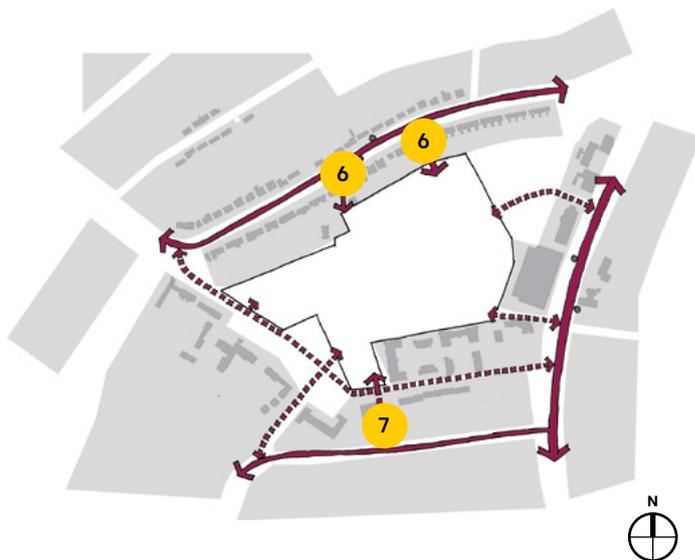
- 6, 7, 8 Several potential access points to existing streets.
 - 9 Bus stops in close proximity of the site.
- > No need for major infrastructure works to facilitate development
 - > Main access point from north, with further local connections (pedestrian, cycle and emergency vehicles) to south east



Movement & Infrastructure
Case Study 2 – Urban, infill site

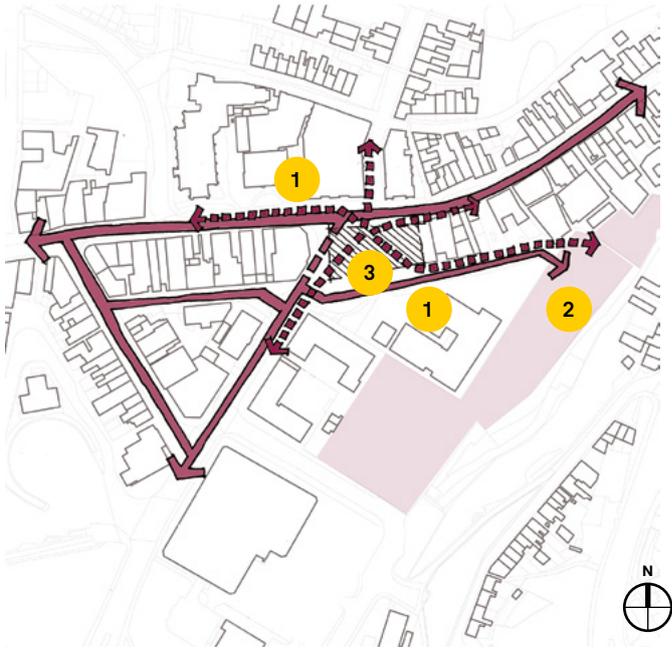


- 1 Site lies close to main town road with easy access to town centre and regional road network.
- 2 Bus services on roads to north and east of the site.
- 3 Site is 15min walk from railway station.
- 4 A network of footpaths run along or up to the site boundary.
- 5 Site and surrounding area is barrier to pedestrians from the neighbourhood to the southwest.



- 6 Site has no direct road frontage. There is one existing and a further potential access point to street to north.
 - 7 Potential third access to south, following proposed site redevelopment.
- > Access to road network constraint – all access from residential street to north
 - > Many potential connecting points to surrounding footpaths
 - > Opportunity to use site to facilitate through movement and improve connectivity of surrounding estates

Movement & Infrastructure
Case Study 3 – Town centre plot



- 1 Traffic calmed streets to north and south of site.
- 2 Car parking to east generates high footfall around the site.
- 3 Pedestrian desire lines cross the site.



- 4 Existing road with potential to be closed for traffic.
- 5 Utilities corridor - no building within 3m on either side.
- > Opportunity to create building and public space that accommodates desire lines

2.4 Built Form

2.4a

Urban form

Map the pattern of streets, buildings, public and private space in the area surrounding the site. Highlight the orientation of the buildings around the site.

So what?

- 1 What is the site's location in relation to surrounding development (e.g. edge of town development, infill site, stand-alone development)? What are the opportunities to enhance the existing urban form?
- 2 Is there a clearly defined pattern of streets and blocks and could/should this be continued on the development site?
- 3 Can existing streets or building frontages be extended into the site?
- 4 Where should the fronts and backs of new development be located in relation to what exists around the site to maintain a clear sense of public and private space and create a secure development?
- 5 What distance should the new development be set back from existing buildings?

Tools:

Block plan, figure ground plan, building orientation plan

Further reading:

- TAN 12: Design, paras 4.10, 4.14 **C** **CS** **M**
- A Model Design Guide for Wales, Residential Development, p8, p13, p16, p25
- Building for Life 12 Wales, Questions 6, 7 & 11
- Urban Design Compendium, p24
- Local design guidance or SPG

2.4b

History & archaeology

Every site is rooted in the history of its locality and the development of a site should take account of this and, where appropriate, reflect this history. This could take many forms such as retaining historic features on the site or reflecting historic building lines. This will help to create a sense of place and identity for the development, it will continue the narrative of the site, and will add value. The site may also have archaeological importance that needs to be protected and interpreted.

So what?

- 1 How has the area developed over time? Are there street or building patterns that were once prevalent and could be restored to improve town-wide legibility and connectivity?
- 2 Are there any historic physical or cultural features that characterised the area and that can help to establish an identity for the future?
- 3 What story can the development of the site tell about the history of the area?
- 4 How do any archaeological features influence the location and layout of the proposed development?
- 5 What historic features can/need to be retained on the site and how will they be integrated?
- 6 Are specialist skills and/or knowledge required to better understand and interpret the history of the site?

Tools:

Inventory of historic features, timeline of significant events, historic maps, photos and paintings, consult Cadw

Further reading:

- TAN 12: Design, para 4.8 **C** **M**
- A Model Design Guide for Wales, Residential Development, p9, p27
- Building for Life 12 Wales, Question 5
- Understanding Character, Cadw

2.4c

Building scale, heights & density

Identify the scale, height and density of surrounding development to guide the parameters for future development and the quantum of development that can be accommodated. Map key buildings or landmarks visible from the site.

So what?

- 1 What are the appropriate parameters for scale, height and density on the site? Should they be the same as the surroundings or is there potential/merit to deviate?
- 2 Should the height or density of the development vary in response to surrounding development, the topography of the site or public transport connections where it may be appropriate for the location of higher density development?
- 3 Are there views of landmarks that should be maintained?
- 4 Could the landmarks be used to structure the layout of the site?

Tools:

Density calculations, building heights plan, site and context sections, street elevations

Further reading:

- TAN 12: Design **C**
- *A Model Design Guide for Wales, Residential Development*, p10
- *Building for Life 12 Wales*, Question 8

Fig 8.
The scale and character of existing dwellings (left) informed the design of new residential units (right) in Icon, Somerset (c) DCFW

In other locations it may be appropriate for the scale to be different to the context



2.4d

Building character & building traditions

Prevalent building forms, architectural character, boundary treatments and building materials should be analysed and interpreted. Dominant local building materials and building forms may be identified to influence the design of future buildings.

So what?

- 1 Are there aspects of the local built character that could inform the proposed development? How will they be used?
- 2 Is there a very strong palette of local materials? Is it still relevant to use these materials today (e.g. are they still available locally and can they achieve the performance standards required for the proposed development?)
- 3 How is the vision for the development interpreted in relation to the local building context?
- 4 What would be a contemporary interpretation of traditional approaches to local character?

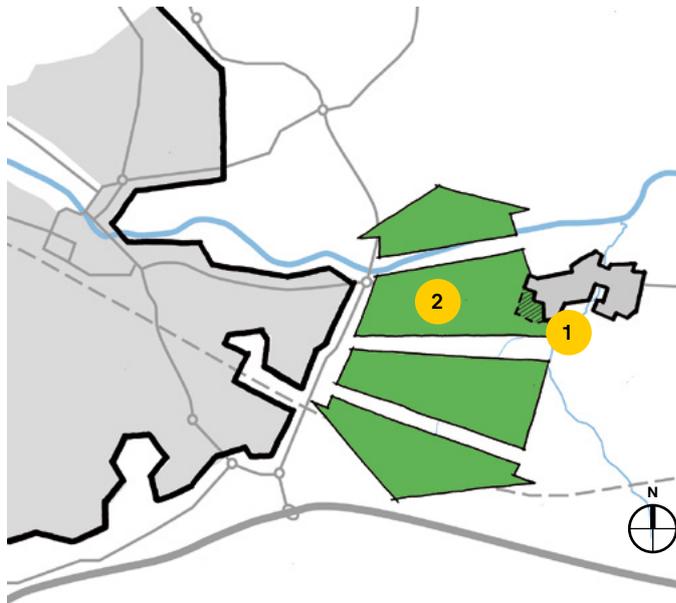
Tools:

Photography, building/street elevations, local guidance

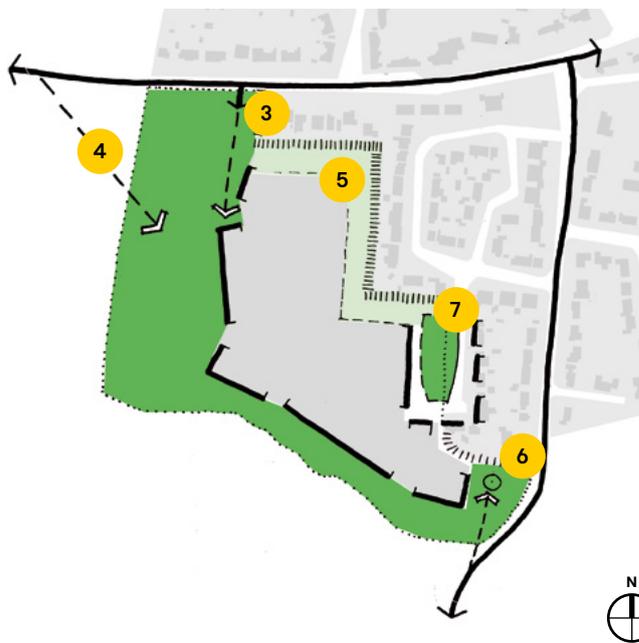
Further reading:

- TAN 12: *Design*, paras 4.8, 4.9 **C**
- *A Model Design Guide for Wales, Residential Development*, p25
- *Building for Life 12 Wales*, Question 5
- *Urban Design Compendium*, p24

Built form
Case Study 1 – Rural, edge of village

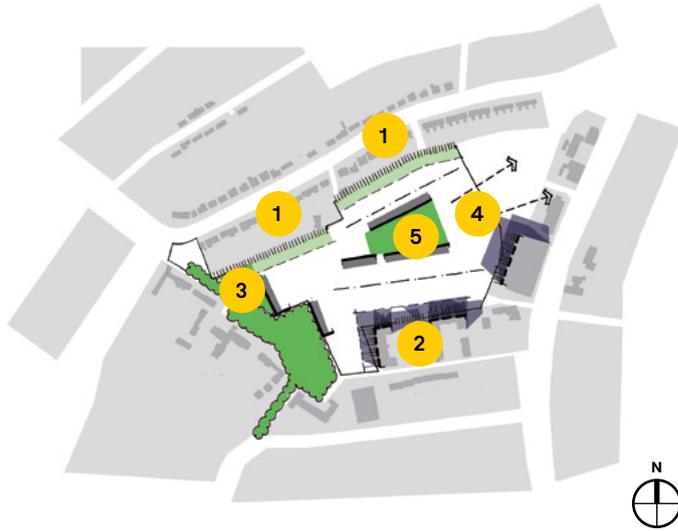


- 1 Site located on edge of settlement.
- 2 Site located in 'green gap' separating settlement from main town.
- > Impact of development on separation to be minimised



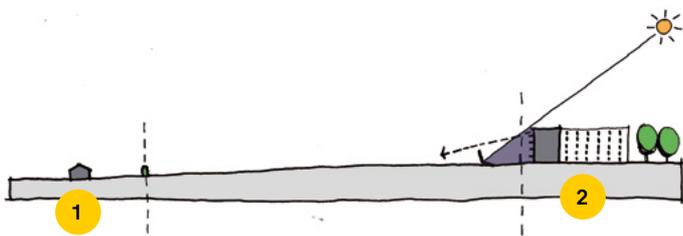
- 3 Currently settlement appears to end at the last house along main road.
- 4 Unattractive settlement edge formed by backs of houses.
- 5 Private gardens back onto site leaving rear boundaries vulnerable.
- 6 Attractive green and informal entrance to settlement from south.
- 7 Area of retained green space.
- > Minimise impact on green gap by not protruding beyond last house.
- > Introduce development frontages to create attractive approach to village from main road
- > Introduce setback to retain privacy of existing gardens
- > Safeguard existing character of southern approach by setting development back from the road
- > Extend retained green space to create small square

Built form Case Study 2 – Urban, infill site



Surrounding development of diverse character, density, height, mass and orientation. Development of site edges require varied response:

- 1 One and two storey dwellings with private gardens: Introduce setbacks to respect privacy of existing residents.
 - 2 Four-five storey apartment blocks: Introduce setbacks to avoid overlooking and overshadowing.
 - 3 Woodland edge: Position homes to overlook and extend woodlands and make it part of the development.
 - 4 Surface car park on downward slope: Orientate buildings to allow views through to town centre.
- > Opportunity to introduce a triangular space at the centre of the site to link edges of varied character and shift in alignment.



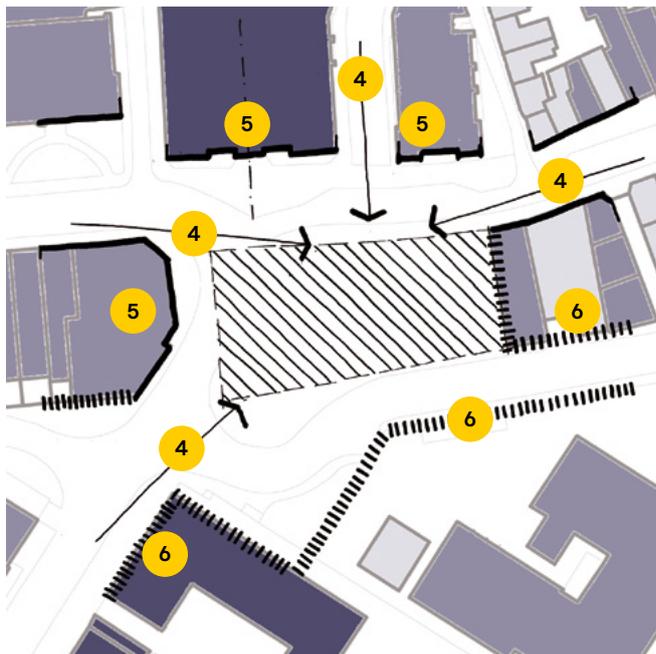
Large variety of architectural styles and use of materials in area

- > Opportunity for new development to create its own identity

Built form
Case Study 3 – Town centre plot



- 1 Fine urban grain along the east-west approach to the site.
- 2 Large individual buildings immediately around the site.
- 3 Historic building line.



Buildings around the site vary in height – four to five storey buildings surrounding the square (dark purple), smaller and lower buildings in streets leading up to the site (light purple).

- 4 Future building would terminate long views from main pedestrian approaches.
- 5 Attractive frontages to north and west.
- 6 Backs of buildings and plain/closed facades to south and east.

- > Building to respond to the scale and grain of east-west street and be of sufficient height and stature to hold its own against the larger, formal buildings surrounding the square
- > Building to respond to long vistas from main pedestrian routes



Section 3

3 Informing design

3.1

Understanding findings

Assessing all of the relevant aspects of the site under the four main categories outlined in the previous section provides the opportunity to consider and understand the opportunities and constraints that the site presents. It is now important to consider all of the aspects together to identify the main influences on the design process.

As well as mapping the analysis it is important to consider what has inspired you about the site and its context.

Generally there will be three to four key themes that emerge from the analysis process that will drive the design. What these themes are cannot be dictated by this guide.

3.2

Defining the development area

At this stage it will be possible to have a clearer idea of the developable area of the site. The developable area will need to take into account the constraints and also any open space, structural landscaping and drainage requirements. Once the development area has been established the quantum of proposed development can be reassessed based on development density.

3.3

Refining the vision

The vision is about the type of place that is being created, its qualities and character and this should respond to the site itself. The analysis process may have provided inspiration for a new approach to the design or highlighted features of the site or its context that should inform the nature of the development and therefore the vision needs to be revised or refined.

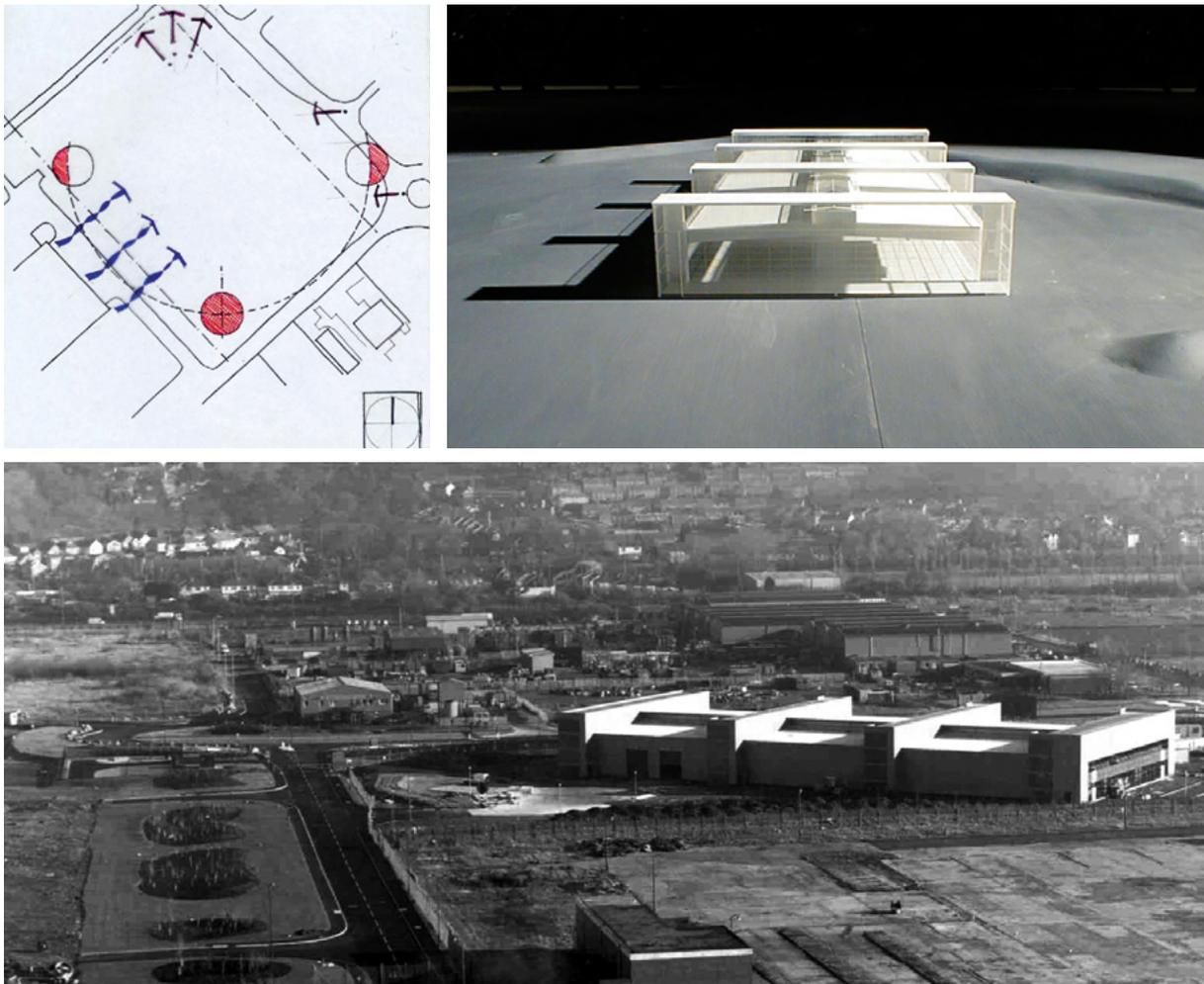
3.4

Testing concepts & ideas

The analysis plans can be used as the basis to develop concepts and ideas of how to fulfil the brief and respond to the vision in plan form. It is possible that some of the findings of the analysis conflict with each other or good practice design principles, for example orientation for passive solar gain may conflict with the topography of the site or the orientation of existing buildings, therefore different options will need to be tested to identify which element is a priority.

Fig 9.

Following site analysis, environmental modelling and testing which took many aspects into consideration, and in line with the brief for the building, the decision was made to orientate the Baglan Eco Factory to maximise daylight and energy efficiency rather than align with the existing urban grain (c) Design Research Unit, Cardiff University



3.5

Site design framework

Preparing a design framework is a useful step following the site analysis as it starts to combine results of context and site analysis with the project vision and brief. The process of building the framework will provide an opportunity to test the project business case against what is feasible and appropriate on the site and may lead to further refinement of the brief.

Mind the Gap! **Ensure that there is a clear link between the analysis and design proposals.**

The framework sets the structure for the design. In response to the analysis and vision it will identify aspects such as the following:

- Access points
- Movement hierarchy
- Distribution of uses
- Variety in density
- Significant spaces
- Structural landscaping
- Important frontages and entrance locations
- Building orientation

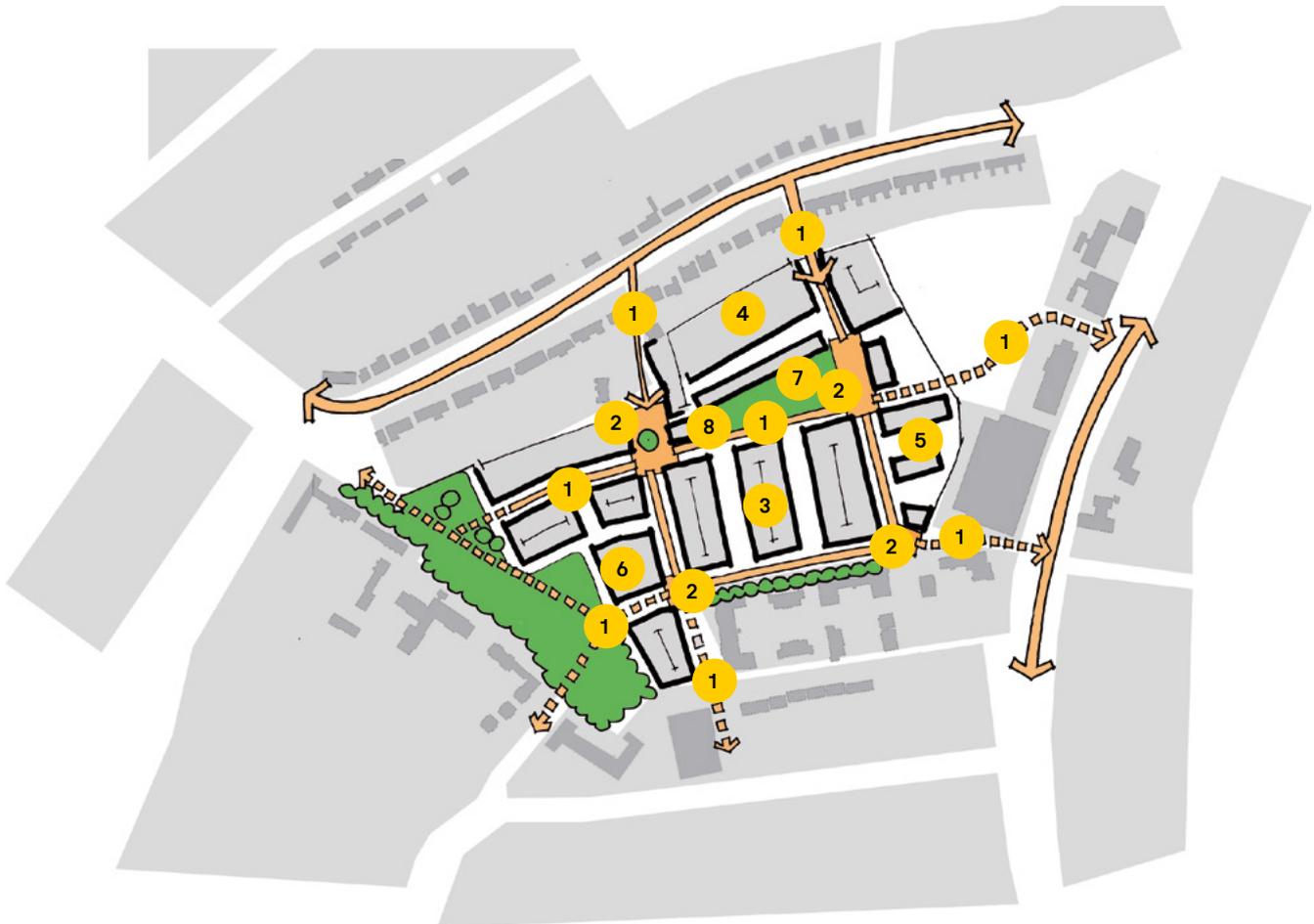
A framework plan for each of the case studies is presented on the following pages and indicates how this can be approached.

Case Study 1 – Rural, edge of village Framework



- 1 Community orchard and playground provide much-needed open space facilities to settlement
- 2 New homes in line with existing development - green gap retained
- 3 Homes overlook open space and form attractive edge to settlement
- 4 New homes back onto existing back gardens - privacy retained
- 5 Housing set back from river corridor and floodzone
- 6 New homes orientated to define and enhance existing green square
- 7 Main vehicle access from main road follows dip in topography
- 8 Secondary access for emergencies only
- 9 Footpath links to local street and footpath

Case Study 2 – Urban, infill site Framework



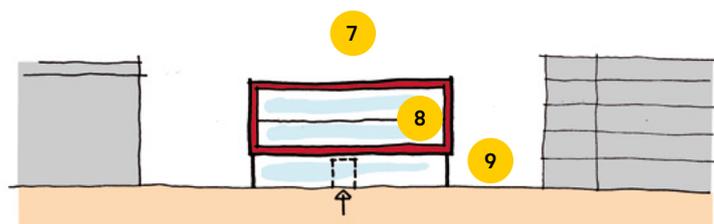
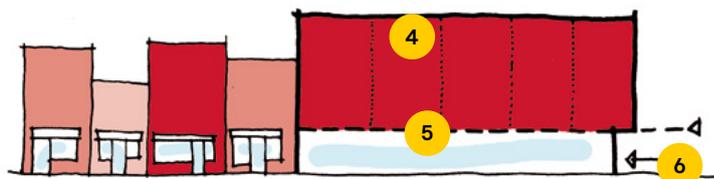
- 1 New streets and footpaths aligned to follow contours, and create convenient and legible routes linking the site with the surrounding development thus improving access to the town centre for residents in existing estates to south west
- 2 Small square at cross-roads to increase sense of place

Homes positioned to overlook routes and appropriate in scale and character to development along the site edges:

- 3 Terraced housing to the south perpendicular to high rise blocks

- 4 Terraced housing backing onto existing back gardens
- 5 Apartment blocks to east orientated to retain views through to town centre
- 6 Larger homes orientated towards the woodlands, to benefit from woodland setting and improving security of woodland paths
- 7 Triangular green space in centre of the site links various character areas of the new development and creates a sense of place
- 8 Landmark building to further strengthen identity of the development

Case Study 3 – Town centre plot Framework



Suitable location for public space and building with public use

- 1 Locate building to eastern part of the site to follow historic building line and avoid utilities corridor
- 2 Locate public space to western part of the site taking advantage of attractive micro-climate and opportunity to close existing street to traffic
- 3 Diagonal building line would reinforce pedestrian desire line, but could create awkward internal layout.

Arrange internal layout to realise opportunities presented by site:

- a Locate main entrance onto square to catch passing footfall
- b Introduce cafe on square
- c Introduce exhibition space on high street

Elevations to respond to established built form:

- 4 Building height should complement surrounding buildings.
- 5 High street: Continue existing building line and enclose view from High Street.
- 6 Detail and rhythm of elevation to match fine-grained high street, including differentiation between ground and upper floors.
- 7 Square: Strong / bold design that addresses the scale of the space and other buildings around the square.
- 8 Extensive use of glass in south-western facade to help maximise solar gain. Overhang and vertical elements to control heat in summer.
- 9 Southern facade more enclosed - an attractive "back" that could also include entrance for services and deliveries.

> Building to address and terminate key views towards the site.

3.6

Planning application

The analysis plans and framework plan resulting from the analysis process would support a planning application for the proposed development as they will demonstrate how the design has taken into account the site and its context. This can be presented in the design and access statement (DAS).

Presenting analysis in a series of easily readable images and plans, as illustrated in the case studies, will help the reader to understand the site and the aspects that have driven the design. Lengthy, descriptive text should be avoided where it does not add value to the graphics provided.

In line with guidance on DAS, the document should be clear, concise, and informative. This guidance document provides a sound basis for structuring the site and context appraisal section of the DAS including setting out the site location, the vision for the development, site and context analysis and design framework. The references to the five objectives of good design as outlined in TAN 12 provided in Section 2 of the document enable easy reference when explaining in the DAS how the proposal has responded to these objectives.

“A design and access statement must...demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account..”

The Town and Country Planning (Development Management Procedure) (Wales) Order 2012

Further reading:

- *Design and Access Statements in Wales*, 2014, DCFW
- *Planning Policy Wales*
- TAN 12

3.7

Guidance for local planning authorities

This guidance can be useful for local planning authorities in the following contexts:

Design/development briefs: a site specific brief should be informed by a site and context analysis. In preparing or commissioning a design or development brief the local planning authority should ensure that a thorough analysis has been undertaken resulting in a vision for the site and design principles as outlined in this document. In some instances it might be appropriate to produce an indicative framework plan as shown in the case study examples.

Pre-application meetings: at the pre-application stage the 'So What?' questions can provide a prompt in discussions with developers and designers to ensure that they have understood the site and its context and are responding to the unique features that the site presents. The questions are designed to ensure that the features have not simply been identified but have been interpreted and considered in the proposals for the site. It will not be practical to go through all of the questions so those most relevant to the site and proposed development should be the focus.

Planning application: in assessing the appearance, function, scale and relationship to surroundings of a proposed development it is necessary to identify whether adequate site and context analysis has been undertaken and considered. Whilst not all of the topics covered in this document will be relevant to all sites, it sets out an expectation of thorough and informative analysis which should be evident in any planning submission.

Appendices

Appendix 1

Further reading

This document focuses on the site analysis stage of the design process but assumes an appreciation of and commitment to good design. There are a range of documents that set out the principles of good design which have not been repeated here but should be referred to:

- **Planning Policy Wales**
<http://gov.wales/docs/desh/publications/150924planning-policy-wales-edition-7-en.pdf>
- **TAN 12: Design**
<http://gov.wales/docs/desh/publications/140731technical-advice-note-12-en.pdf>
- **Practice Guidance: Planning for Sustainable Buildings**
<http://gov.wales/docs/desh/publications/150311practice-guidance-planning-for-sustainable-buildings-en.pdf>
- **Manual for Streets**
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3891/pdfmanforstreets.pdf
- **Model Design Guide for Wales**
http://cdn.dcfw.org.uk/posw_residential_guide1.pdf
- **Building for Life 12 Wales**
<http://dcfw.org/building-for-life-12-wales/>
- **Urban Design Compendium**
http://cfg.homesandcommunities.co.uk/sites/default/files/book/udc/community-engagement/1110_udc1_final_artwork_120306-optimized.pdf
- **Building Regulations Wales**
<http://gov.wales/topics/planning/buildingregs/?lang=en>
- **Shape My Town**
<http://www.shapemytown.org/>
- **Design and Access Statements in Wales - What, Why and How**
<http://dcfw.org/design-and-access-statements-in-wales/>
- **Design Guidance: Active Travel (Wales) Act 2013**
<http://gov.wales/docs/det/publications/141209-active-travel-design-guidance-en.pdf>

In relation to specific site surveys:

- **TAN 5: Nature Conservation and Planning**
<http://gov.wales/docs/desh/policy/100730tan5en.pdf>
- **TAN 10: Tree Preservation Orders**
<http://gov.wales/docs/desh/policy/971001tan10en.pdf>
- **TAN 11: Noise**
<http://gov.wales/topics/planning/policy/tans/tan11/?lang=en>
- **TAN15: Development and Flood Risk**
<http://gov.wales/topics/planning/policy/tans/tan15/?lang=en>
- **TAN18: Transport**
<http://gov.wales/docs/desh/publications/070301tan18en.pdf>
- **Contaminated Land Statutory Guidance (2012)**
<http://gov.wales/docs/desh/publications/130712contaminated-land-statutory-guidance-2012-en.pdf>
- **Welsh Government Development Advice Map (DAM) which supports TAN 15 and PPW**
<http://data.wales.gov.uk/apps/floodmapping/>
- **Natural Resources Wales mapping of flood risks in Wales.**
<http://naturalresourceswales.gov.uk/alerts/whats-my-flood-risk/?lang=en>
- **A Noise Action Plan for Wales**
<http://gov.wales/docs/desh/publications/131217noise-action-plan-for-wales-en.pdf>
- **Conservation and Biodiversity**
<http://gov.wales/topics/environmentcountryside/consmanagement/conservationbiodiversity/eiahome/?lang=en>
- **Biodiversity**
<http://www.biodiversitywales.org.uk/en-GB/Planning>
- **Environmental Impact Assessment**
<http://gov.wales/topics/planning/developcontrol/environmental-impact-assessment/?lang=en>
- **Landscape Institute and the Institute of Environmental Management and Assessment, Guidelines for Landscape and Visual Impact Assessment**, GLVA, Routledge 2013, ISBN 978-0-415-68004-2
- **Environmental Site Layout Planning: Solar Access, Microclimate and Passive Cooling in Urban Areas**, BRE (2000)
- **Landmap**
<http://landmap.ccw.gov.uk/map/Map.aspx>

Further reading on site analysis techniques and theory:

- Gerrit Schwalbach, *Urban Analysis*, (Basel: Birkhauser, 2009)
- Genevieve S. Baudoin, *Interpreting Site* (New York: Routledge, 2016)
- Eric Parry, *Context: Architecture and the Genius of Place* (Chichester: John Wiley & Sons Ltd, 2015)
- Marichela Sepe, *Planning and Place in the City: Mapping Place Identity* (Oxon: Routledge, 2013)
- Suzanne Ewing, Jeremie Michael McGowan, Chris Speed & Victoria Clare Bernie, *Architecture and Field/Work* (Oxon: Routledge, 2011)
- Caroline O'Donnell, *Niche Tactics: Generative Relationships Between Architecture and Site* (New York: Routledge, 2015)
- Christopher Tilley, *a phenomenology of landscape* (Oxford: Berg, 1994)

Appendix 2

Analysis & presentation tools

Diagrams

Often the clearest method of representing the information gathered so that it can be quickly interpreted is to use diagrams. A diagram might be overlaid on a map, plan or section.



Fig 10
Microclimate analysis diagrams, Porth Teigr, Cardiff Bay, Loyn & Co Architects

Mapping

Maps are useful source of information as well as a recognised method of presenting site analysis. It can be helpful to pick out particular features such as paths, watercourses, boundaries or buildings.



Fig 11

Water and green space analysis, urban grain and routes analysis maps, Porth Teigr, Cardiff Bay, Loyn & Co Architects

Historic maps

Finding out how a place has developed over time by looking at historic maps can provide clues about how it might best be developed in the future.

Local Planning Authority website/records

Use local authority resources on-line to look up development plans and previous planning applications.

Photography

Photographs can help explain the nature of a site and the character of its surroundings. Photographs can be used to document particular features of the site that provide character.



Fig 12

Photographic analysis of site and context, Porth Teigr, Cardiff Bay, Loyn & Co Architects

Aerial views

To give a better understanding of the nature of a site and its surroundings, it can be helpful to use aerial views.

Descriptive

Words can be used to add detail to information which is graphically represented. Descriptions should be concise, avoiding long sections of text which take a long time to read.

Interviews

Speaking to local people can be fruitful in finding out about a place. Making sure interviews are well-planned and focussed will make them more useful.

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