

DESIGN AND ACCESS STATEMENT

Dennis Ruabon, Hafod Tileries, Johnstown

June 2013



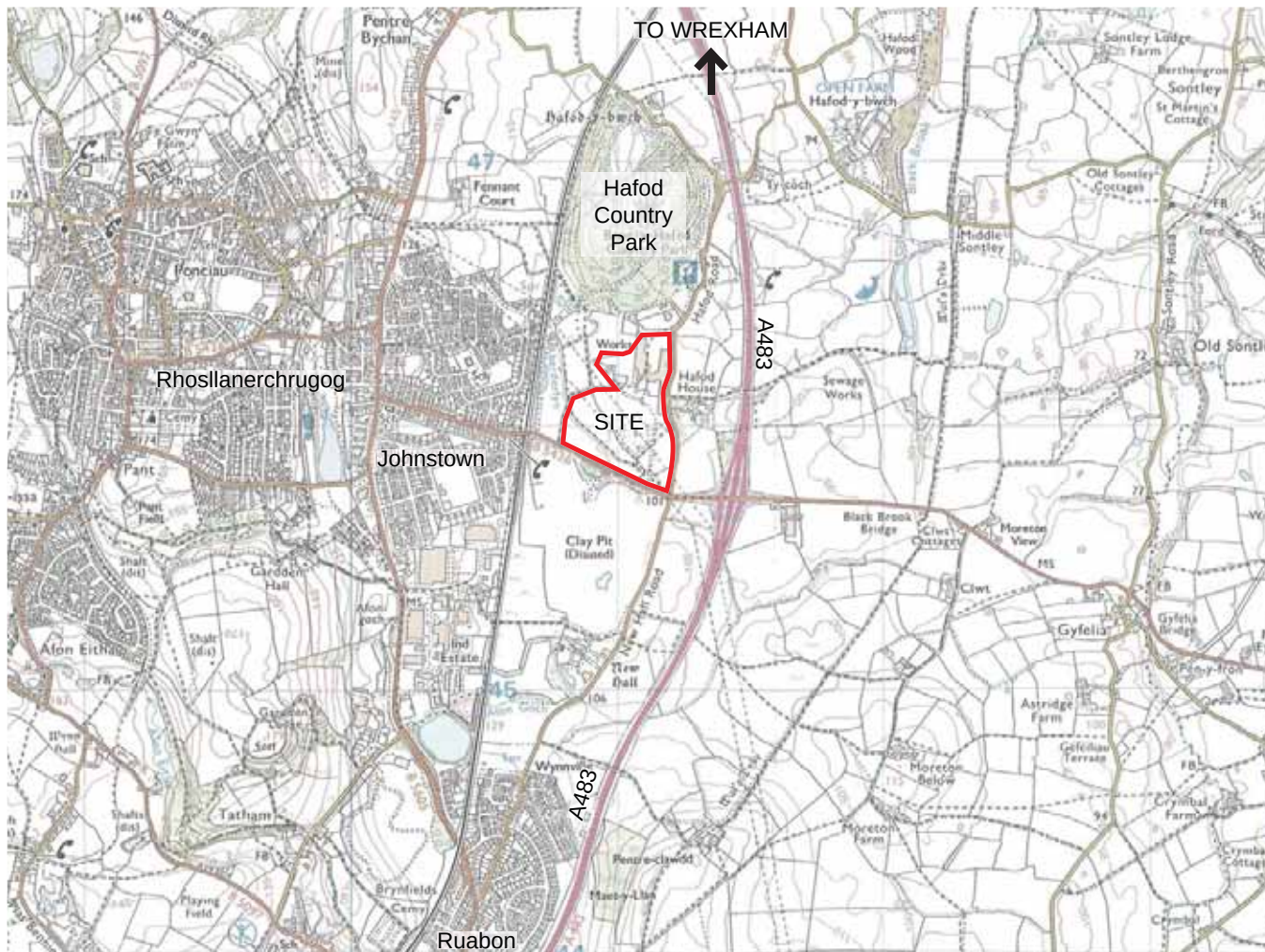


FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH ■ t: 01509 672772 ■ f: 01509 674565 ■ e: mail@fpcr.co.uk ■ w: www.fpcr.co.uk
masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture

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01. INTRODUCTION



Introduction and Purpose

This Design & Access Statement (DAS) accompanies the Outline Planning Application made by Gladman Developments Ltd.

The application is for a high quality development of up to 300 new homes, a local store, employment area and significant Green Infrastructure on brownfield land at Dennis Ruabon, Hafod Tileries, Johnstown. The application site covers an area of approximately 17.34ha of land and the site location is shown on the adjacent plan.

Design and Access Statements are required by the Planning and Compulsory Purchase Act 2004. The purpose of this document is: to provide information concerning the design evolution of the development; to outline the broad design principles that have led to the form and type of development proposed and; to set the application site in context with its surroundings. This document should be read in conjunction with the Planning Statement (PS) and the Transport Assessment (TA) accompanying the planning application.



Figure 01: Site Location Plan
N.T.S

01. INTRODUCTION

Design and Access Statement Methodology

The Design and Access Statement (DAS) and the detail within follows specific requirements for Design and Access Statements in Wales, which are set out in The Town and Country Planning (Development Management Procedure) (Wales) Order 2012.



The Order sets out that an application for planning permission must be accompanied by a statement explaining:

- The design principles and concepts that have been applied to the development; and
- How issues relating to access to the development have been dealt with.

In relation to design, the DAS explains the design principles and concepts that have been applied to the following aspects of the development:

- Environmental Sustainability;
- Movement to, from and within the development;
- Character; and
- Safety;

The DAS also demonstrates the steps taken to appraise the context of the development and how the design of the development takes that context into account in relation to its proposed use and each of the above aspects.

In relation to access, the DAS explains:

- The policy or approach adopted as to access and how policies relating to access in the development plan have been taken into account;
- How any specific issues which might affect access to the development have been addressed; and
- How features which ensure access to the development are maintained.

This statement includes a Framework Plan, which underpins the Illustrative Masterplan which in turn encapsulates the disposition of land uses, development block structure, street layout, indicative plot arrangement and landscape structure or Green Infrastructure.

Green Infrastructure is currently not specifically referred to within Welsh Planning Policy. However, WCBC are in the process of preparing a Green Infrastructure Network Strategy which will provide guidance for improving the use of green spaces within urban areas as well as the urban fringe. Is it intended that this emerging document will become Supplementary Planning Guidance as part of the Local Development Plan for Wrexham County Borough and is likely to be available for consultation during 2013.

02. PLANNING CONTEXT

Planning Policy

There is a wealth of design documentation and core reading, which provides a rich source of Best Practice design guidance for new development. Some of the principal documents, which have informed the design strategy are as follows:

- Planning Policy Wales (PPW) Edition 5 (November 2012)
- Technical Advice Notes (TANs)
- A Model Design Guide for Wales (2005)
- Manual for Streets 2 (DCLG)

A detailed assessment of the planning policy framework is set out in the Planning Statement, which accompanies the planning application. This section focuses on the local planning policies most relevant to the design and access proposals for the development.

Planning Policy Wales (PPW) Edition 5 Nov 2012

PPW sets out the Welsh Government's economic, social and environmental planning policy. The main theme of the Policy is a presumption in favour of sustainable development.

PPW sets out sustainability objectives which "reflect the vision for sustainable development" to which planning policies, decisions and proposals should adhere, these include:

- *Promote resource-efficient settlement patterns.... especially through preference for the re-use of suitable previously developed land, wherever possible avoiding development on greenfield sites;*
- *Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems. In particular, planning should seek to ensure that development does not produce irreversible harmful effects on the natural environment and support measures that allow the natural heritage to adapt to the effects of climate change. The conservation and enhancement of statutorily designated areas and of the countryside; the conservation of biodiversity, habitats and landscapes; and enhancement*

of the urban environment all need to be promoted;

- *Promote access to employment, shopping, education, health, community, leisure and sports facilities and open and green space, maximising opportunities for community development and social welfare;*
- *Foster social inclusion by ensuring that full advantage is taken of the opportunities to secure a more accessible environment for everyone that the development of land provides;*
- *Contribute to the protection, and where possible, the improvements of people's health and well-being as a core component of sustainable development..."*

Technical Advice Notes (TANs)

Planning Policy for Wales is supported by a total of 21 Technical Advice Notes (TANs). Those relevant to the DAS and considered as part of the design process include:

- Technical Advice Note 5: Nature Conservation and Planning (2009)
- Technical Advice Note 12: Design (2009)
- Technical Advice Note 16: Sport, Recreation and Open Space (2009)

02. PLANNING CONTEXT

Technical Advice Note 12: Design (2009) provides advice on the promotion of sustainability through good design, key objectives of which include:

- Sustaining or enhancing local character;
- Promoting legible development;
- Promoting a successful relationship between public and private space;
- Promoting quality, choice and variety;
- Promoting innovative design;
- Ensuring attractive, safe public spaces;
- Security through natural surveillance;
- Enhancing biodiversity;
- Promoting sustainable means of travel.

Other Technical Advice Notes (TANs), which would be adhered to, include:

- TAN 2: Planning and Affordable Housing (2006)
- TAN 15: Development and Flood Risk (2004)
- TAN 18: Transport (2007)
- TAN 21: Waste (2001)
- TAN 22: Sustainable Buildings (2010)

Wrexham Unitary Development Plan (2005)

Although the UDP has now reached the end of its effective date, it is the most up-to-date statutory development plan for Wrexham County Borough and supersedes previous adopted development plans. It provides the main policy framework for Wrexham County Borough until the completion and adoption of the Local Development Plan (LDP), currently being prepared by the local authority, which will guide development within the area up to 2028 and will replace the UDP.

Policy relevant to the proposed development is outlined below, however it should be noted that the application site is not covered by any local or national designations and does not fall within the Green Barrier.

Policy GDP1: General Development Principles

All new development should:

- *“Ensure that built development in its scale, design and layout, and in its use of materials and landscaping, accords with the character of the site and makes a positive contribution to the appearance of the nearby locality;*
- *Take account of personal and community safety and*

security in the design and layout of development and public/private spaces;

- *Make the best use of design techniques, siting and orientation in order to conserve energy and water resources;*
- *Ensure safe and convenient pedestrian and vehicular access to and from development sites, both on site and in the nearby locality;*
- *Ensure that built development is located where it has convenient access to public transport facilities, and is well related to pedestrian and cycle routes wherever possible;*
- *Safeguard sites and areas of nature conservation and wildlife interest, and to provide new habitats where there is an unavoidable loss of existing habitats and areas of wildlife interest; and*
- *Secure the development of sustainable communities, through the promotion of the economic, social and environmental well-being of the area.”*

Policy EC4: Hedgerows, Trees and Woodlands

“Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and

02. PLANNING CONTEXT

include new planting in order to enhance the character of the landscape and townscape...

Policy EC15: Small Scale Neglected Sites

This policy recognises the importance of supporting applications for reclamation sites stating that

“Action will be taken to protect and enhance general amenity through the reclamation and restoration of derelict sites, and through the improvement of untidy sites, dilapidated buildings, and other eyesores, particularly those in sensitive locations.”

Policy CLF6: Informal Recreation

This policy provides protection, improvement and maintenance for existing public footpaths as well as identifying and safeguarding potential new routes

Supplementary Planning Guidance

The DAS and development proposals also take account of the following Information Guidance Notes:

- Local Planning Guidance Note 7: Landscape and Development
- Local Planning Guidance Note 10: Public Open Space in New Housing Development
- Local Planning Guidance Note 16: Parking Standards
- Local Planning Guidance Note 17: Trees and Development
- Local Planning Guidance Note 21: Space around Dwellings

A Model Design Guide for Wales (2005)

This documents is a practical tool to be used as supplementary planning guidance to meet the requirements of PPW and TAN 12 by anyone proposing new residential development in excess of 1 dwelling.



03. CONTEXT APPRAISAL

Site Location and Context

Approximately 3km south-west of Wrexham the site is located immediately east of the existing built development edge of Johnstown within Wrexham County Borough. The A483 lies to the east, providing direct and convenient access to Wrexham, Chester and the M56 further north, and the Shrewsbury to Chester Railway Line to the west. Bonc-yr-Hafod Country Park (previously a landfill site) lies on higher ground immediately to the north and the current



View from Hafod Country Park

Hafod Landfill Site (disused clay pit) immediately to the south. Hafod Road represents the eastern site boundary and Bangor Road (B5426) the southern boundary. The proposed

development site comprises of brownfield land where the former Hafod Tileries were located and is enclosed by broadleaved woodland along its southern edge and by hedgerow planting with some trees along its south-western edge. The application site is open along its northern and eastern boundaries save for intermittent native hedgerow planting and the existing workings within the north-eastern part of the site, accessed from Hafod Road. The building complex is concentrated within the north-eastern corner of the site on an area of hardstanding and comprises of several single and two storey red brick units abutting Hafod Road, the majority of which are linked. There is also a separate sizable building set back from the road abutting the northern edge of the site. A combination of grassland, bare ground and scrub dominates the central and southern parts of the site which is also bisected by high voltage power lines and a narrow watercourse flanked by broadleaved woodland.

A public right of way follows the outer western site boundary and connects to two further footpaths, one of which crosses the northern part of the site linking to Hafod Road, the other veers northwards through the adjacent fields towards the country park and railway line. Two further footpaths cross the south-eastern corner of the site. The footpath provides connectivity to the surrounding right of way network which

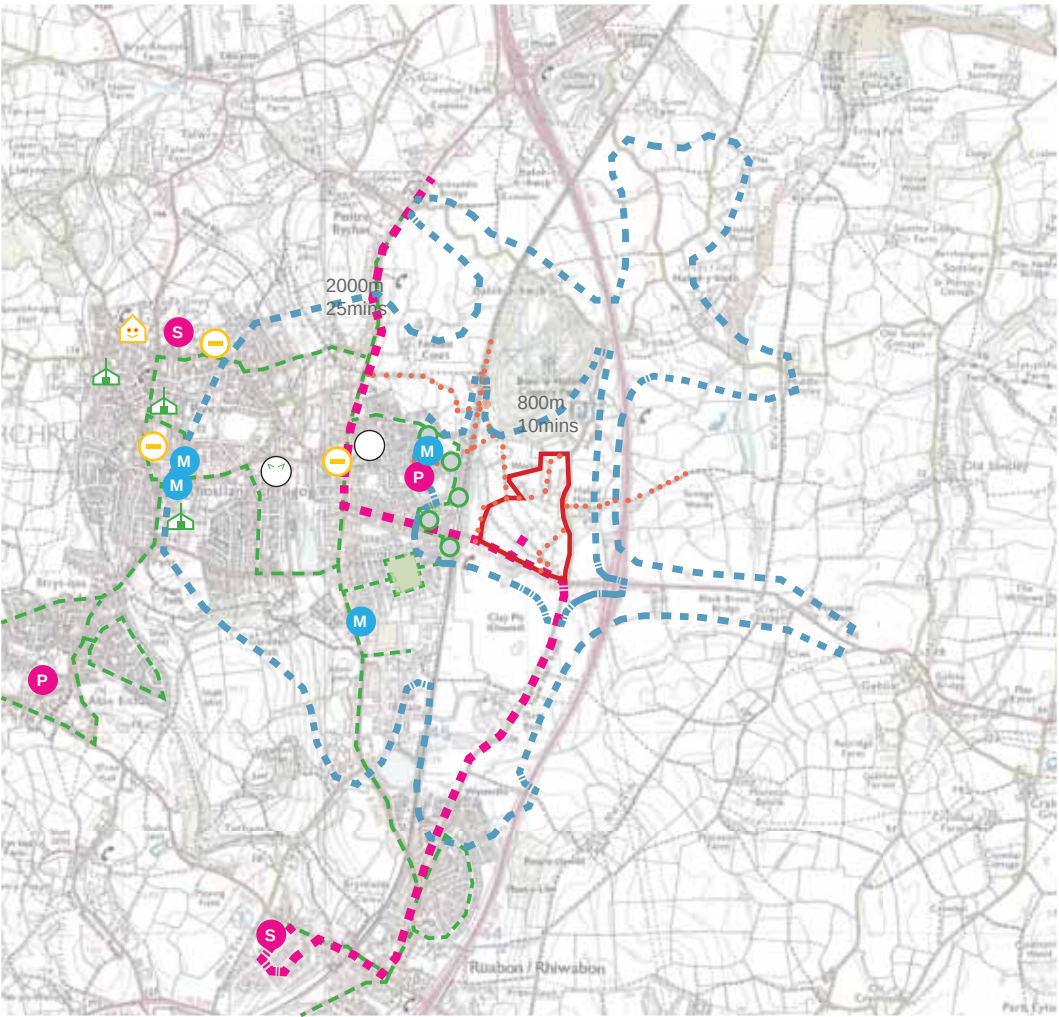
is extensive in all directions; Wat's Dyke Long Distance Heritage Trail traverses the landscape in a north to south direction to the east.

Surrounding settlements include; Johnstown located approximately 0.4km to the west, Rhostyllen located approximately 2.3km to the north and Ruabon located approximately 1.2km to the south.



View from Johnstown

03. CONTEXT APPRAISAL



- Application Site Boundary
- Walking Distance from site
- Post Office
- Primary School
- Secondary School
- Supermarket
- Pharmacy
- Veterinary Clinic
- Religious Centre
- Children's Centre
- Local Bus Routes
- Local Bus Stops
- Proposed Bus Route
- Key Open Space / Allotments
- Public Footpaths / Bridleways

 **Figure 2: Local Services and Facilities Plan**
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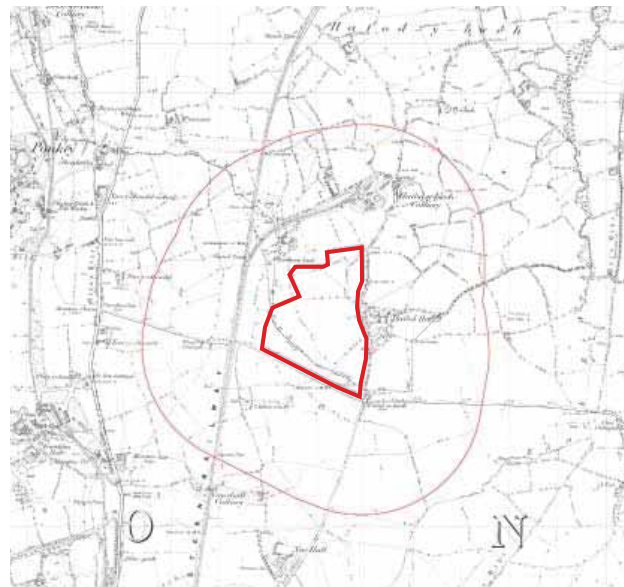
03. CONTEXT APPRAISAL

Historic Development

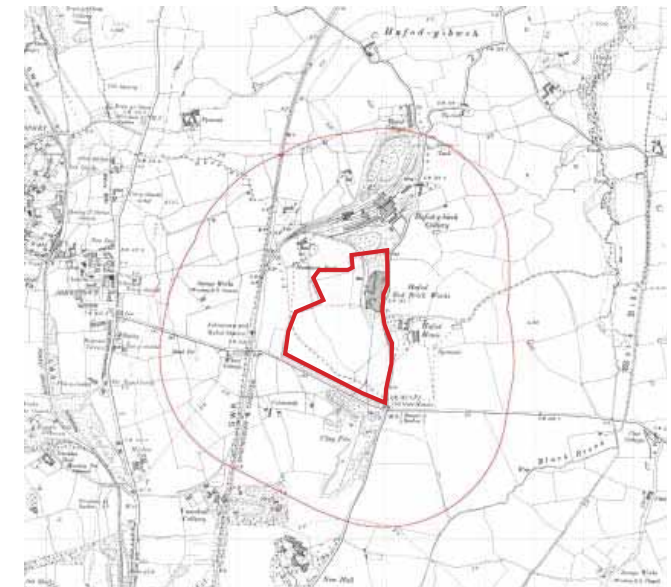
Historic maps show the proposed development site in the context of the development and subsequent growth of Johnstown and change in the surrounding land uses from the late 19th century to the present day.

Industrial development within the local area was confined to Hafod-y-bwch Colliery to the north of the site in the late 1800s which had expanded southwards and into the site a few years later. Around this time, Hafod Red Brick Works was established within the north-eastern part of the site, along with a tramline linking the Works with the clay pits south of Bangor Road. The early 20th Century saw the expansion of these clay pits, which continued well into the 1960s when the southern-most electricity line crossing the area was introduced. The second power line followed shortly afterwards. By the end of the 20th Century, the building footprint of the Hafod Brick Works had reduced in size.

The opening of the Great Western Railway in the late 19th Century was the catalyst for further development and the beginning of Johnstown, a new residential settlement to serve both the railway and the local brickworks industry. Johnstown expanded significantly during the latter half of the 20th Century.

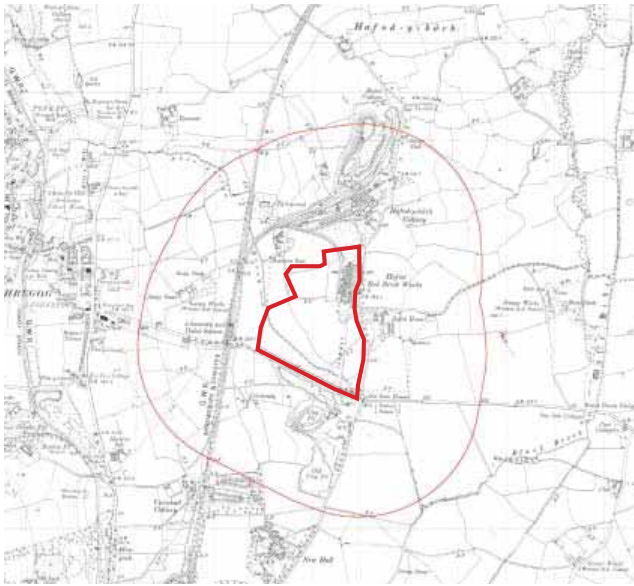


County Series 1873

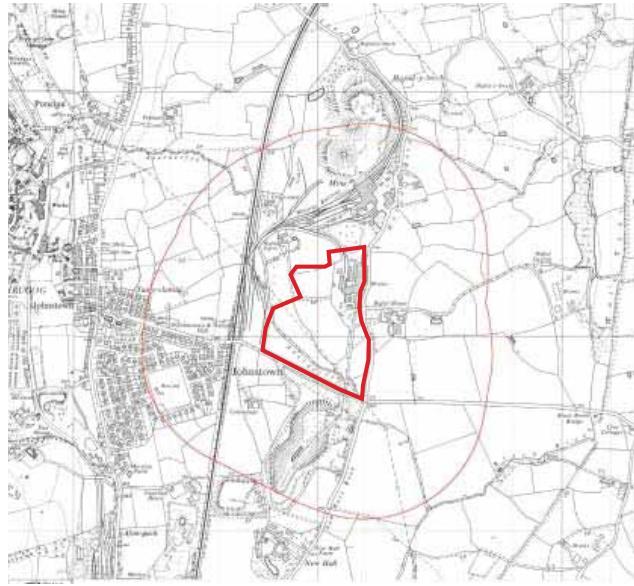


County Series 1898

03. CONTEXT APPRAISAL



County Series 1909



Provisional 1960-1964



OS 1:10,000 2008

03. CONTEXT APPRAISAL

Topography

The site sits within the broad valley of the River Dee at between 100m and 120m AOD and is relatively flat. The landscape rises locally to the north where the country park is situated and further west, continuing to rise towards the distinctive Ruabon Mountain which has a summit of approximately 475m AOD and Maesyrychen Mountain and the Llantysilio Mountain Range beyond. Similar to the application site, Johnstown, Rhostyllen and Ruabon sit at a topographical level of between 100m and 140m, 80m and 120m and 100m and 120m AOD respectively. The topography of the site context is shown at Figure 4.



03. CONTEXT APPRAISAL

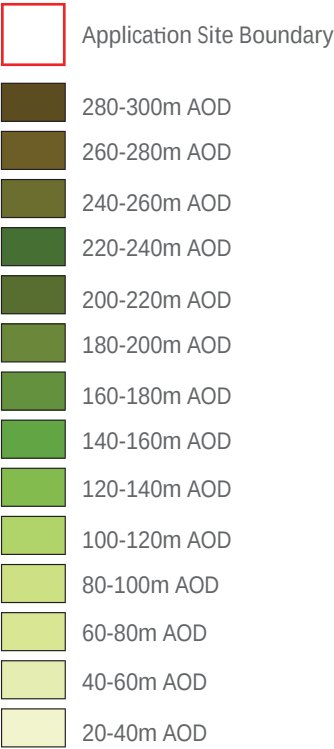


 **Figure 3: Topography Plan**
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03. CONTEXT APPRAISAL

Landscape and Visual

The site itself is not covered by any local or national landscape designations. Land immediately to the west and north is a designated Special Area of Conservation (SAC) as well as a Site of Special Scientific Interest (SSSI). Hafod Country Park, located north of the site, also has SSSI status. From the SAC, visibility across the site is restricted by existing tree and hedgerow planting primarily along the site's western boundary but also intervening vegetation within the SAC itself. Open views of the site, Johnstown and the wider landscape, are available from vantage points at the southern slopes of Hafod Country Park.

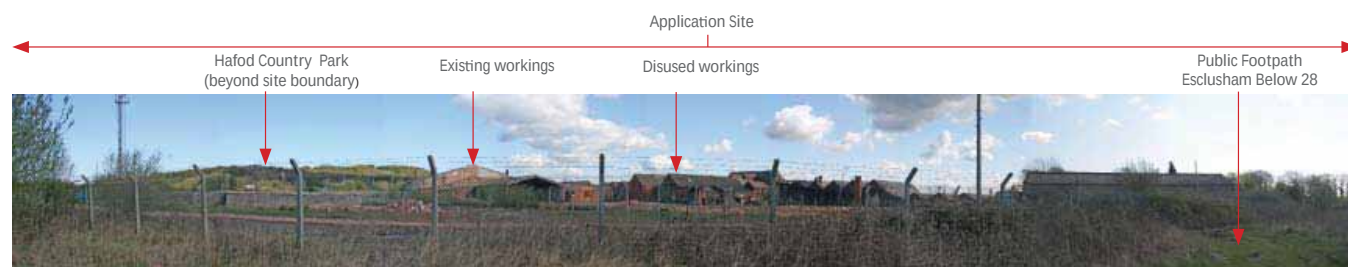
Some residential properties on higher ground at Rhosllanerchrugog and Ponciau to the west have distant views towards the site, however it forms part of a wide panoramic view across the existing settlement area. Adjacent to the site, there is intermittent visibility from public footpaths close to its western edge, this becomes less frequent further north where the paths veer away from the site boundary.

Views to and from the east of the site are limited by topography, and Hafod Landfill Site screens potential views from the south.

Refer to Figure 4: Landscape Character and Land Use (page 13) for viewpoint locations.



Viewpoint 1: View south from Hafod Country Park



Viewpoint 2: View north from public footpath



Viewpoint 3: View west from public footpath



-  Application Site Boundary
-  Viewpoint location
-  Rhosllanerchrugog - Rhostyllen, Ruabon - Perycae Landscape Character Area (LANDMAP, CCW)
-  Welsh Maelor Landscape Character Area (LANDMAP, CCW)
-  Urban: Residential
-  Urban: Industrial
-  Country Park / Open Space
-  Open Farmland with Isolated Development
-  Hafod Landfill Site (former clay pit)

 **Figure 4: Landscape Character Areas and Land Use**
N.T.S

03. CONTEXT APPRAISAL

Access and Movement

Public Footpaths and Rights of Way

Three existing footpaths cross the site; Ruabon 118, Esclusham Below 28 and 29. In addition, footpath Ruabon 117 borders the eastern edge of the site. Consequently there is good public access across the site, with good convenient connectivity into Johnstown, Hafod Country Park and the surrounding countryside.

Vehicular Access

Bangor Road (B5426) runs adjacent to the southern boundary of the application site and is the main road linking directly to the centre of Johnstown and the A483 further east which connects to the M53 motorway.

A new bus route from Ruabon to Wrexham via Johnstown will be added to the existing local service to serve the new development.



Public Footpath - Ruabon 117



Bangor Road (B5426)



Hafod Road



Public Footpath - Ruabon 118/Eclusham Below 29

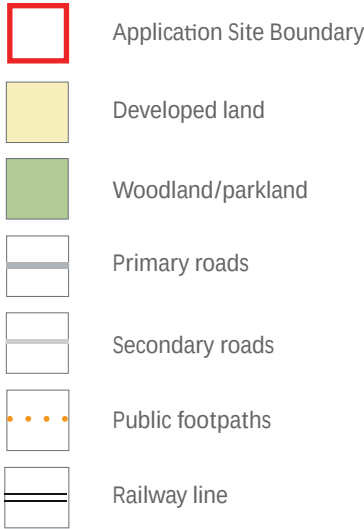
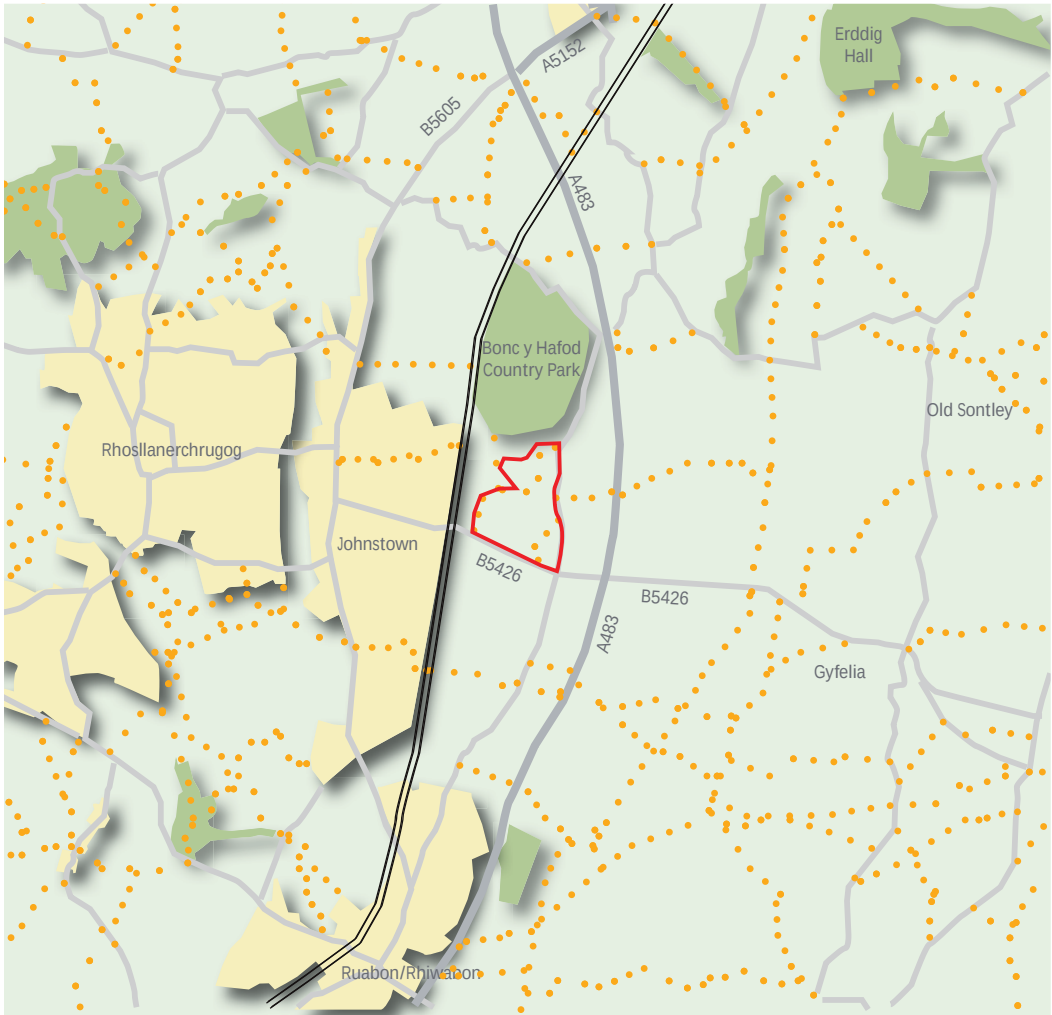


Figure 5: Access and Movement Plan
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03. CONTEXT APPRAISAL

Existing Townscape

Character in the vicinity to the site is quite varied in terms of architectural styles and quality, ranging from Victorian terraces, semi-detached and detached, to late 20th, early 21st red brick semi-detached and detached properties. Within the local context of Johnstown there are some traditional design clues to be found in terms of the visual appearance of buildings and the common use of materials.

The new housing within the development will be a combination of detached, semi-detached and linked dwellings. Modern interpretations of the local vernacular, including the use of contemporary sustainable materials, will be adopted which reflect the local character and respect the setting of the development.



Examples of Local Distinctiveness



03. CONTEXT APPRAISAL



Examples of Local Distinctiveness

03. CONTEXT APPRAISAL

Existing Site Features

The site encompasses a mix of brownfield land with red brick buildings (formerly the Hafod Tileries) grassland, bare ground and areas of scrub. Broadleaved woodland occurs along the site's southern edge and alongside the Aberderfyn watercourse which crosses the southern part of the site.

A Special Area of Conservation (SAC) lies immediately to the west of the site which comprises of waterbodies and marginal planting, grassland and scrub.

Several existing rights of way cross the site and follow its western edge, providing connectivity to residential development at the eastern edge of Johnstown.

Two high voltage power lines bisect the area in a north-west to south-east direction.



Existing trees and scrub



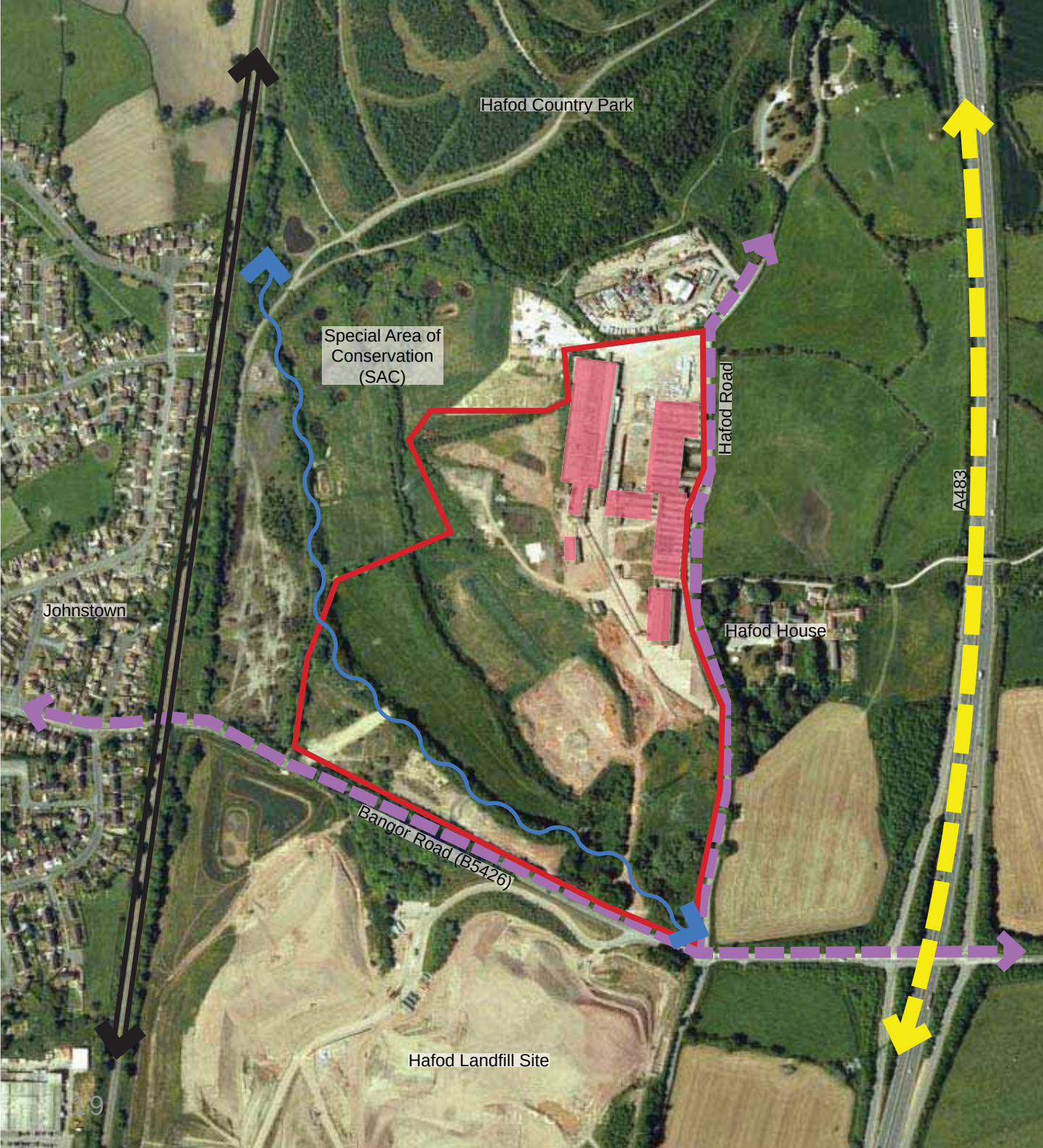
Existing public footpath



Existing factory buildings



Existing ponds and habitat



-  Application Site Boundary
-  Existing Factory Buildings
-  Aberderfyn Watercourse
-  Existing Road
-  A483
-  Railway Line



Figure 6: Aerial Photo
N.T.S

03. CONTEXT APPRAISAL

Nature Conservation and Ecology

Due to its previous industrial use, the site supports a diverse range of habitat types; hedgerows, broadleaved woodland, semi-improved grassland, dense scrub, and standing and running water, all of which have the potential to support a range of protected species such as breeding birds, reptiles, great crested newts, bats and invertebrates. The northern extent of the site is of limited ecological value due to it being dominated by buildings, hard standing and disturbed/bare ground, whereas the southern extent meets the criteria for recognition of the UK BAP priority habitat ‘Open Mosaic Habitats on Previously Developed Land’. Its value is also recognised through inclusion on the Wrexham BAP under derelict and industrial land.

The development proposals retain habitats of nature conservation value where possible, however some habitats of local value including a number of water bodies, areas of broadleaved woodland, grassland and dense scrub would be lost from the site's western and eastern extents. Johnstown Newt Sites SAC, to the west, is designated due to its population of Great Crested Newts (GCN). To ensure the integrity of the SAC is maintained and that biodiversity and species present across the site are maintained and enhanced, any habitat loss would be mitigated for through the creation of new water bodies, grassland and scrub, and through appropriate management of retained habitats to maximise their nature conservation value.



03. CONTEXT APPRAISAL

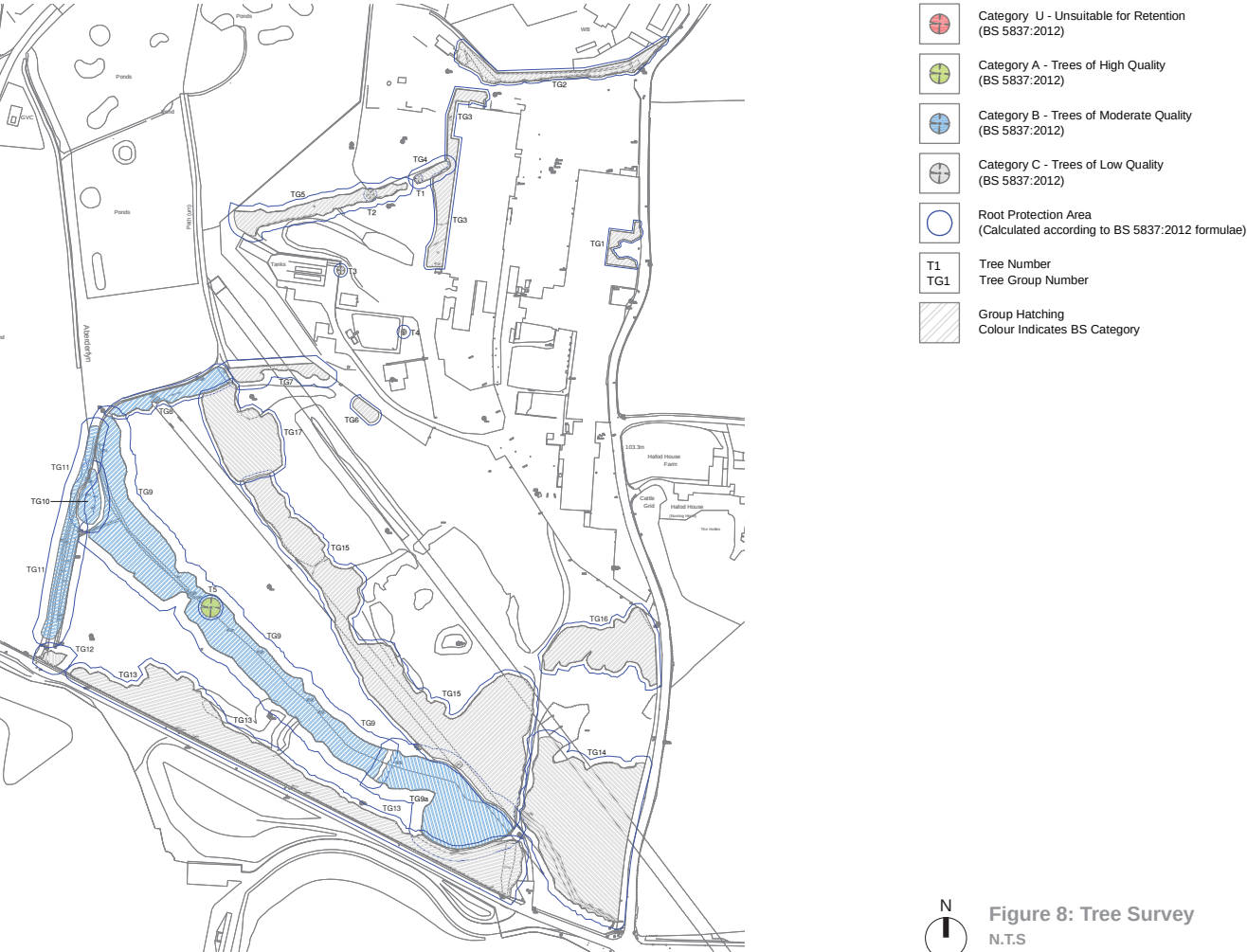


Figure 8: Tree Survey
N.T.S

Arboriculture

A total of five individual trees and eighteen groups of trees were surveyed within the site as part of the arboricultural assessment. Species composition is largely restricted to pioneer species such as silver birch, goat willow, hawthorn and ash. Other species present include English oak, sycamore, hazel and blackthorn.

Should any specific tree protection be required, this would be considered separately at the appropriate stage following approval of the development and prior to the commencement of any construction activity. This would be in the form of an Arboricultural Method Statement (AMS), produced in conjunction with a specific Tree Constraints Plan (TCP) and Tree Protection Plan (TPP) and in accordance with guidance contained within British Standard 5837:2012.

03. CONTEXT APPRAISAL

Heritage

The site is rich in industrial heritage which will be interpreted within the open space of the development. A brief history of the Hafod Tileries is outlined below:

Dennis Ruabon Tiles was founded in 1878 by entrepreneur Henry Dennis. First known as the Ruabon 'Red Works', the factory used pure Welsh clay in its production of ridge tiles, chimney pots and ornamental terracotta before developing the famous 'quarry tile'. The Tileries went on to produce a range of flooring and roofing tiles as well as red bricks which were used in the construction of much of the build development in and around the Wrexham area as well as a number of historical buildings. Significant investment during the 1980's enabled modernisation of the factory and the subsequent further development of the product range until its ultimate closure in 2008, after 130 years of manufacturing.



1. Hafod Red Brick Works (1906)
2. An early company advertisement
3. Henry Dennis

03. CONTEXT APPRAISAL

Water, Drainage and Hydrology

The outline planning application is accompanied by a Flood Risk Assessment (FRA), which describes the site's water and drainage issues.



Sustainable Urban Drainage Systems

Electricity Pylons

The site layout and design and landscaping have been informed by the following guidance produced by National Grid:

- Development near overhead lines
- Design Guidelines for Development near High Voltage Overhead Lines



In order to diminish the impacts associated with high voltage overhead lines and promote the environmental quality of an area, National Grid have developed eight generic design principles, which are addressed as part of the

masterplanning process and would be followed throughout the design development.

- Prioritising the public realm
- Encouraging the development intensity and enclosure
- Orientation of streets and blocks
- Understanding the effects of topography
- Breaking down linearity
- Utilising land close to overhead power lines
- Effective screening by landscape design
- Promoting richness

03. CONTEXT APPRAISAL

Consultation

Gladman Developments Ltd has engaged in a process of community consultation during development of the proposals for the site. Consultation included a one day public exhibition event at both Johnstown and Rhosllanerchrugog on Monday 17th December.

A leaflet briefly covering the 2012 application proposals was also delivered to core stakeholders and interested parties for information prior to the exhibition.

Full details of the consultation and the information exhibited are set out within the Statement of Community Involvement which accompanies the planning application.



Public Consultation Boards

04. EVALUATION

Opportunities and Constraints

The plan opposite illustrates the constraints and opportunities, which have been identified following the assessment of the site and its context. This process has been used to inform the design proposals for the site.

Opportunities

- Existing vegetation would form the basis of a robust Green Infrastructure framework in which to set the development;
- Existing pedestrian access and rights of way would be retained and integrated into the development. New attractive footpaths and cycleways would be provided through the site, connecting to existing rights of way both within and beyond the site boundaries. Links to both Johnstown and Rhosllanerchrugog would be promoted;
- Vehicular access into the site would be via Bangor Road which runs directly along the site's southern boundary;
- Provision of new public transport links to Johnstown and Wrexham will form part of the development proposals;
- Existing landscape features and habitats including woodland, mature trees and hedgerows and the

brook would be protected and enhanced wherever possible in order to improve green networks and habitat opportunities. Additional ecological habitats would be introduced as part of the green infrastructure to encourage strong wildlife corridors throughout the development and further enhance the site's biodiversity;

- Sensitive design of swales and attenuation ponds would be implemented in order to enhance the biodiversity and recreational value of the site;
- Create an attractive development set within significant (more than 50% of the site area) green space, greatly improving the existing appearance of the site from surrounding receptors through increased assimilation into its local context; and
- Promote the site's rich industrial heritage using various interpretation methods.

Constraints

- Adverse impacts on the Special Area of Conservation should be avoided;
- Existing Great Crested Newt habitat;
- Existing trees and areas of broadleaved woodland; and
- Existing high voltage electricity pylons.



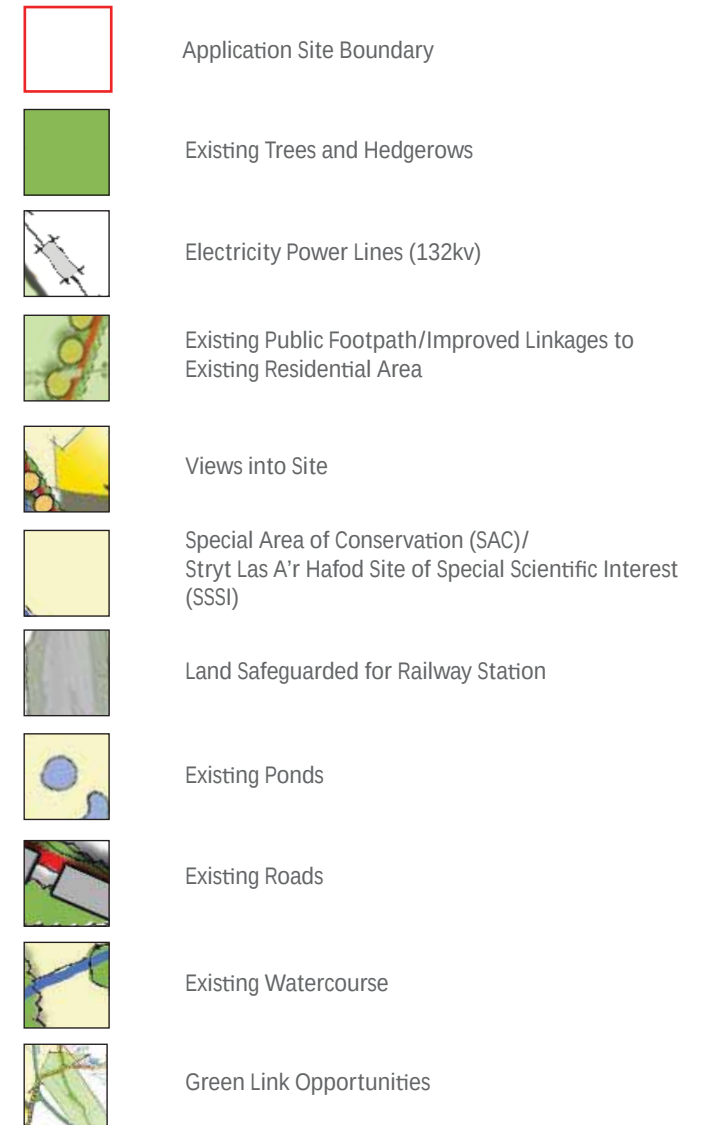


Figure 9: Opportunities and Constraints Plan
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05. DESIGN CONCEPT AND PRINCIPLES

Vision for the development

The masterplan process seeks to achieve an optimum solution which minimises the potential adverse effects on the environment and delivers a responsive layout, which maximises the environmental, social and community benefits.

The vision for the development is:

“To deliver a high quality, attractive and sustainable development as part of the existing Johnstown community. Connections for pedestrians and cyclists will be provided and the local bus service improved to encourage sustainable living. New homes will be created within an attractive green setting; providing public open space, woodland and the creation of new habitats. The new development will be designed to respect and enhance local character.”

Key Objectives for the development

1. Deliver appropriate housing growth for Johnstown;
2. Provide up to 300 new dwellings with a mix of 1-4 bedroom properties, offering a range of living opportunities from linked townhouses to detached properties;
3. Provide a local shop and employment area;
4. Generate a high quality place by creating an attractive new community set within a landscape of open space, street trees, play areas and structure planting;
5. Adopt the theme of inclusive design by making the place compliant with DDA standards and therefore accessible to all;
6. Retain and incorporate existing boundary trees and hedgerow planting and improve biodiversity where possible;
7. Create a 'place' which is designed for people and is easy to understand and move through, with quality 'communal' streets providing good pedestrian and cycle linkages both within the site and beyond;
8. Aim to ensure the development is as safe and secure by design as reasonably possible;
9. Promote sustainability through the design and construction process, reducing energy consumption and minimising waste;
10. Embrace best practice solutions and contemporary design and construction methods. These will be ingrained from good examples of local distinctiveness found within and around Johnstown and Rhosllanerchrugog.



	Application Site Boundary	17.34ha
	Net Development Area (NDA) ^{1/2} Up to 300 dwellings @ 43 dph	7.00ha
	Proposed Employment ¹	0.29ha
	Proposed Local Store ¹	0.11ha
TOTAL BUILT DEVELOPMENT		7.40ha
	Informal Play	0.47ha
	Formal Play	0.16ha
		Total Outdoor Play Space 0.63ha
	Amenity Green Space (Excluding Outdoor Play Space)	3.24ha
	Natural Green Space (Including 5.78ha (1/3 total site area) GCN Reserve)	5.78ha
	Proposed Attenuation	
TOTAL OPEN SPACE		9.65ha
	Existing Vegetation Retained	
	New Structure Planting	
	New Vehicular Access from Bangor Road	
	Proposed Vehicular Route	
	Existing Rights of Way Retained	
	New Footpath/Cycleway	

¹Maximum building height to ridge = 12m

²NDA includes housing, streets and private gardens but excludes childrens' play space (as indicated) and amenity green space (as indicated) and principal access road across POS from Bangor Road

Figure 10: Framework Plan (Parameters Plan)
N.T.S



05. DESIGN CONCEPT AND PRINCIPLES

Development Framework

The development proposals are illustrated by the Framework Plan (Parameters Plan), which indicates the parameters of the development. The plan identifies the following:

- The application site boundary;
- The means of vehicular access into the site;
- The location and extent of proposed land uses;
- The amount of built development (Net Developable Area).

Quantum of development and Uses

The outline planning application covers an area of 17.34ha and comprises of:

Residential Development (7.00ha):

The residential area will provide up to 300 new homes at an average net density of 43 dwellings per hectare (dph) with a mix of dwellings types from 1-4 bedroom properties. The development will provide for a broad range of dwellings and house types offering a mix of market housing from first time

homes to larger family homes.

Employment (0.29ha):

The employment area will comprise of a mix of Class B2 and B8 light industrial, storage and distribution uses totalling approximately 465sqm of floorspace and associated vehicular parking and turning area.

Local Shop (0.11ha):

A local convenience store is proposed to serve the new development. Comprising of approximately 235sqm of floorspace and associated car parking

Green Infrastructure and Public Open Space (9.65ha):

A linear parkland is proposed through the residential development to the north with further green corridors and links to the site's wider surroundings, encompassing existing vegetation. An extensive open space through the centre of development site encompasses informal open space for recreation, public footpaths and cycleways, a sensitively designed attenuation facility and habitat creation. Provision of Public Open Space is in excess of the local standard of

0.4ha per 50 dwellings.

Outdoor Play Space (0.63ha):

In accordance with the minimum standards for outdoor playing space, 0.63ha of play space will be provided.

Formal Play (0.16ha):

A single LEAP is proposed. These facilities will target toddler, child and teenage age groups and will be located adjacent to housing within the central parkland.

Informal Play (0.47ha):

Provision of an area of open space to cater for informal play and recreation is proposed within the central parkland.





- | | | |
|---|---|---------------------|
|  | Application Site Boundary | 17.34ha |
|  | Net Development Area (NDA) ¹
Up to 300 dwellings @ 43 dph | 7.00ha ¹ |
|  | Proposed Employment | |
|  | Proposed Local Store | |
|  | Indicative Equipped Childrens' Play Space:
Location and design subject to further agreement
with Wrexham County Borough Council | |
|  | New Footway/Cycleway incorporating retained
Rights of Way | |
|  | Amenity Green Space with new tree and
hedgerow planting (includes Outdoor Play Space) | |
|  | Natural Green Space with retained and new tree
and hedgerow planting (includes GCN Reserve
and attenuation) | |
|  | Informal Play | |
|  | Retained Vegetation | |
|  | New Structure Planting | |
|  | Proposed Attenuation Pond | |
|  | Proposed Vehicular Route | |
|  | Indicative location of proposed
emergency access from Hafod Road | |
|  | Power Lines | |
- ¹NDA includes housing, streets and private gardens but excludes childrens' play space (as indicated) and amenity green space (as indicated) and principal access road across POS from Bangor Road)



Figure 11: Indicative Layout (Illustrative Masterplan)
N.T.S

05. DESIGN CONCEPT AND PRINCIPLES



Indicative Layout

The Indicative Layout, along with supporting text and illustrations in this section of the Design and Access Statement, indicates the principles of urban structure, (i.e. the framework and the layout of streets and pedestrian routes), and the urban grain, (i.e. the location, arrangement and design of the development blocks, plot arrangement, and green infrastructure).

The Indicative Layout provides an indication of densities across the site and identifies the situations where taller buildings may be used to close a vista or turn a corner etc. In addition information is provided with regard to building scale and the appearance of the development both in terms of its architecture and landscaping.

The purpose of the Indicative Layout is to provide a template for the detailed design stage of reserved matters applications. It sets out the key urban design principles that the development will seek to adopt.

05. DESIGN CONCEPT AND PRINCIPLES

MOVEMENT

To maintain good legibility of the site, appropriate to the scale of the proposed development, a simple street hierarchy is to be used. Access will be provided off Bangor Road, which will form the Main Street to provide access into and throughout the development.

The layout of streets would provide a safe and well overlooked network of public spaces as set out by Best Practice. These streets could be designed in detail to slow vehicular traffic and provide a safer environment for pedestrians and cyclists.

The hierarchy of streets and the size and arrangement of development blocks and open spaces is a connected design discipline addressing the need to meet the following standards:

- Maximise connectivity to the existing settlement and wider area;
- Design a street pattern which reflects local morphology and place making character, with a main street providing access to a hierarchy of descending routes. These follow a progression of street and carriageway widths, plot sizes, building types and relationship to the street;

- Promote ready accessibility for the whole community, bearing in mind the needs of parents with young children and those with impaired mobility; and
- Encourage the control of vehicle speeds and movement by urban design, by exploring local examples such as restricted forward visibility, narrow street widths, frequent connections, changes in direction and tight junction radii.

CHARACTER AND APPEARANCE

Hafod Tileries encompasses the following four main character areas:

- Main Street
- Streets
- Lanes
- Parkland

Each area is described in more detail below in terms of key layout principles and is accompanied by an illustrative sketch.

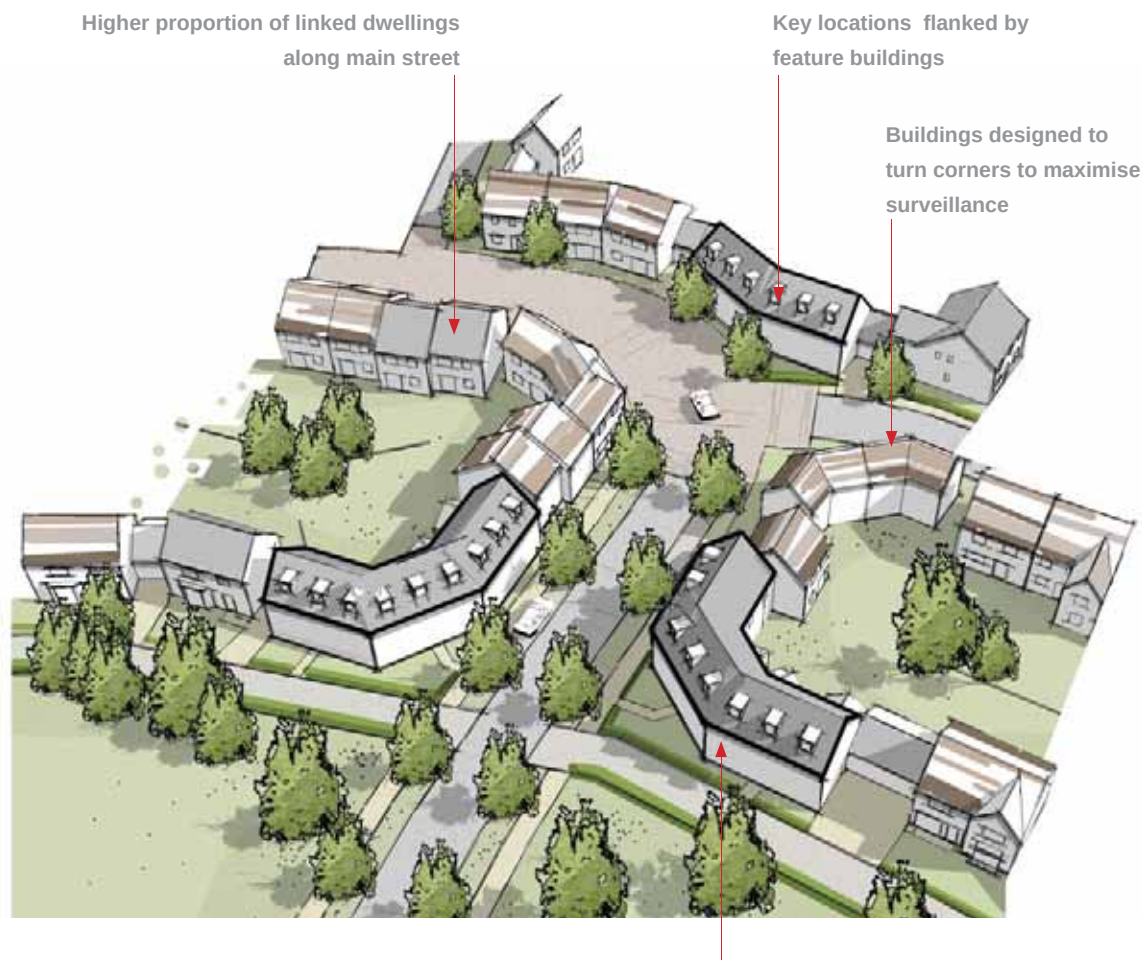




05. DESIGN CONCEPT AND PRINCIPLES

The Main Street: Key Principles

- Dwellings will front onto the Main Street and will combine a mix of housing types, though there will be a prominence of linked properties forming a robust and well defined edge;
- Dwellings will be of a higher density mix, between 2-2.5 storeys in height. Taller buildings will form landmark features and will generally be located at key nodes and junctions;
- The block pattern will be designed so that buildings face existing and new landscape elements, private gardens will be located to the rear or side of dwellings;
- The Main Street will link all residential roads within the development and there will be strong connectivity to areas of open space and the central parkland;
- Residential parking will comprise of on-plot garages and occasional bays; and
- Appropriate street trees will be planted to form a strong avenue behind which buildings will be set.



Main Street: Illustrative Sketch

05. DESIGN CONCEPT AND PRINCIPLES



Streets: Key Principles

- The block pattern will be designed to ensure properties are set back from the roadside and face existing and new planting within the GI framework. Some of the larger plots will contain small private frontages as well as gardens to the rear or side of the building;
- Dwellings will combine a mix of housing types of up to 2 storeys in height, with 2.5 storey landmark buildings at key nodes and junctions to act as focal points within the development;
- Private gardens will be located to the rear or side of properties, some of the larger buildings will also have small private frontages; and
- Residential parking will comprise of on plot garages and some rear courtyards.

05. DESIGN CONCEPT AND PRINCIPLES

Lanes: Key Principles

- Dwellings will combine a mix of larger housing of up to 2 storeys in height;
- Dwellings adjacent to the central parkland will front onto it to take advantage of views and provide surveillance. These properties will generally be set behind a tree planted verge as well as the dwelling frontage to avoid a hard built edge and to soften the built development;
- Dwellings will be located towards the edges of the development site and located sensitively to ease the transition between the new built development and surrounding land uses; the Special Area of Conservation lies directly to the west;
- Existing landscape planting will be incorporated within the layout to assimilate dwellings successfully into the site;
- Dwellings will be served by residential roads which connect to the Main Street
- On plot parking will be provided; and
- The character and setting of the Special Area of Conservation will be respected.



Lanes: Illustrative Sketch

05. DESIGN CONCEPT AND PRINCIPLES



Parkland: Key Principles

- Provision of extensive open space includes a generous area of parkland within which an equipped play areas and informal play area will be incorporated as well as an expanse of natural green space, which will be managed for biodiversity and include the GCN reserve as well as attenuation and wetland areas.
- All greenspace will be designed appropriately and in accordance with the adjacent SAC (refer to GCN Mitigation Strategy for details);
- The central parkland will incorporate existing and new footpaths/cycleways, an extensive informal play area and potential for community management;
- Connections to Hafod Country Park, Johnstown and other rights of way will be enhanced.
- Balancing facilities will be appropriately designed to create habitat and improve biodiversity;
- Interpretation of the site's industrial heritage and important ecological value within the landscape;
- Existing vegetation retained and supplemented with new planting where appropriate.

05. DESIGN CONCEPT AND PRINCIPLES

Appearance

Although much of the local context around the site has been developed during the latter half of the twentieth century, the historic core of the village is distinctive. The growth of the historic core, like many other settlements, is quite varied in terms of its form and building style but there are some traditional design clues in terms of plan form and materials.

Whilst the development does not advocate pastiche or historic solutions, it is important that the new development has some connection with local character and place making. This is achieved through an analysis of street character, built form and materials. One of the most obvious ways of achieving a response will be by using traditional building materials, especially the use of colour and boundary details. This will be the guiding rationale for the development.

At this design stage, these photographic examples give an indication of the type of design treatments that are anticipated and the general appearance of the built form. The materials selected for the development would provide a modern interpretation of the traditional materials shown here. The emphasis will be upon well detailed buildings which are built on a human scale.





Materials and Features

It is anticipated that the design themes set out below will be adopted for the site's built appearance as part of the reserved matter applications. The following list is not exhaustive but provides some of the main elements that will allow for interpretation:

- A core palette of brick types as the main building material;
- Occasional detailing, particularly around window frames;
- Rendered elements at key locations within the layout;
- Roof tiles of appropriate subtle colours to introduce variation within the layout;
- Well proportioned elevations and fenestrations;
- Some windows in gable ends and occasional use of bay windows to add extra dimension to street scene; and
- Features such as chimneys, porches, frontage planting.

At this design stage, the following examples give an indication of the type of references and design clues that will be used for the development design concept. Building character, materials and decorations should all, in the first instance, respond to the local context.

05. DESIGN CONCEPT AND PRINCIPLES

Employment Area

Hafod Tileries will provide for high quality mixed use development. A mix of light industrial, storage and distribution and retail uses will be provided adjacent to Bangor Road, close to the proposed roundabout access.

It will be contained by existing and proposed structural landscape planting, which will provide an effective physical and visual buffer between the residential and employment areas. A range of businesses will provide opportunities for new employment which will be readily accessible, not only for existing residents of Johnstown and Rhosllanerchrugog, but also residents of the new community.

The proposed employment units are likely to combine part brick elevations with profile steel sheeting for the upper sections and low pitched roofs. The design details will be agreed at the reserved matters stage.



05. DESIGN CONCEPT AND PRINCIPLES

Housing Plot Arrangement

In broad terms, the street network is based around an irregular pattern of development blocks. A regular block structure, such as the Victorian layout of terraced housing is often represented by long and narrow rectilinear blocks, with narrow plan dwellings, small frontages and on street parking. An irregular layout such as the one illustrated in the Indicative Layout generally comprises of a variety of block sizes, being more organic in character.

It is vital that the development is easy to navigate, and for that reason a 'distorted grid' is adopted. The use of a 'distorted grid' will provide a choice of interconnecting routes made identifiable through the use of landmark features and key spaces within the layout. Creating a more 'regular' form will help residents and visitors to easily navigate around the place and will ensure a high degree of legibility.

Corner Plot Arrangements

How blocks change direction, or move around corners, is an essential part of place making. The design will follow the best practice example of using, where appropriate a continuous built frontage 'wrapping' around corners, and thus enclosing

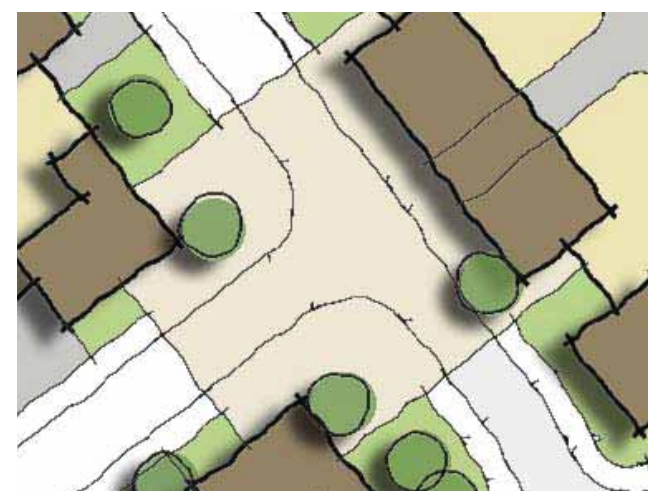


Typical corner plot arrangement

and defining spaces. The benefit of this approach is that it maintains a positive definition to the street, and avoids 'weak' ill-defined edges. This will provide opportunities for locating landmark buildings on corners which in turn will help terminate, or frame views along the street.

Landmark Features

The use of landmarks such as a building projecting onto the street, or a gable end facing onto the street in an otherwise



Landmark buildings define space and add prominence

straight line of buildings will provide identity within the layout. Other distinctions will be achieved by the careful use of building height and mass. A taller 2.5 storey building, if well located, can add prominence within a street of 2 storey buildings. The subtle use of materials and colour will also achieve this affect. Streets that lead to landmark spaces will be a key design principle. These will be formed by the 'distorted grid' and the intersection of blocks, as well building groups.



Arrival Points and Focal Spaces

The detailed block and street layout will be arranged so that it composes a series of attractive views and vistas. This will add a certain character and charm to the development, and respond to traditional place making principles. The key views from and into the SAC are considered.

These will be defined by a sequence of connecting views (short or long), which lead or draw the eye from one feature to another. The use of the distorted grid, for example, with offset junctions will help to encourage views of landmark buildings, spaces or trees. More intimate, glimpsed, or framed views will also enrich the scheme. This will be achieved, for example, by including a street tree within the view that is framed by a building group, or a building line which deliberately restricts and then suddenly channels a view to a landmark building.

The detailed design will also include subtle variations in the building line, in terms of scale, height, and set back of buildings from the footway. This will be supplemented by quality materials and landscape treatment which will produce an attractive street.

Figure 13: Focal Spaces Plan
N.T.S

05. DESIGN CONCEPT AND PRINCIPLES

Scale of Development

In terms of scale, the scheme would deliver the following:

Housing Mix

- A range of 1-4 bedroom dwellings with a choice of house types, from single occupancy units to family sized accommodation. This would generate a wide demographic and also encourage a mixed community
- A choice of homes would include terraced or linked units, townhouses, semi detached, detached dwellings which broadly relates to the range of housing that can be found within the local area;
- Building design that considers flexible long term living, with opportunities for home offices, and lifetime home standards; and
- It will seek to provide the council's latest affordable housing requirement.

Housing Density

- The average density across the whole site is 43 dwellings per hectare (dph). This responds to the existing urban fabric and accords with Government guidance on the

efficient use of land and best practice design. It also achieves an 'urban' level of density, that will help support a sustainable neighbourhood; and

- Although there will be an average density across the development, the layout will be designed with the use of 'graded block densities' varying in density up to 43dph. This is common with most traditional settlements where there is variation in densities. This will enable the Project to introduce a broad mix of house types and arrangements, such as detached wide plan properties in lower density areas, and linked narrow plan dwellings in higher density areas.

Building Height

- Buildings will follow a scale that is in keeping with the adjacent landscape and urban context;
- Within the local context, buildings are commonly between 2 and 2.5 storey in height. To provide flexibility in living styles and to relate to local character, dwellings at Hafod Tileries will maintain the 2 and 2.5 storey range;
- The use of 2.5 storey dwellings, will be carefully considered within the layout. They will be used very occasionally, to either reinforce an important street or to act as a landmark building. Two storey dwellings will be

the standard approach;

- Combined with the use of quality building materials, a sensitively designed roofscape and a green infrastructure of woodland and tree planting, new built development can be sympathetically integrated into the landscape;
- All buildings should ideally be designed to have a variation in their height from ground to ridge, or eaves height. The arrangement of buildings within a plot and subtle changes in height, along with variations in house types and materials, will add character and charm giving a strong identity and overall 'sense of place'; and
- During the detailed design, due regard will be given to the impact of height and overall mass on neighbouring plots. i.e potential shading of neighbouring properties and rear gardens.

05. DESIGN CONCEPT AND PRINCIPLES

Street Frontage

To define the boundaries between private and public space, all dwellings will have some form of private frontage. These will tend to be small in higher density areas, appropriately between 0.5-2.0m metre in depth, whilst in lower density areas there will be the opportunity for increased frontages. However, it is important that frontages are not excessive and that buildings still relate and interact with the public realm. In general, the use of smaller private frontages with larger rear gardens should be the predominate theme along the main routes and around public spaces, with larger front gardens used to define corners or vistas, along the Lanes and towards the edges. Frontages will be defined by the use of consistent boundary treatments, which reflect the local vernacular.

COMMUNITY SAFETY

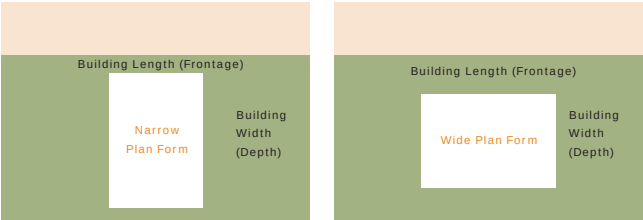
A desirable place to live, work and play, which is safe and secure, is fundamental. This will be achieved by the way the development is laid out and by the street, block and plot design.

Buildings will be located to actively face streets and public

areas in order to promote 24 hour surveillance, and to encourage safer places. Public areas such as the streets and play areas will be designed so that they are safe, easily accessible and attractive to use. All users will be considered as part of an inclusive design approach. It is important that there is good surveillance of public spaces by a number of properties and buildings, and that barriers, blank walls and ‘dead ends’ are avoided. Locating windows and doors on corners, or gable ends is a key principle, and occurs within the local context. Across the whole development careful attention will be paid to designing out crime through the layout, and promoting privacy and security.

This will be achieved by:

- High quality active streets;
- The position of buildings to the front of the plot;
- Well located windows and doors that survey the public realm clearly defining public and private spaces.



05. DESIGN CONCEPT AND PRINCIPLES

ENVIRONMENTAL SUSTAINABILITY

Sustainable construction methods and energy efficiency will be adopted at the detailed design stage. This will promote a high standard of build and construction for the development. in accordance with Best Practice Standards.

The development proposals will follow the aspirations as set out within TAN 22: Sustainable Buildings (2010) and “Code For Sustainable Homes (2010)” in order to provide a high quality environment. The nine design elements of; energy; water, materials, surface water run off and waste, pollution, health and well being; and ecology will be thoroughly evaluated through the detailed design.

Best Practice sustainability will be embraced, which will fully explore issues such as sustainable drainage techniques, and buildings that are resource and energy efficient.

It is expected that the design will explore the following in order to promote reduction in carbon emissions;

- Flexible building and house design, allowing for the expansion of living areas and storage needs, and where practicable making better use of roof spaces.
- Ensuring that buildings can be easily adapted to suit different occupiers needs, through the use non structural

internal walling and easily extended services;

- The use of locally sourced or recycled construction, building materials and aggregates;
- The preference for using environmentally friendly and more sustainable materials and products, such as recycled timber;
- The use of porous/concrete block permeable paving and surfaces for some streets, driveways and spaces;
- Low flow showers, smaller baths and dual low flush toilets as part of controlled water demand and use;
- Low carbon lighting, energy controls and management;
- Double and triple glazing, and improved insulation;
- Wherever possible using an optimum plot orientation for solar gain with south facing windows; and the use of solar thermal panels to collect solar energy to heat water and to reduce carbon emissions;
- Conservation of the natural resource such as the site's hedgerows and trees;
- Ground level 'urban greening' with the use of street trees, parks, linear parkland, open space, private spaces and gardens; and
- The planting and setting out of grassland, native trees, shrub and hedgerow species that will encourage wildlife,

and sustainable drainage;

- Plots to provide suitable facilities and storage for recycling and waste.



05. DESIGN CONCEPT AND PRINCIPLES

Landscape

Green Infrastructure (GI)

The development's Green Infrastructure comprises approximately 9.65 hectares, which equates to approximately 56% of the total site area. The vision is to create a new multi functional green infrastructure of outdoor play and ecological habitats; to encompass retained hedgerows and trees, new grassland, woodland, tree and hedgerow planting, and wetland areas. This will maximise long term biodiversity, and provide amenity and recreational value for the community. The GI will also provide connectivity to the site's immediate surroundings and the wider landscape.

Existing Vegetation

The design strategy is to assimilate the new development within a robust GI framework which builds upon the existing significant mature planting, particularly that along the western and southern boundaries. Existing site trees and hedgerows will be reinforced and enhanced. Elements which are retained are shown on the Framework Plan (Parameters Plan) and Indicative Layout (illustrative Masterplan) and are protected as important features within the layout.

Although the Special Area of Conservation (SAC) and Hafod Country Park are outside the application site, their

immediate context to the development helps provide a green and appealing setting. Built development will be positioned sensitively to the SAC so as not to encroach upon its setting and wildlife, particularly the Great Crested newt population, associated with it. Hafod Country Park is currently very well used and the GI Framework will relate positively to it.

Green Infrastructure and Landscape Strategy

The proposed GI framework will provide a quality setting for the new development. The relationship between new planting and the built form will be very carefully addressed to help



encourage activity and play, provide identity within the built form, and maximise landscape and biodiversity benefits.

GI will include a mix of new native tree and hedgerow planting, areas of attenuation and grassland habitats. Planting will comprise of a selection of species indigenous to the site and local area and will be based on standard forestry methods to ensure rapid establishment. Details of species will be agreed at the reserved matters stage.

Open areas of grassland will be included providing areas of informal recreation and open space. The design of grassland will provide different management regimes such as conservation grassland areas to encourage biodiversity, or more formal amenity grassland. Detailed landscape design will be based on inclusive designs, with the emphasis on quality, simplicity and clarity. An appropriate management approach will also be adopted.

The principal components of GI are as follows and are described and illustrated on the following pages:

- Parkland/Informal Play
- Structural Landscaping
- Sustainable Urban Drainage System
- Habitat Creation

05. DESIGN CONCEPT AND PRINCIPLES

Green Infrastructure



05. DESIGN CONCEPT AND PRINCIPLES

Central Parkland

- An extensive open space through the centre of the site, which separates development in the north and south. This is designed to serve the new community as well as the existing community of Johnstown and will also accommodate the GCN reserve, which includes attenuation and habitat ponds;
- Provides informal recreation and outdoor play as well as excellent opportunities for further habitat creation and enhanced biodiversity through new tree and hedgerow planting, mixed grassland habitats and aquatic habitats associated with the proposed reserve and wetland areas.

Structural Landscaping

The structural landscaping includes the site boundaries, access roundabout and SuDS landscape of swales, wetlands and attenuation areas.

- These landscapes will include the planting of new native hedgerows, broadleaved woodland and individual tree planting, as well as varied grassland habitats and areas for drainage attenuation. This mix will encourage nature conservation value and will provide connectivity around the site for wildlife;

- Overall, the site boundaries will form a significant component of green infrastructure to which open space and green links within the site connect and from which green links permeate into the wider landscape beyond the site; and
- Planting and landscaping in proximity to the electricity pylons will be in accordance with guidance from National Grid in order to meet the requisite criteria and mitigate potential visual impacts on residents.

Public Open Space

The proposals include outdoor playing space and children's play provision which embraces the Fields in Trust (FIT) Planning and Design for Outdoor Sport and Play (2008). Open Space is based on the guidance set out within the Wrexham Unitary Development Plan (Adopted 2005) and the Wrexham Guidance Note No.10 - Public Open Space in new Housing Development (2008) and Play Strategy 2009-2013. It is anticipated that the landscape will be publicly accessible and this will provide significant areas of open space for outdoor play, walking and cycling.

Residents will be within easy reach of an outdoor play area; equipped play space will take the form of a single large Local Equipped Areas for Play (LEAPs) at a minimum of 0.16ha. This will provide play provision for toddlers and young

children. The play area will be surrounded by a buffer of grassland and will be overlooked by adjacent properties to provide a degree of natural surveillance. It will be located alongside the retained public footpaths to encourage good accessibility. Open space forms part of the project's green infrastructure and will include a mosaic of grassland habitats to maximise biodiversity. Whilst the principle will be for play space to be open so that it is well surveyed, some new tree planting and new hedgerows will also be introduced to provide shelter, interest and increased habitat linkages.

05. DESIGN CONCEPT AND PRINCIPLES



Illustrative Section A-AA

Cross Section

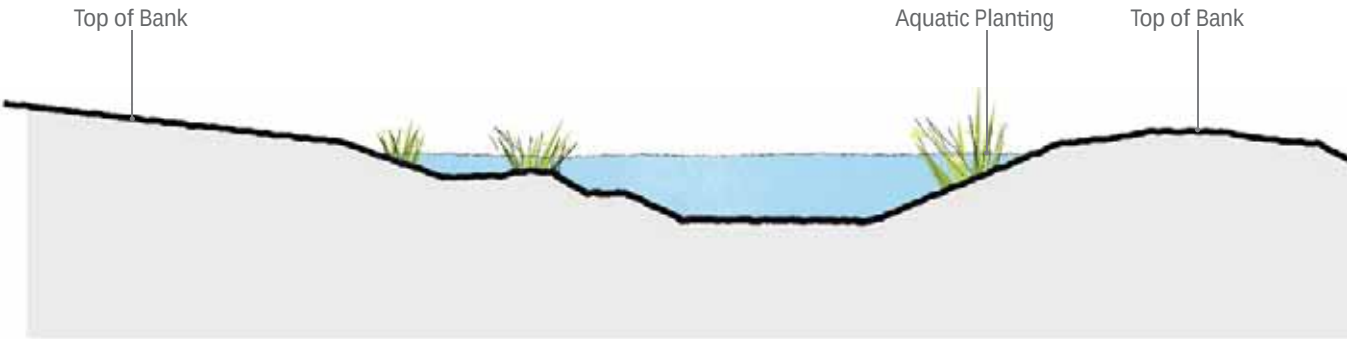
05. DESIGN CONCEPT AND PRINCIPLES

Habitat Creation

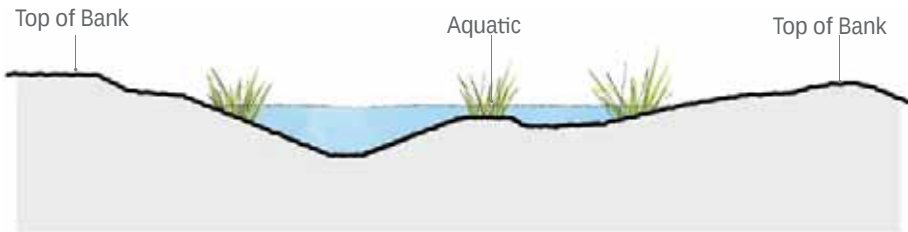
Johnstown Newt Site of Special Area of Conservation (SAC) and Stryt Las A'r Hafod Site of Special Scientific Interest (SSSI) occur to the north and west of the site. The land has been designated for its Great Crested Newt population.

To ensure that the SAC and SSSI are not adversely affected by the proposed development, a series of mitigation measures will be implemented. This will include enhancement of retained habitats as well as replacement habitat for GCNs to fully compensate for any habitat lost as a result of the proposals, mitigation will comprise of new areas of open water and terrestrial habitat.

As part of the proposals, a specific on site GCN reserve area will be created to support the Great Crested Newt population known to be present within the area and will connect to the existing SAC. Prior to construction of the built development, the newly created reserve (receptor site), consisting of open water areas, tussocky grassland and scrub patches, designed specifically for use by breeding GCNs, will be created to allow the newts to be transferred before any construction activities take place (Refer to GCN Mitigation Strategy for further information).



Section A-AA: Lower Pond



Section B-BB: Upper Pond



- Permanent water
- Aquatic plants
- Dry wildflower seed
- Wetland seed mix

05. DESIGN CONCEPT AND PRINCIPLES

Trees

Avenue tree planting will be located along the Main Street and at the entrance gateways to the development. Elsewhere, a comprehensive use of street trees will be adopted as a key design principle, and this will establish a distinct character for the development. Within the open space and eastern edge planting, larger growing tree species will be used including a larger proportion of native species.

Trees will be located to enhance visual interest and to provide identity as well as being used as landmark features, which, for example, may provide a centre piece to a square. Trees will help to soften the built form, provide shade and create ecological habitats.

For all new street trees, attention will be given to siting and selection of species. The long term growth and spread will be well considered, as well as their relationship with buildings, streets and public areas. It is essential that suitable trees grown for urban locations are specified, with a narrow compact form, and a medium height.

Water and Drainage

A comprehensive drainage strategy is proposed which will capture surface water run off from the development and take the form of a SuDS system. It is proposed to integrate swales and attenuation basins within the multi-functional green infrastructure. Swales will convey run off from the developed areas to attenuation basins located in the central open space.

The attenuation basins will be shallow depressions designed to hold water in extreme storm events. They will also be designed to be periodically wet and will be planted to encourage the passive treatment of water through biodegradation and to maximise biodiversity of the site. Appropriate national leisure and safety measures will be incorporated.



Heritage

The area's rich industrial heritage relating to quarrying clay and the manufacture of building products is of local and national significance. Historical information covering the previous use of the site and its subsequent development will be appropriately interpreted within the new areas of open space and at key nodes throughout the development. This is likely to take the form of materials in design detailing within both the built form and landscaping, as well as written and pictorial interpretation.

05. DESIGN CONCEPT AND PRINCIPLES

ACCESS STRATEGY

A Transport Assessment (TA) by Ashley Helme Associates is included as part of the planning application. The development access strategy provides the means to achieve policy objectives by optimising the opportunity for access to/from the Site by non-car modes. This is in accordance with all local and national policies, including the emerging Wrexham Local Development Plan (LDP2). Specifically, it is central to the philosophy of the development access strategy to provide well connected and permeable access arrangements for the benefit of those travelling on foot, cycle, public transport and to ensure that motor traffic is provided for in a way that does not have a material detriment.

A key issue in ensuring that the above access strategy is achieved is connectivity to exiting local amenities by sustainable transport means. This involves maintaining and enhancing the pedestrian/cycle links to bus stops and local amenities in Johnstown.

Vehicular Access

A holistic approach is at the core of the proposed Site access strategy and arrangements. Thus, there is a cohesive 'package' of development access arrangements for differing modes of travel, comprising, walk, cycle, bus and motor vehicles. Key elements of the identified masterplan access strategy include:

- Vehicle access on B5426 Bangor Road to serve the proposed residential/employment uses, which also accommodates pedestrians and cyclists;
- Complementary 6no additional links to the surrounding area for pedestrians and cyclists;
- Good pedestrian/cycle routes and infrastructure through and within the masterplan area; and
- Emergency access (if required by WCBC), on Hafod Road, that is available in any case for pedestrians/cyclists.

The key features of the proposed Site access include:

- Roundabout junction;
- 30m diameter;

- 7.3m Site access carriageway width; and
- 2.0m footway on the north side of Bangor Road, and on both sides of the Site access.

An existing derestricted speed limit (60mph) applies on Bangor Road along the Site frontage. A survey was undertaken in March 2012 to establish the actual speed of vehicles travelling along Bangor Road in this locale and established that the required forward visibility distance for the proposed Site access junction is 160m.

As outlined above the proposed development has a single vehicular access: the roundabout junction on Bangor Road. However, should WCBC require it, a complementary emergency access can be provided on Hafod Road. This would be achieved by suitable construction details being specified for the proposed Site pedestrian/cycle access on Hafod Road, towards the northern boundary of the Site.

05. DESIGN CONCEPT AND PRINCIPLES

Public Transport

Presently, the closest bus stops to the Site are located on Heol Orsaf, circa 600m from the development Site centroid. The bus service No 6 calls at these stops. The Service 6 route is between Wrexham and Ruabon, calling at Ruabon rail station. Service 6 provides an hourly service Monday to Saturday during the day. Additional services call on High Street.

The rail station closest to the Site is Ruabon, circa 3.6km to the south of the Site. This is on the Shrewsbury to Chester rail line. There is 1 northbound train an hour to Wrexham General, that often continues on to Chester and Holyhead. There is 1 southbound train an hour to Shrewsbury (circa 30 to 45 minute journey time). This train continues to Birmingham New Street (circa 1h 43 minutes journey time from Ruabon) or Cardiff Central (2h 35 minutes journey time) every 2 hours.

Pedestrians and cyclists



Typical Image: Houses fronting the footpaths & cycleways

The proposed development access strategy includes 7 pedestrian/cycle links with the surrounding area. This provides a good level of pedestrian linkage with the surrounding area and amenities, and also good pedestrian movement within and across/through the Site. As indicated on the illustrative masterplan layout, the masterplan on-Site access strategy includes pedestrian/cycle routes within, and on the edge of, an attractive landscaped green corridor setting that provides routes aligned north-south and east-west through the Site, and linking to the existing PROW

network. These are attractive pedestrian routes that fulfil the dual roles of functionality and leisure.

Although the majority of these footpaths and cycleways will be concentrated within the open space areas, the street design will also include footways and cycleways to provide priority for pedestrians and cyclists in terms of movement and crossing points. This will help to facilitate safe and easy pedestrian and cycling movement throughout the entire development. The roundabout access into the site will be designed to allow for safe pedestrian and cycle access.

Complementarily, the roads to be provided within the development will include footways on both sides of the road, in accordance with good practice and the requirements of WCBC.

Complementary to the provision of pedestrian links between the Site and surrounding area outlined above, improvements for pedestrian infrastructure are proposed as part of the development. These are described in the TA and include widening of the footway along Bangor Road, lighting improvements and pedestrian signage.

05. DESIGN CONCEPT AND PRINCIPLES

Residential Parking

- Parking provision will be in accordance with local standards;
- Residential parking will encompass on plot garages and parking spaces to the rear or side of the property. Garage size will be dependant upon the house type;
- Rear courtyard parking will serve linked dwellings along the Main Street, although these will be kept to a minimum; and
- Occasional areas of shared surfacing will provide attractive calmed spaces for vehicle parking.



On plot car parking arrangement

Calming Traffic

Calming traffic within the development will be important part of delivering streets for people, and priorities for pedestrians. The principle is that vehicle speed will be calmed by design and that detailed layouts will incorporate common best practice approaches. To slow vehicles and to encourage users to drive with caution it is expected some or all of the following methods will be used.

- Locating homes so that they are close to the street edge;
- The use of frequent street intersections;
- Changes in the carriageway surface with the use of 'unexpected' road surfaces such as paving setts;
- The narrowing of the carriageway and/or the street to create 'pinch points';
- Positioning buildings so they act as 'pinch points' or 'gateways';
- The removal of the traditional footway-kerb-carriageway arrangement and the use of well designed 'shared surfaces' to create streets for all;
- Carefully restricting forward visibility through the arrangement of buildings, the building line and landscape treatment; and

- The use of well placed street trees and/or street furniture.

Care will be needed to ensure that some methods, such as 'shared streets' for example, are used in appropriate locations, such as Lanes, and that they are inclusive in their design in terms of materials and demarcation.



Typical Image: Traffic calming - Position of homes to act as 'pinch points' close to street edge with a shared surface.

Lighting

Lighting along the Main Street and throughout the development will be designed to minimise light pollution while ensuring safety and security. The lighting design will fully accord with the Institute of Lighting Engineers' Guidance Notes for the reduction of obtrusive light (2005).