

Proposed Residential Development at:
Glyn Derwen, Llanbradach

Design and Access Statement
November 2009

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1 Introduction:

Address of Application Site:

**Glyn Derwen,
Llanbradach,
Caerphilly,
Caerphilly County Borough
CF83 3PQ**

Description of Proposed Development:

Our proposals entail the development of a vacant plot in a residential street of Llanbradach, which backs on to the River Rhymney, and has become in recent times infested and overgrown with Japanese knotweed.

The proposals are for 4no. two storey residential units which could be described as a 'link' development, although it's pattern owes much to the semi-detached forms which are typical of the street and area in particular.

The Development Team:

**Client: The Trustees of J. Thomas-Davies
(deceased)**

Architect: Scott Brownrigg

3 Callaghan Square,
Cardiff CF10 5BT

Planning Consultant: Asbri Planning

32 Lambourne Crescent
Cardiff Business Park
Llanishen
Cardiff CF14 5GG

Land Drainage and Flood Defence Consultant:

Chris Dartnell

Hazel Farm,
Langstone Lane,
Llanwern,
Newport NP18 2DS

2 Site Analysis:



Site Area (in hectares):

Red Line (Application Site) area: **0.150**

Blue Line (Total site area owned by Client): **0.361**

Site Description:

The site is irregular in shape, addressing the public highway of Glyn Derwen on its western edge, the River Rhymney to the eastern edge, parking garages and houses on the south end, and houses again at the north end.

The site in its entirety (blue line area on Scott Brownrigg plans) runs behind the houses on the east side of Glyn Derwen, tapering to a point at the north end as it reaches Glyn Bedw, and is squeezed between the rear garden boundary of the existing houses and the public footpath which follows the line of the river.

At its southern end the site continues behind the parking garages and tapers as it comes to meet the north facing front elevations to the existing properties at the termination of the cul-de-sac.



Access to the site is from Glyn Derwen, although at present it is not a secure site, and can also be accessed from the public footpath alongside the river.

The irregular shape of the site and flood risk issues which will be covered later in this Statement have led the team to consider development only on the part of the site which directly addresses the road of Glyn Derwen- and this has informed our Red Line boundary (Application Site), as well as our proposals in general.

We do not believe the site has been developed previously, but with the very recent addition of residential properties along the east side of Glyn Derwen, it currently leaves a single undeveloped plot along the street, and our proposals seem a logical extension of that residential pattern.



Biodiversity:

Whilst the wider area has historically been dominated by heavy industry, and in particular coal mining, Llanbradach pit closed in 1961, and wildlife has since flourished. The area is fortunate to have a wealth of open landscape which in itself promotes biodiversity, and a richness of flora and fauna will be found in and around the river- The Sirhowy Valley Country Park is situated on the east side of the Rhymney Valley ridgeway, and we do not believe our proposals in any way damage the local biodiversity.



Topography, Boundary Treatment and Aspect:

The site slopes in two directions:- gently from north to south along Glyn Derwen with a fall of approximately **0.54m** where the site addresses the road; and from west to east towards the river where there is a fall of approximately **4.25m** from the road to the riverbank along sectionline **01**.

The public footpath following the line of the river is raised above this sectionline, creating a definitive separation between public and private space. Our proposals will alter this topography in line with flood defence consultant recommendations, and through his discussions with the Environment Agency, to create a new, level plateau for development, and a planted 'bank' sloping down to a zone which will act as a 'flood-store' in the event of the river swelling above the level of the public footpath.

Presently the site boundaries range from indistinct and insecure on the Glyn Derwen and river edges; to the back garden fences to the adjacent existing properties.

The site extends up to the kerb line with the road, and at present there is no pavement between the road and site, but our proposals seek to address this.

The significant aspect of the site is to the east, towards the river Rhymney, and beyond, to the densely wooded hillside through which the A469 winds, and then on to Mynydd Bach, the apex of the Rhymney Valley ridgeway, some 240metres above the Application site.

All other views out of the site are to neighbouring residential.

Site Constraints and Established Building Lines:

We are constrained by the established scale of the development in Glyn Derwen- generally two storey semi-detached, pitched-roof houses; the irregular shape of the site, which has informed our Red Line boundary (Application Site), and flood issues, which limit the event of space available and/or appropriate for development. This is dealt with in more detail by Chris Dartnell in Section ****.

The site proposals will also respond to established building lines on Glyn Derwen. This we see as an important tool in ensuring that the proposals promote the idea of legible development, and look to be a natural progression of the development of the street.

3 Context Analysis:



Historical Context:

The area within which the Application site falls is predominantly residential, the estate having been developed in the 1960's north of the historic village centre to house an expanding population.

Half a mile away, Bryant Homes (Taylor Woodrow) have recently completed a residential development off Wingfield Crescent, called Coed Y Daran. These houses are typically two storey, brick and tile in their material palette.

Character of the Surrounding Area:

The age of the buildings in the immediate vicinity ranges from predominantly 1960's to present day, with those most recently built being on the north edge of the Application Site boundary. The parking garages to the south edge are single storey, and in poor condition.



Whilst in simple terms, the houses in Glyn Derwen are semi-detached with pitched roof, they are unusual in their treatment of roof, which are asymmetrical in form. As with the newly developed Bryant Homes site, the materials palette is limited and simple, with brick/rendered elevations and tiled roofs, and low brick boundary walls to individual front gardens. Other than the few houses which use the separated parking garages, in the main, parking is off-road, on private driveways, with garages incorporated into the form of the house under the low reaching eaves.

Landscape Considerations:

The site is currently overgrown with Japanese knotweed, and does not present vegetation regarded as significant, however, our proposals will seek to retain the more mature trees and give a more structured plan to the landscape. Our client has already begun measures to eradicate the presence of knotweed from the site.



The real significance with regard to the landscape is in the wildlife corridor which hugs the river beyond the Application site, and this presents the most important aspect to the more distant landscape.

We have designed our landscape/planting scheme to give privacy to the new houses, provide continuity of habitat for those foraging mammals that venture further from the riverside; and acts as a distinct edge in terms of the flood zone.

4 Policy Context:

This section has been prepared by
Asbri Planning.

NATIONAL POLICY

Planning Policy Wales

The planning policy framework for the determination of this application is provided by the content and scope of National planning guidance, together with the Development Plan. National planning policy is contained within Planning Policy Wales (PPW), published by the Welsh Assembly Government in March 2002. PPW is supported by 21 topic-based Technical Advice Notes (TAN's) which are also relevant. Planning Policy Wales is the Welsh Assembly Government's principal planning policy document and it sets out the context for sustainable land use planning policy, within which Local Planning Authorities' statutory Development Plans are prepared and development control decisions on individual applications and appeals are taken.

PPW is the principle document of the Welsh Assembly Government which sets out the land-use policy context for the consideration and evaluation of all types of development. The main thrust of PPW is to promote sustainable development by ensuring that the planning system provides for an adequate and continuous supply of land available and suitable for development to meet society's needs in a way that is consistent with overall sustainability principles.

Amongst other things it seeks to promote resource efficient settlement patterns that minimise land take and urban sprawl, locate development so as to minimise demand for travel, ensure that all communities have good quality housing for their needs and safe neighbourhoods, promote access to employment, shopping, education, health, community, leisure and sports facilities and open space. In terms of housing developments PPW advocates higher density development near public transport routes although in considering the impact of higher densities on an area every effort should be made not to damage an areas character or amenity despite the need to help conserve land resources.

Design is defined in Planning Policy Wales as:-

“the relationship between all elements of the natural and built environment. To create sustainable development, design must go beyond aesthetics and include the social, environmental and economic aspects of the development, including its construction, operation and management, and its relationships to its surroundings.”

Planning Policy Wales emphasises:-

“Good design is also inclusive design. The principles of inclusive design are that it places people at the

heart of the design process, acknowledges diversity and difference, offers choice where a single design solution cannot accommodate all users, provides for flexibility in use, and, provides buildings and environments that are convenient and enjoyable to use for everyone”.

Ministerial Interim Planning Policy Statement 01/2006 provides the framework for national housing planning policy, paragraph 9.1.1 states that the Assembly Government will seek to provide:-
“homes that are in good condition, in safe neighbourhoods and sustainable communities; and greater choice for people over the type of housing and the location they live in”

It clearly states in paragraph 9.2.13 that:-
“Sensitive design and good landscaping are particularly important if new buildings are to be fitted successfully into small vacant sites in established residential areas.”

Ministerial Interim Planning Policy Statement 01/2008 – Planning for Good Design

Paragraphs 2.9.1 to 2.9.3 state that good design should be the aim of all of those involved in the development process. Good design is also inclusive design, the principles of which places people at the heart of the planning process, whilst acknowledging diversity and difference, and offering choice where a single design solution cannot accommodate all users. It also provides for flexibility in use, and provides to use for everyone.

Paragraph 2.9.4 states that the design process should promote the efficient use of resources, including land. Paragraph 2.9.8 states that:-

“The visual appearance of proposed development, its scale and its relationship to its surroundings and context are material planning considerations. Local planning authorities should reject poor building and contextual designs. However, they should not attempt to impose a particular architectural taste or style arbitrarily and should avoid inhibiting opportunities for innovative design solutions.”

TAN 12: Design

The Technical Advice Note was revised in June 2009 in order to update new requirements, including those for design and access statements. The TAN provides advice on design considerations and, in relation to housing design, it states that local planning policies and guidance should aim to:-

- “create places with the needs of people in mind, which are distinctive and respect local character;
- promote layouts and design features which encourage community safety and accessibility;
- focus on the quality of the places and living environments for pedestrians rather than the movement and parking of vehicles;
- avoid inflexible planning standards and encourage layouts which manage vehicle speeds through the geometry of the road and building;
- promote environmental sustainability features, such as energy efficiency, in new housing and make clear specific commitments to carbon reductions and/or sustainable building standards;
- secures the most efficient use of land including appropriate densities; and
- consider and balance potential conflicts between these criteria.”

The TAN seeks to avoid the application of rigid highway standards with no consideration of Manual for Streets; over reliance on standard house types and a failure to relate to local context have all been identified as obstacles to good housing design and factors which mitigate against achieving a distinctive sense of place in housing development. Including the following elements in the design may help to create a sense of place:-

- Varying density to create differences in the built form to which residents and visitors can relate and make it an interesting place
- Locating key buildings at corners or junctions to establish a clear hierarchy of development
- Exploiting existing natural features or taking advantage of views and natural shelter.

The TAN also documents a definition of “character”, which is contained within the guidance on designing in context (Paragraph 4.8) and reads as follows:-

“.....Appraising “character” involves attention to topography; historic street patterns, archaeological features, waterways, hierarchy of development and spaces, prevalent materials in buildings or floorscape, architecture and historic quality, landscape character, field patterns and land use patterns, distinctive views (in and out of the site), skylines and vistas, prevailing uses and plan forms, boundary treatments, local biodiversity, natural and

cultural resources and local distinctive features and traditions (also known as vernacular elements)”

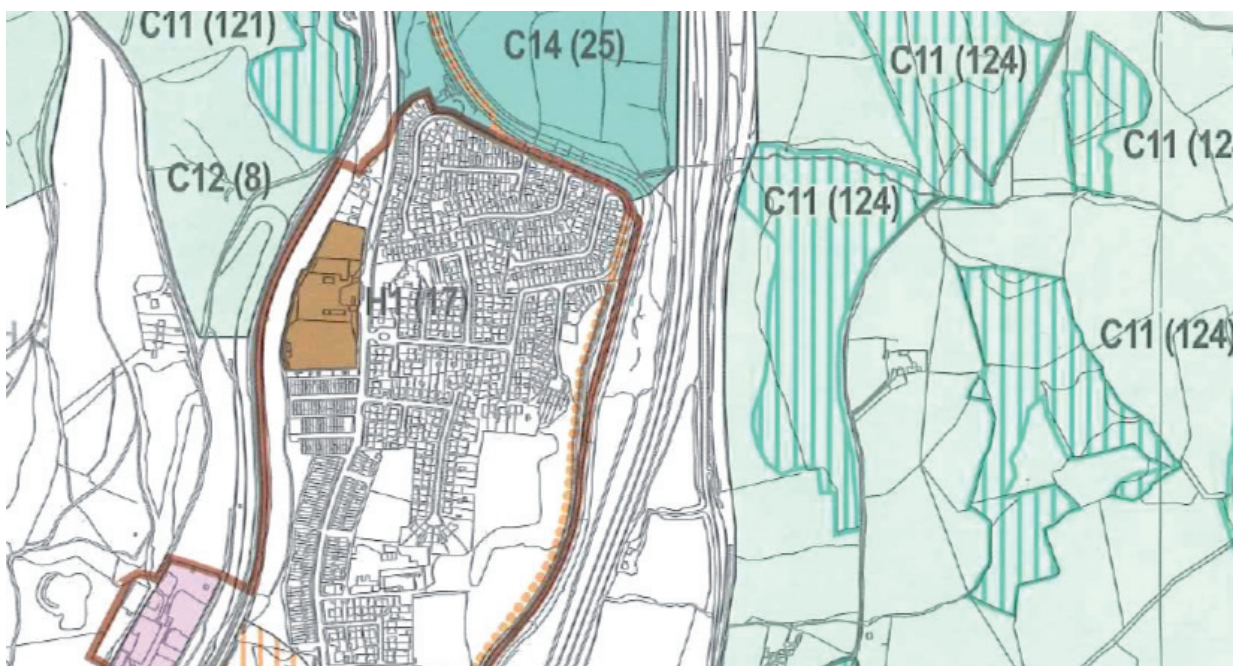
The TAN goes on to state that opportunities for innovative design will depend on the existing context of development and the degree to which the historic, architectural, social or environmental characteristics of an area may demand or inhibit a particular design solution. Thorough appraisal of context can provide design pointers, which help to inspire an innovative design response, which meets present and future needs. A contextual approach should not necessarily prohibit contemporary design.

DEVELOPMENT PLAN

In terms of Section 38 of the Planning and Compulsory Purchase Act 2004, the adopted Development Plan for the area within which the Site lies comprises of two documents – the Mid Glamorgan (Caerphilly County Borough) Replacement Structure Plan (1999) and the Adopted Islwyn Local Plan (1996). The Caerphilly Council Unitary Development Plan (UDP) 1996-2011 was not formally adopted but approved by the Council for development control purposes in April 2003. A Deposit Local Development Plan (LDP) was published in October 2008. Once adopted this will replace the previous plan documents.

Unitary Development Plan

An extract from the UDP proposals Map which includes the site is reproduced below



Part 1 Policy 1DC states that:-

“Proposals for development will only be permitted if they are consistent with the underlying principles of:

A Sustainability

B Maintaining the identity and vitality of settlements, and

C Good Design

Policy DC1 (Standard Development Control Criteria) states that:-

“Development will be approved where it can be shown that it:

A is compatible with other land uses in the vicinity;

B is well designed in terms of its setting, scale, density, materials and landscaping;

C has regard for the safe, effective, and efficient use of the transportation network, and where appropriate maximises the opportunity to use means of transport other than the car;

D Provides or maintains adequate parking provision for the proposed development;

E Provides or maintains appropriate servicing and operational space, including the provision of appropriate operational parking spaces and adequate provision for turning, loading and unloading, for the proposed development;

F Will not prejudice the implementation of wider comprehensive development or constrain the development of any adjacent site for its allocated land use.

G Would not have a harmful impact on the quality and/or quantity of water resources, and thereby on fisheries, nature or heritage conservation or recreational interests, or on the water environment due to additional surface water run off;

H Would not have an unacceptable impact in terms of pollution;

I Would not increase the risk of flooding either on or off site and/or would not adversely affect flood management or maintenance schemes.”

Policy T14 states that:-

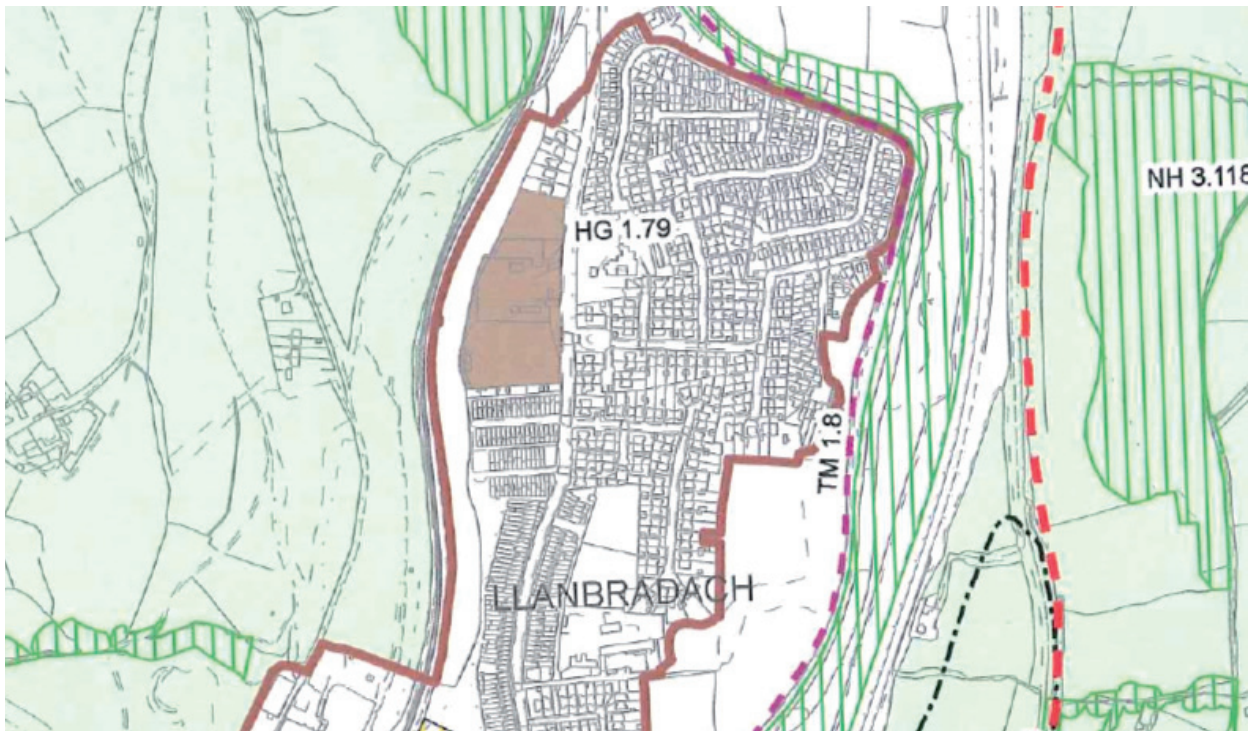
“Design of major new housing, employment, retail and leisure and other developments will be required to incorporate a high level of provision for pedestrian and cycle access and prioritisation/segregation as appropriate.”

Local Development Plan

The Local Development Plan has yet to undergo Examination in Public Procedures. As it is yet to be demonstrated that the Plan meets all the ‘Tests of Soundness’ required under the new process, it is not a material consideration in determining planning applications and therefore emphasis is still placed on

the approved Caerphilly Unitary Development Plan.

An extract of the LDP Proposals Map showing the location of the site is reproduced below. As can be seen, the site is proposed to be removed from the settlement boundary.



LDP Policy SP6 (Place Making) States that:
“Development proposals should contribute to creating sustainable places by having full regard to the context of the local, natural and built environment and its special features through:

- A An appropriate mix of uses that reflect the role and function of settlements
- B A high standard of design that reinforces attractive qualities of local distinctiveness
- C Design in accordance with best practice in terms of designing out crime
- D A location and layout that reflects sustainable transport and accessibility principles and provides full, easy and safe access for all
- E The incorporation of resource efficiency and passive solar gain through layout, materials, construction techniques, water conservation, and where appropriate the use of sustainable drainage systems
- F The efficient use of land, including higher densities where development is close to key transport nodes
- G The incorporation and enhancement of existing natural heritage features

H The incorporation of mitigation measures that improve and maintain air quality.”

LDP Policy CW4 emphasises that development proposals must be accompanied by a design statement, except for householder developments or those without any external design elements.

LDP Policy CW5 (General Design Considerations) states that:-

“Development proposals must exhibit good design which entails satisfying the following criteria:

A The context of the site is respected and complemented in terms of its setting, scale, density, layout, access arrangements, design, materials and landscaping

B Appropriate open space to serve the development is provided or maintained

C Opportunities have been taken to provide for biodiversity and landscape enhancements.”

Supplementary Planning Guidance

Development Design Guide No 1 ‘Building Better Places to Live (Revision No 1) was adopted as Supplementary Planning Guidance by the Council in October 2005. This is based on ‘A Model Design Guide for Wales’, prepared by LDA Design for the Planning Officers Society for Wales and endorsed by the Design Commission for Wales and Welsh Assembly Government. The guidance describes the key objectives of residential design in Wales and provides guidance on how these can be achieved.

Social and Economic Characteristics of the Area

Caerphilly County Borough has a population of around 170,000 making it one of the largest local authorities in Wales. The overall population has remained fairly stable over the last decade but this masks variations within the area, particularly population loss in the north which has been balanced by an increase in population in the Caerphilly Basin area in the south. Population structure is similar to that of Wales as a whole with 15% of the population being aged 65 and over. It is projected that this proportion will increase in the coming decade.

Industrial restructuring has seen a dramatic decline in the traditional heavy industries of coal and iron in addition to a decline in traditional manufacturing. Although unemployment rates are similar to that of Wales as a whole, Caerphilly County Borough has higher levels of economic inactivity due to permanent sickness/disability. Large numbers of people also live on low incomes. Manufacturing employment continues to decrease, and coupled to

below average levels of service sector employment, leaves the workforce exposed. Average gross weekly earnings are £389.00 compared with £415.00 for Wales as a whole.

Whilst average house prices are below Welsh and UK averages across the County Borough there is a marked differential between the north and the south. Recent research on a site developed for housing in Caerphilly indicated that 68.7% of new occupiers originated outside of the County Borough. This identifies a trend which confirms the general view that Caerphilly is increasingly being used as an overspill location for Cardiff households.

Appraisal of the Proposed Development against the Planning Policy Framework

From a sustainable development perspective, the site is located within 400 metres of a local shop and Cwm Glas Infants School. Llanbradach village centre and the range of shops and services therein lies some 1 kilometre to the south. Passenger rail facilities are located at Llanbradach Halt approximately 1.4 kilometres from the site. Bus services pass regularly along Wingfield Crescent, including the Stagecoach Service (50) Newport to Bargoed via Caerphilly, which has a half hourly frequency in both directions, Monday to Saturday and an hourly service on Sundays.

It is clear from this Design and Access Statement that National and Local Policies have been adhered to in arriving at a design solution which reflects the site's context and the scale of existing development in the area.

In particular, the development is compatible with emerging Caerphilly Local Development Plan Policies SP6, and CW 5, which reflect the aims of the revised TAN 12. Consequently the scale, form and design of the development would have no unacceptable effect on the character and appearance of the site and the surrounding area; the design seeks to minimise energy loss; and the development will be accessible to the local and wider community by a range of sustainable modes of transport

5 Involvement:

Community Engagement and Pre-Application Discussions:

For the scale of development it was not felt necessary at this stage to consult with local community groups or hold a public meeting, but our Client has spoken about the scheme with adjacent neighbours, who have expressed interest in expanding their gardens into the irregular shaped part of the site behind.

Our team have held discussions with the local Planning Officer, Colin Grimes, and our Flood Defence Consultant has also discussed the suitability of the site for development with the Environment Agency.

Both parties have identified the flood risk to the site as the main concern, and we have tackled this with our proposals, in that we have imposed boundary lines on the site indicating the riverside limit of development and riverside limit of development plateau. Both limits are within our Red Line Application site boundary, effectively accommodating flood risk/defence measures within the site as far as possible.

6 Response to Objectives of Good Design:

Access:

Consideration of Inclusive Design:

The proposals sit within a site which slopes in two directions, but due to the flood risk measures which have been identified by our co-consultant, Chris Dartnell, we will look to build up the site datum to create a new development plateau, giving a uniformity along the road elevation. The slope along the road where our site addresses Glyn Derwen is relatively small, and the change in level can be incorporated in driveways to permit level access into each of the new units and around the perimeter of the end units.

Each unit benefits from a level area of garden space to the rear, before reaching the 'riverside limit of development plateau, and hence, the bank down to the lower level ground, before reaching the site boundary and raised public footpath beyond.

Character:

Scale and Layout:

The proposals are informed by the local context in their response to scale, layout, and materiality, and we believe they are sensitive to their location, enhance the local character and promote legible development.

The local pattern of development of the 1960's housing estate is that of semi-detached properties, and whilst our proposals are linked, they are read in elevation as two pairs of semi-detached units. Three properties immediately to the north of our proposed additions to the street are recent additions themselves (no.'s 13, 15, 17).

The scale of existing properties in the street follows that of a two storey domestic property with pitched tiled roofs, and dormers to the roof. In the case of the recently built neighbouring properties, the pitched roof continues towards the ground to envelope the garage at ground level.

The 4no. proposed units are stepped or staggered along Glyn Derwen to respond to the line of the road, therefore maintaining or strengthening the street-line, and respecting the recently established building line at the north end of the site, with the front elevation of Unit 04 corresponding to the front of the adjacent property (no.17). The stepped arrangement of the units also reflects that seen on the opposite side of the street (no.'s 18-28)

The rear building line is also respectful of the existing, and as with the front, steps in and out,

which breaks down the mass of the proposals along the long elevation. This is followed through in the treatment of the roof line too, where the part of each unit above the garage has a lower ridge line to the main part of the house.

The entrance to each unit is approached along a private vehicle driveway, removing the need for on-street parking, and located immediately at the back of the pavement/access off the road, is found the bin store for each house. The bin stores are intended to accommodate 3no. standard size wheeled refuse bins to encourage the separation of waste and help the local authority to meet their own recycling targets.

The car garage (which is ample enough to accommodate bicycle parking also) is an integral part of each unit with access directly from it to the utility room/drying room at the rear, and into the entrance hall.

The plan form of the house itself is straightforward and repetitive for all units (apart from a slight variation leading to a small amount of obscured fenestration to the two side/end elevations).

Once entering the front door, into the hallway, there is a storage cupboard/cloaks area, downstairs WC provision, and access to the kitchen/dining room, and living room.

The living/dining/kitchen areas are relatively open plan, split only by the centrally located staircase to the first floor. The living room is at the rear, and opens out through patio doors onto a rear garden space; while the kitchen and dining area are at the front of the unit.

Upstairs, three generously sized bedrooms each have their own en-suite bathroom, and one of these bedrooms is situated directly above the garage space at ground level.

The elevations are deliberately simple, to reflect the restricted palette seen elsewhere in the street- the external walls being blue engineering brick below dpc level, and red colour facing brickwork above dpc; windows with powder coated grey aluminium frames; and grey tiled roof (slate effect). The boundary walls to the plots are also in brickwork to correspond to the houses.

The pavements and driveways in general in our proposals are to be permeable paving, to help

reduce the potential for flooding- and a soakaway is identified on plan for each unit.

Character:

Landscape:

We are unaware of any tree preservation orders or landscape designations that would affect our proposals, but as we have described elsewhere, the site will be partly re-modelled to help with access and with flood defence. The new bank formed within the rear gardens will receive further planting to strengthen itself, and to provide cover from pedestrians using the riverside public footpath.

There are no proposals within this Application which affect the areas outside of the Red Line boundary, but within the Blue Line ownership boundary. However, we have indicated that the Japanese knotweed generally on the site will be eradicated.

In line with Secured by Design recommendations, we propose a dense border of planting at the rear (east) and side (south) boundaries, with some thorny plants, to discourage intruders.

7 Community Safety:



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CAR PARKING

16.1 Car parking should be provided in locked garages or in a car parking structure or building located, preferably, behind a gate (see 16.2).

16.2 The gate to the car parking area should be a minimum of 1.8m high and be made of solid material, such as masonry, to be finished and clad in a way that ensures a consistent finish to the external appearance. It may be necessary to provide additional features to provide the opportunity for surveillance of the parking facility.

16.3 Car parking should be contained within an enclosed courtyard through the provision of a solid wall or boundary. The height of the wall should be at least 1.8m. The design of the wall should be discussed with the CPSA or the relevant local authority. Where possible, the parking area is separated from the street by a wall or boundary.

16.4 Where car parking is provided within the curtilage of the dwelling, the area should be fully enclosed by a solid wall or boundary. The height of the wall should be at least 1.8m. The design of the wall should be discussed with the CPSA or the relevant local authority. Where possible, the parking area is separated from the street by a wall or boundary.

16.5 Where parking is designed to be adjacent to or between units, a gate and vehicle should be provided to give residents an unobstructed view over their vehicles.

16.6 Colourful parking facilities must be provided to the satisfaction of the CPSA or the relevant local authority. This should be achieved by the use of a range of colours and finishes. The use of a range of colours and finishes should be discussed with the CPSA or the relevant local authority. Where possible, the parking area is separated from the street by a wall or boundary.



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LANDSCAPE

18.1 The design of the site and the layout of the buildings should be designed to provide a high level of security and safety. The design should be discussed with the CPSA or the relevant local authority. Where possible, the parking area is separated from the street by a wall or boundary.

18.1.1 The design should provide sufficient space to accommodate the parking.

18.1.2 The design should provide a high level of security and safety. The design should be discussed with the CPSA or the relevant local authority. Where possible, the parking area is separated from the street by a wall or boundary.

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Wherever possible, a 1.8m high fence should be provided to the satisfaction of the CPSA or the relevant local authority. This should be achieved by the use of a range of colours and finishes. The use of a range of colours and finishes should be discussed with the CPSA or the relevant local authority. Where possible, the parking area is separated from the street by a wall or boundary.

Appropriation should be given to the location of walls and fences so that they do not obstruct the view, and the position of trees that may become obstacles, and the position of trees that may become obstacles, and the position of trees that may become obstacles, and the position of trees that may become obstacles.



Safety and Secured by Design:

Recommendations for safety are set out under Secured by Design 'New Homes' to which we have referred. Through the introduction of appropriate design features that facilitate natural surveillance and create a sense of ownership and responsibility, criminal and anti-social behaviour can be deterred, and we move closer to the government's goal of sustainable communities.'

The design features, which we have incorporated as fully as possible in our proposals, include secure vehicle parking, fostering a sense of ownership of the local environment, control of access to individual curtilage, defensible space, and landscape design supporting natural surveillance and safety.

Our proposals look to provide an **integrated approach**, with well-designed environment to promote community cohesion. Landscape design and boundary treatment play an important part in making this successful.

Natural surveillance is also important in creating better, safer places, and on this site, 'double-fronted' houses ensure that the riverside and the street are both overlooked. This is achieved by a suitable internal layout of rooms within the buildings, by means of a 'through lounge'. The visibility from inside of movement in the street and on approach to the unit front door also helps with the natural surveillance, and to deter potential intruders.

'SBD housing developments suffer at least 50% less burglary, 25% less vehicle crime and 25% less criminal damage. Therefore the carbon costs of replacing windows or doorsets on SBD developments as a result of criminal activity is more than 50% less than that of non-SBD developments.'

In this case, the removal of an area from the cul-de-sac of open ground which could be used for anti-social behaviour and as a quick route in and out of the street, could be seen as a positive step in the security of the street.

Cul-de-sacs can be very safe environments and can benefit from lower crime, although backing onto a river can be seen as a negative. We believe our proposals secure the rear boundary, and discourage intruders or anti-social behaviour by clearly defining public and private space, as well as creating a strong boundary line in the form of a 1.8metre high fence, which is further reinforced by the existing and proposed landscape.

8 Environmental Sustainability:

Tackling Sustainability and Reducing Environmental Impact:

Our approach to sustainability does not rely on 'bolt-on' green features, but built-in concepts to ensure our proposals are resource and energy responsible in the fundamental way that the site is addressed: the designs must react to the the local environment, and this means a response in orientation firstly to Take best advantage of the sun/shading available.

The materials we propose to use can potentially be sourced locally, as can the labour and this all minimises the transportation costs involved in the development, and we would encourage the use of recycled products wherever possible.

Our co-consultants Asbri Planning illustrate in more detail the strong links with public transport which are available to use, and therefore, discourage the use of private car journeys.

Our landscape design clears the site of knotweed, allows healthy growth of the existing vegetation, and structured new planting encourages biodiversity on the edge of the river.

The use of permeable paving for all external hard surfaces allows the controlled drainage of storm water (SUDS).

Minimising Demand for Energy:

The units should be highly insulated, and robustly detailed to minimise heat loss and therefore, reduce energy costs, and the specification of sanitaryware should be directed towards products which prioritise low water usage. We will pursue the introduction of rainwater harvesting for the units.

A utility room/drying room is accommodated, which will reduce the modern day reliance on the tumble drier; bike store is allowed for to again, discourage the use of private car for short to medium distance journeys; and bin provision encourages the separation of waste, reducing the local authority burden and necessity to dump in landfill sites.

New sustainable technologies may well lead to the potential for new ways of heating in a community based way, but small scale simple technology such as 'solar-tiles' on the roof can also be employed In this development to reduce heating costs and energy demand.

9 Flood Consequences Assessment:

This section has been prepared by
Chris Dartnell

The flood risk issues, their implications for the development in question and the resulting land drainage and flood protection and mitigation measures that are required for the development are addressed in the following itemised TAN 15 referenced flood consequences assessment:

(1) Planning Policy Wales Technical Advice Note 15 (TAN 15) "Development and Flood Risk" was published in July 2004 by the Welsh Assembly Government (WAG). It gives guidance to planning authorities in Wales on how to respond on flood risk grounds to development proposals. TAN 15 expects planning authorities to apply a risk-based approach to development planning and control through a sequential test involving location justification (sections 4 and 6), type of development (section 5) and flooding consequences (section 7). The requirements of the sequential test are summarised in section 9. Other particularly relevant parts of TAN 15 are section 8 and appendices 1, 2 and 4. The main points of the guidance are summarised as follows:

(a) The development advice maps referred to in section 4 of TAN 15 divide the land area of Wales into three flood risk zones denoted A, B and C, with zone C further sub-divided into zones C1 and C2. The predicted extent of flooding from the coast and watercourses of Wales for the 1000 year return period (0.1% annual probability) tidal or fluvial flood peak, when ignoring the presence of flood defences, is designated zone C. Where zone C is protected by flood defences, it is designated zone C1 and where it is not, it is designated zone C2. Flood risk zone B relates to areas known to have flooded in the geological past, as evidenced by sedimentary deposits. Zone B designation is used as a precautionary approach to indicate where site levels should be checked against the estimated 1000 year return period flood peak level to establish which parts, if any, of the area of zone B in question are actually in zone C. Areas that are outside of flood risk zones B and C are designated zone A.

(b) Section 5 of TAN 15 categorises development according to vulnerability to flooding. There are three categories, which are emergency services, highly vulnerable development and less vulnerable development. All residential premises are categorised as highly vulnerable development. Commercial, retail and general industrial development are categorised as less vulnerable development.

(c) Section 6 of TAN 15 contains key guidance criteria. This section states that emergency services and highly vulnerable development should not be permitted within zone C2, even if the consequences of flooding can be managed to the standards required in section 7 and appendix 1 of TAN 15. It also states that all other development should only be permitted within zones C1 and C2 if it complies with a local authority's regeneration initiative or strategy or employment objective to sustain an existing settlement, meets the definition of previously developed land and the consequences of flooding can be managed to the standards required in section 7 and appendix 1 of TAN 15.

(d) Section 7 of TAN 15, through appendix 1 of TAN 15, recommends minimum standards for the protection of development against both fluvial and tidal flooding, including an ingress and egress route from the development. For fluvial flooding the minimum standard is, with the exception of emergency services, protection against the adjacent 100 year return period fluvial flood peak level in the watercourse, with an allowance for peak discharge increase due to climate change over the next 50 years. Appendix 2 of TAN 15 suggests a 20% increase in the 100 year return period flood peak discharge. For tidal flooding the minimum standard is, with the exception of emergency services, protection against the adjacent 200 year return period still-water tidal peak in the watercourse or at the coast, with an allowance for sea level rise due to climate change over the next 50 years. Appendix 2 of TAN 15 gives the predicted annual relative sea level rise around the coast of Wales. An additional allowance to limit overtopping through wave action is also required for coastal flood defences. For emergency services the return period increases to 1000 years for both fluvial and tidal flood protection.

(e) Whether development proceeds is, in accordance with section 7 and appendix 1 of TAN 15, also dependent on the flooding consequences for the development and its ingress and egress route due to the flood event producing the adjacent 1,000 year return period fluvial or tidal flood peak level. Paragraph A1.15 of appendix 1 of TAN 15 recommends maximum values for the depth, rate of rise and velocity of floodwaters and time to inundation for different types of development.

(f) Section 7 of TAN 15, through appendix 1 of TAN 15, recommends minimum standards for the mitigation of the effects of development, so as not to increase, and if possible decrease, the flood risk

elsewhere. These standards are the same as those for the protection against flooding (reference (1) (d) above). Section 8 of TAN 15 highlights the need to mitigate for the effect of the increased surface water run-off caused by development, which can be achieved by the provision of attenuation storage, infiltration into the underlying subsoil where ground conditions and water table permit or a combination of both. These are normally provided on-site but are, occasionally, located off-site.

(2) The Environment Agency (EA) has a duty under the Water Resources Act 1991 and the Land Drainage Act 1991, as amended by the Land Drainage Act 1994, to exercise general supervision over all matters relating to land drainage and flood defence in England and Wales. Accordingly, it is a statutory consultee in the planning process with regard to land drainage and flood defence. TAN 15 endorses and reinforces this consultee role in Wales. In practice, the approval of the EA in respect of matters relating to land drainage and flood protection and mitigation is, invariably, a prerequisite for planning permission.

(3) The EA normally requires road and parking levels on a development and an ingress and egress route from the development to be protected against flooding to at least the TAN 15 recommended minimum standard as stated in (1)(d) above. However, usually the EA additionally requires floor levels of all buildings on the development to be protected against flooding to at least the TAN 15 recommended minimum standard plus 0.6 metres of freeboard.

(4) The small development site is within an existing housing estate between Wingfield Crescent and the Rhymney River at Llanbradach near Caerphilly. A flood embankment to the west bank of the Rhymney River runs alongside the eastern boundary of the site. The estate road known as Glyn Derwen forms part of the western boundary of the site. The national grid reference for the approximate centre of the development site is ST 15479137. Residential development is proposed for the site.

(5) A topographical survey has been undertaken of the site and its immediate surrounds by land and engineering surveyors Berry Yates Limited. The boundary of the site is shown as a green line on the attached 1:500 scale topographical survey plan. The proposed riverside limit of the development is shown as a red line on this plan. This limit is set 7 metres from the landward toe of the flood embankment

alongside the Rhymney River. The hyphenated red line on the plan is the proposed riverside limit of the development plateau. Filling will be required to a significant part of the designated plateau in order to achieve the required development level throughout. There will be a 1:2 sloping bank from the limit of the development plateau to the limit of the development. Trees that are indigenous to the locality will be planted along this bank to enhance the riverside habitat.

(6) The site can be divided into two parts with regard to ground levels. The lower lying part alongside the flood embankment on the eastern boundary falls from some 79.0 m AOD near the northern end of the site to 78.0 m AOD at the southern end of the site. The raised part alongside Glyn Derwen and the remainder of the western boundary varies between approximately 79.5 and 80.5 m AOD. The length of Glyn Derwen that fronts the western boundary of the site falls from some 80.4 m AOD at the northern end of the frontage to 79.9 m AOD at the southern end of the frontage. The top of the Rhymney River flood embankment falls from approximately 80.5 m AOD alongside the northern end of the site to 79.4 m AOD alongside the southern end of the site.

(7) The relevant extract from the development advice map on which the site in question is located shows that the whole of the site is within flood risk zone C1 (shaded green) (reference (1)(a) above). The risk is from fluvial flooding emanating from the Rhymney River, which flows approximately from north to south adjacent to the eastern boundary of the site. Whilst flood risk zones are defined ignoring the presence of flood defences, the site in question is within an area that benefits from flood defences alongside the Rhymney River.

(8) Development is categorised according to vulnerability to flooding. Residential development is categorised as highly vulnerable (reference (1)(b) above). Highly vulnerable development on previously developed land in zone C1 is acceptable providing it complies with a local authority's regeneration initiative or strategy or employment objective to sustain an existing settlement and the consequences of flooding can be managed to the standards required in section 7 and appendix 1 of TAN 15 (reference (1)(c) above). The proposed development is on land categorised as previously developed and it complies with the local authority strategy to sustain an existing settlement.

(9) A comprehensive flood study of the Rhymney River, which includes the reach adjacent to the development site, has been undertaken for the EA by consulting engineers Atkins Limited. Their flood study report, which was published in June 2007, is titled "Strategic Flood Risk Mapping (SFRM) Rhymney River between Ystrad Mynach and Bedwas : Final Modelling Report". The EA kindly made this report available for inspection.

(10) The maps of the aforementioned Atkins Limited flood study report show Rhymney River cross section number 9.080 opposite the downstream (i.e. southern) end of the site and cross section number 9.081 opposite the upstream (i.e. northern) end of the site. For the Rhymney River with existing flood defences included, the flood study estimates flood peak levels at cross section number 9.080 of 78.69, 79.11 and 79.60 m AOD for, respectively, the 100 year return period flood peak discharge, the 100 year return period flood peak discharge plus 20% and the 1000 year return period flood peak discharge. The corresponding flood peak levels at cross section number 9.081 are estimated at 79.46, 79.78 and 80.45 m AOD respectively. This compares to a top of flood embankment level of 79.39 m AOD at cross section number 9.080 and 80.49 m AOD at cross section number 9.081. The flood study shows that the flood defences alongside the west bank of the Rhymney River through Llanbradach protect the site against flooding from the 100 year return period flood peak discharge plus 20%. However, the 1000 year return period flood peak discharge is shown to flood the lower lying part of the site alongside the Rhymney River flood embankment.

(11) Although flood defences protect the whole of the site against flooding from the 100 year return period flood peak discharge plus 20% in the Rhymney River, the area of the site to be developed is part above and part significantly below the adjacent flood peak levels for this event. A plateau above these flood peak levels is proposed for the area of the site to be developed, because it substantially diminishes the impact of the residual flood risk. Linear interpolation between cross section numbers 9.080 and 9.081 gives flood peak levels of 79.25 and 79.40 m AOD opposite, respectively, the southern and northern ends of the Glyn Derwen frontage to the site for the 100 year return period flood peak discharge plus 20% in the Rhymney River. Therefore, a development plateau level falling from 79.40 m AOD at its northern end to 79.25 m AOD at its southern end, with floor levels

of buildings at least 0.6 metres higher (i.e. 80.00 m AOD at the northern end of the development plateau falling to 79.85 m AOD at the southern end of the development plateau) would satisfy the flood protection requirements of TAN 15 (reference (1)(d) above) and the EA (reference (3) above). However, the Glyn Derwen frontage to the site has road levels falling from 80.45 m AOD at the northern end of the frontage to 79.90 m AOD at the southern end of the frontage. As a precaution against the possible flooding of dwellings through surcharging of adjacent sewers or drains in Glyn Derwen, the development plateau will have levels falling linearly from 80.60 m AOD at its northern end to 80.05 m AOD at its southern end, with floor levels of buildings at least 0.15 metres above the highest finished level around the perimeter of the building.

(12) Linear interpolation between cross section numbers 9.080 and 9.081 gives flood peak levels of 79.77 and 79.97 m AOD opposite, respectively, the southern and northern ends of the Glyn Derwen frontage to the site for the 1000 year return period flood peak discharge in the Rhymney River. The levels proposed for the development plateau (reference (11) above) mean that it will not be flooded by this extreme event. Obviously, therefore, the maximum values for the depth, rate of rise and velocity of floodwaters and time to inundation recommended in paragraph A1.15 of appendix 1 of TAN 15 for residential development will not be exceeded on the developed site, which satisfies the flooding consequences requirements of TAN 15 (reference (1)(e) above).

(13) The ingress and egress route from the proposed residential development in an extreme flood event would be through the existing housing estate of which the site forms part. It would be north along Glyn Derwen for some 0.08 kilometres to its junction with Glyn Bedw, west and then south along Glyn Bedw for some 0.13 kilometres to its junction with the Pant Glas and west along Pant Glas for some 0.21 kilometres to its junction with Wingfield Crescent. The route would then continue either north or south along Wingfield Crescent to higher ground in flood risk zone A. Flood defences alongside the west bank of the Rhymney River through Llanbradach protect this route throughout against flooding from the 100 year return period flood peak discharge plus 20%. Therefore, the ingress and egress route from the developed site satisfies the flood protection requirements of TAN 15 (reference (1)(d) above) and the EA (reference (3) above).

(14) The flood defences alongside the west bank of the Rhymney River through Llanbradach are overtopped by the 1000 year return period flood peak discharge. However, due to the raised level of the existing housing estate in question between Wingfield Crescent and the Rhymney River at Llanbradach, the flood outline maps of the aforementioned Atkins Limited flood study report show that the specified ingress and egress route is not flooded by this overtopping. Obviously, therefore, the maximum values for the depth, rate of rise and velocity of floodwaters and time to inundation recommended in paragraph A1.15 of appendix 1 of TAN 15 for residential development will not be exceeded on the ingress and egress route, which satisfies the flooding consequences requirements of TAN 15 (reference (1)(e) above).

(15) The site does not flood from the 100 year return period flood peak discharge plus 20% in the Rhymney River (reference (10) above). Therefore, the filling proposed to part of the site to form a plateau of the area to be developed (reference (5) and (11) above) will not require the provision of compensatory flood plain storage (reference (1)(f) above).

(16) It is considered that the ground conditions and water table underlying the development plateau will be suitable for the infiltration of surface water. Accordingly, infiltration will be used to mitigate for the effect of the increased surface water run-off caused by the development (reference (1)(f) above). Driveways and car parking areas to the proposed dwellings will have a permeable pavement design. Each dwelling will have a soakaway to which the surface water run-off from the roof will drain. The design of the permeable pavements and soakaways will be in accordance with Construction Industry Research and Information Association (CIRIA) publications C967 of 2007 titled "The sustainable urban drainage systems (SUDS) manual" and R156 of 1996 titled "Infiltration drainage : manual of good practice", which are the currently accepted design guidelines, including hydrological and hydraulic design, for infiltration systems.

The above information, together with the incorporation of the land drainage and flood protection and mitigation measures described above, demonstrate that the proposed development conforms to the requirements of TAN 15 and the EA.

10 Movement:

Travel links by public transport to and from the proposed development, as we have suggested in previous sections, are strong, and we believe this would discourage the use of cars for the majority of short to medium distance journeys.

The Secured by Design recommendations seek secure vehicle parking, and our proposals allow space within the garage for bicycles to be securely parked too.

11 Design Evolution:

The site layout began with the intention for the proposal to be of a higher density, and extending north and south into the areas outside of the currently defined Red Line boundary, but although this may have been justifiable or appropriate in terms of good use of available land for new homes, we believe that we have arrived at a level of development for the site which is appropriate to the the scale of the street, and density of the street, in keeping with it's surroundings, yet is contemporary, but without being overtly so.

The houses are modelled to fit materially with the existing houses in the street. Having examined the possibility of different types of material, we have concluded with a render finish which reflects that seen on the opposite side of the street.

The materials are intended as low maintenance, and the houses themselves are spacious and relevant to the housing needs of the area, while also giving the scope for change in their layout to adapt to future changes such as a move to a higher percentage of people working from home.

Finally, we believe the development adds to the sense of place and community in the existing street, without cutting it off from the benefits of the countryside beyond.