



Former New Pennsylvania Inn

Circle Way West, Cardiff

DAS Document



**STRONGER
FAIRER
GREENER**





Preface

This Design and Access Statement has been prepared for Cardiff Council by Powell Dobson Architects with the support of the Design Team for a full planning application.

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- Structural and Civil Engineering.....Cambria Consulting Ltd
- Highways Consultant.....Vectos
- Environmental Designer/Engineers.....McCann and Partners

The site is located in Llanedeyrn, north east of Cardiff and is proposed to accommodate 11 dwellings.

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1.1 Introduction

This document has been prepared by Powell Dobson Architects on behalf of Cardiff Council for the full detailed planning submission of the proposed residential development on land at the Former New Pennsylvania Inn, Llanedeyrn.

This document sets out the principle opportunities and constraints of the site and key design concepts that set the structuring elements of the scheme and how they form the design proposals under the following areas:

- The scale and layout of the development.
- External appearance and materials.
- Landscaping.

The site will consist of 11 residential homes, all of which will be affordable housing, comprising of a mix of 2 and 3 bedroom family homes along with public space, landscaping, highways and drainage infrastructure.

The aspiration is to deliver high quality, energy efficient and sustainable residential development with strong place-making credentials aligning with the principles as set out in the WDQR and Lifetime homes.



2.1 Site Location

The Site is 0.3 ha of brownfield land located on the ward of Pentwyn in the north east of Cardiff, encompassing the communities of Pentwyn and Llanedeyrn, with a population of circa 15,634. This area bordered to the north by Pontprennau & Old St Mellons, west by Cyncoed and to the south by Penylan ward.

Development in the area is at a low density, and the pattern of highway access is typical of Radburn design principles with few pedestrian links. Buildings are clustered in scaled groups of to 2 and 3 storeys. There are good travel connections with Circle Way West highway arcing the site from the south-west to north-east with a bus route. A public right of way runs alongside to the west of the site at a lower level, leading from a subway, adjacent to the extensive wooded open SINC area.

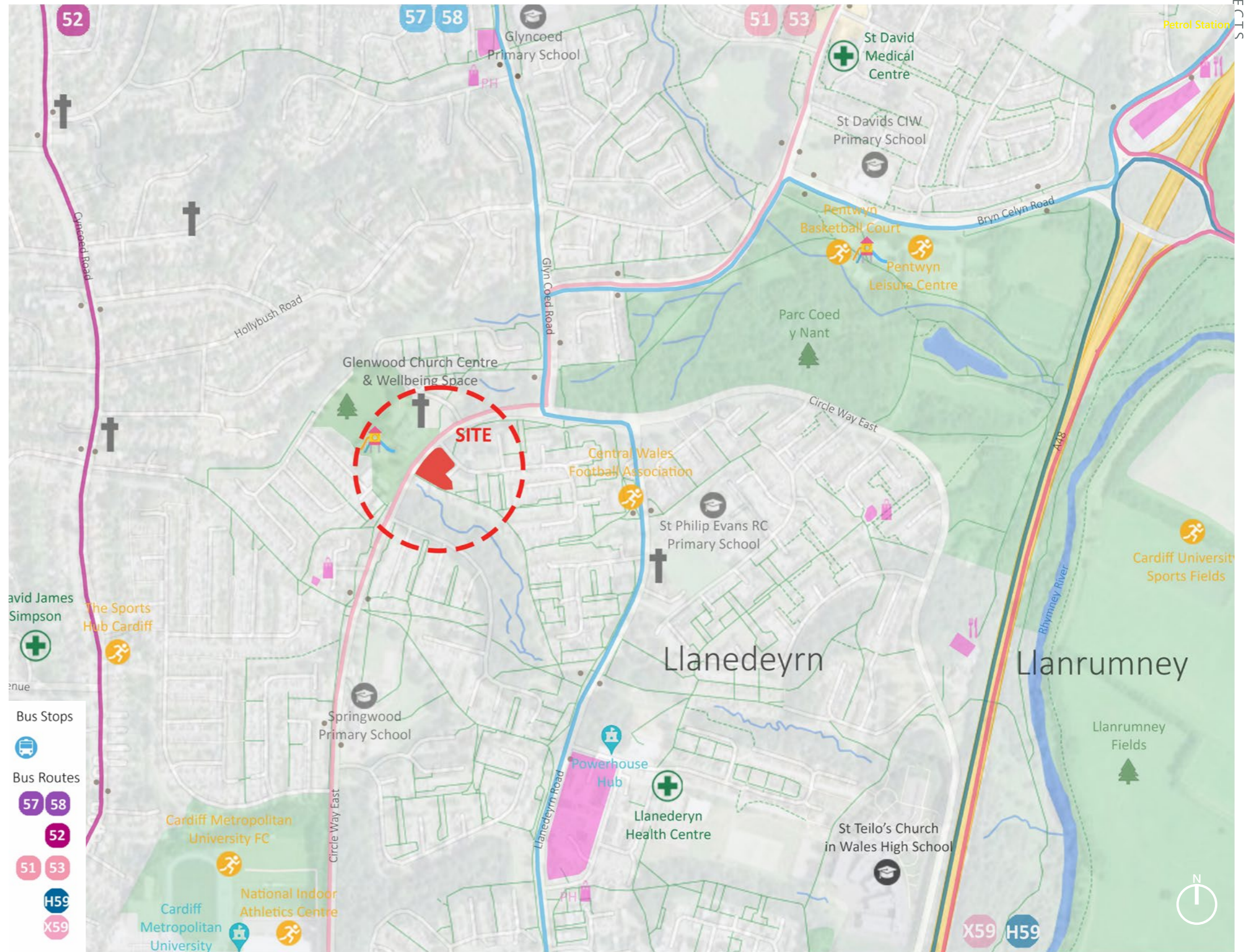


2.2 Wider Area Analysis

The diagram opposite indicates the local facilities. The Community is well served by retail shops, faith provision and essential services such as healthcare, community, youth, hub, library, learning and leisure facilities. Education needs are met by English-medium (EM) Springwood Primary, Welsh-medium (WM) Berllan Deg Primary School in walking distance and then by secondary school provision; Ysgol Gyfun Gymraeg Bro Edern (WM) and Llanishen High School (EM).

There are good travel connections with Circle Way West highway arcing the site from the south-west to north-east with a bus route and is identified as an Integrated Transport Network (ITN) minor road.

Nearby public open space is good and consists of Glennwood play area beyond the subway to the north-east, open space to the north-east and immediately south a wooded area consisting of a site of nature conservation interest (SINC), traversed with informal footpaths.



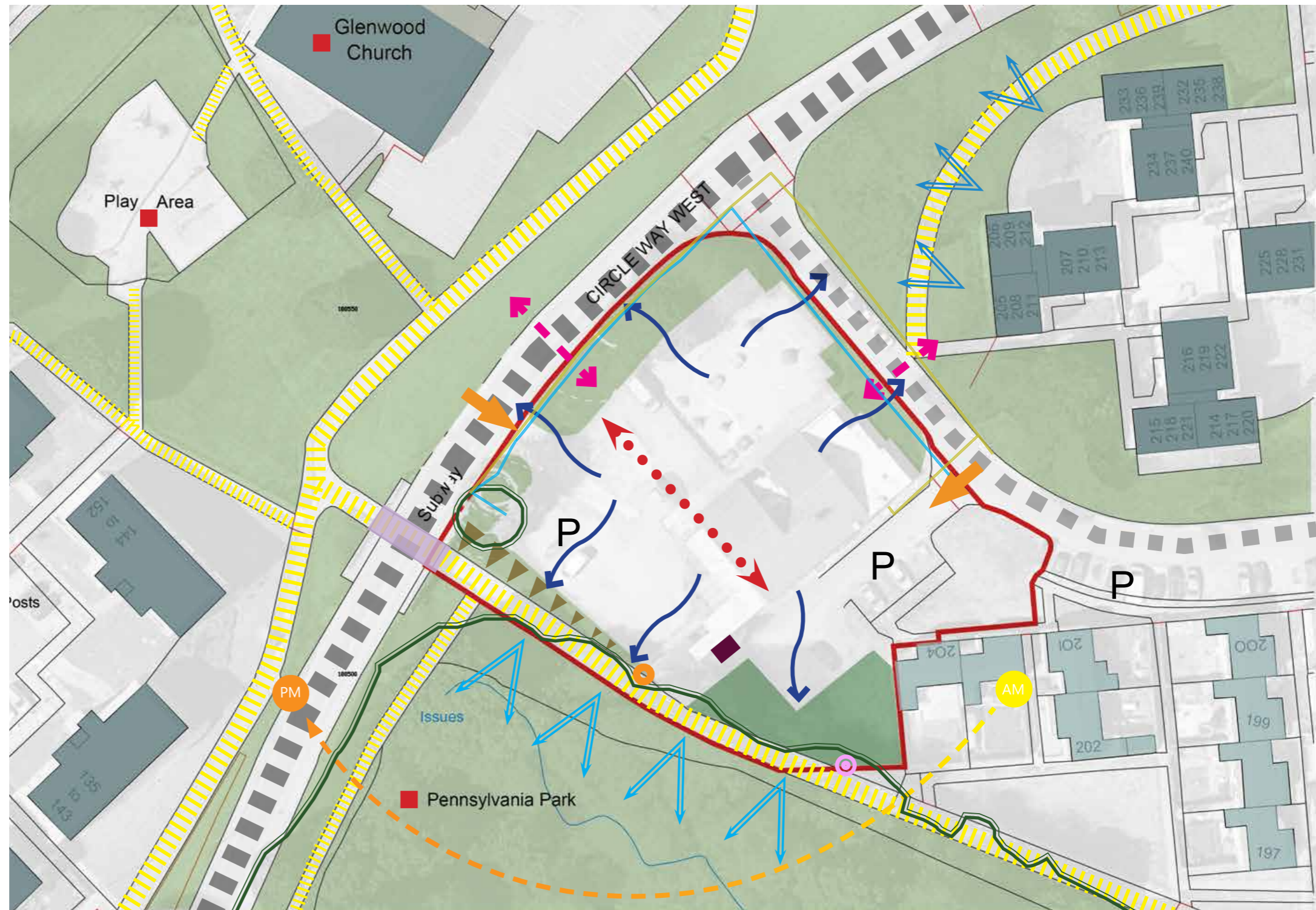
2.3 Opportunities & Constraints

A key quality of the site and wider context is that it is dominated by generous mature tree planting. Adjacent to the site the valley to the south is a dense woodland, whilst a group of large trees also abut the site over the highway to the north. The on-site trees should be protected by the development where they sit on the verge adjacent to Circle Way West. There is one tree in the parking area to the south, in an area that could also be enhanced by further planting.

The pattern of highway access is typical of Radburn design principles, with a strict highway of disconnected cul-de-sacs linking to access and distributor roads, which connect to the wider area. The site sits immediately on a distributor road with access to the plot directly from it but also with a site access from the Brynfedw housing estate to the east.

The site sits on the segregated footpath network common to similar Radburn layouts, providing few pedestrian links to the site, apart from to the south; where the underpass links to the network west, south and north and also to the north; where the path approaches the highway adjacent to the site and then stops. A public right of way runs alongside to the west of the site at a lower level, leading from a subway, adjacent to the extensive wooded open SINC area. Whilst footpaths are limited and disconnected, there is a 'safe route to school' identified surrounding the majority of the site and traverses the north of the building west to east.

Whilst the site of the existing public house buildings is reasonably flat, with a concrete base extending past this, the 5m contours give some sense of the general topography, with an incline across the site from the high point at the junction, to the lowest point at the southernmost point. This is a change of around 1.5 - 2m. Locally there are some sharp level changes, not least along the southern boundary where the site abuts the footpath. The area of this incline is demarcated by the edge of the pub car park.



KEY		ACTIVE FRONTAGES		MAIN ROAD		SUBWAY		MHSW	
RED LINE		LIMITED WIDTH		SECONDARY ROAD		AMENITY SPACE, PARKS AND TREES AREAS		CATEGORY B TREES TO BE RETAINED	
2 STOREY BUILDINGS		THE POTENTIAL HIGHWAY ACCESS POINTS		VERGE ADJACENT TO THE SITE		VIEWS OF THE WOODLAND		ROOT PROTECTION AREAS	
3 STOREY BUILDINGS		EXISTING PEDESTRIAN CONNECTIONS		EXISTING ABOVE GROUND TANK		VIEWS OF TREES		CATEGORY C TREES CONSIDERED LOW AMENITY VALUE	
VERY STEEP, DOWN TO FOOTPATH WATER		POTENTIAL AREA FOR A PEDESTRIAN CROSS		SUBWAY		EXISTING STAIR GAS		POTENTIAL DIRECT OBSTRUCTION OF SUNLIGHT	

2.4 Existing Character Analysis



Glenwood, Circle Way West (immediate context); 3 storey, flat roof brick and render



The Maelfa Centre; 3 to 10 storey contemporary flat roof commercial and residential development in brick and cladding, with 2/3 storey housing with pitched roofs.



Brynfedw Estate (immediate context); A-symmetric roofs with gables on to Brynfedw road. Radburn layout with shared green space and rear parking courts



Chapelwood - Gable front design provides interesting roofscape. Radburn layout.

2.5 Site Context

The Site context is primarily residential in use, with very extensive areas of woodland maintained in the plan of the estate. It sits on the segregated footpath network common to similar Radburn layouts, providing few pedestrian links to the site, apart from to the south; where the underpass links to the network west, south and north and also to the north.

A key quality of the site and wider context is that it is dominated by generous mature tree planting.



2.6 Planning Policy Review

Section 38(6) of the Planning Compulsory Purchase Act 2004 requires that planning decisions be made in accordance with the development plan unless material considerations indicate otherwise. The development plan for the area comprises the Cardiff Local Development Plan 2006-2026 (January 2016).

A summary of relevant LDP policy is provided in the following table. Certain policies are covered in more detail below.

Key Policies		Housing Policies	
KP5	Good Quality and Sustainable Design	H6	Change of Use or Redevelopment to Residential Use
KP8	Sustainable Transport	Transport Policies	
KP15	Climate Change	T1	Walking and Cycling

KP5: Good Quality and Sustainable Design

In addition to requiring new development to be of a high-quality, sustainable design Policy KP5 stipulates a series of criteria to which development proposals must comply. Relevant amongst these are:

- Responding to the local character and context of the built and landscape setting so that layout, scale, form, massing, height, density, colour, materials, detailing and impact on the built and natural heritage are all addressed within development proposals;
- Providing legible development which is easy to get around and which ensures a sense of continuity and enclosure;
- Creating interconnected streets, squares and spaces as distinctive places, which are safe, accessible, vibrant and secure and incorporate public art where appropriate;
- Providing a healthy and convenient environment for all users that supports the principles of community safety, encourages walking and cycling, enables employment, essential services and community facilities to be accessible by sustainable transport and maximises the contribution of networks of multifunctional and connected open spaces to encourage healthier lives;
- Achieve a resource efficient and climate responsive design that provides sustainable water and waste management solutions and minimise emissions

from transport, homes and industry;

- Achieving an adaptable design that can respond to future social, economic, technological and environmental requirements;
- Promoting the efficient use of land, developing at highest practicable densities and where appropriate achieving the remediation of land contamination;
- Ensuring no undue effect on the amenity of neighbouring occupiers and connecting positively to surrounding communities;
- Fostering inclusive design, ensuring buildings, streets and spaces are accessible to all users and is adaptable to future changes in lifestyle;

KP8: Sustainable Transport

Policy KP8 requires development proposals to integrate with transport infrastructure and services in order to:

- Achieve the target of a 50:50 modal split between journeys by car and journeys by walking, cycling and public transport.
- Reduce travel demand and dependence on the car;
- Enable and maximise use of sustainable and active modes of transport;
- Integrate travel modes;
- Provide for people with particular access and mobility requirements;
- Improve safety for all travellers;
- Maintain and improve the efficiency and reliability of the transport network;
- Support the movement of freight by rail or water; and
- Manage freight movements by road and

minimise their impacts.

T1: Walking and Cycling

To enable people to access employment, essential services and community facilities by walking and cycling the Council will support developments which incorporate:

- High quality, sustainable design which makes a positive contribution to the distinctiveness of communities and places;
- Permeable and legible networks of safe, convenient and attractive walking and cycling routes;
- Connections and extensions to the Cardiff Strategic Cycle Network and routes forming part of the Cardiff Walkable Neighbourhoods Plan;
- Measures to minimise vehicle speed and give priority to pedestrians and cyclists;
- Safe, convenient and attractive walking and cycling connections to existing developments, neighbourhoods, jobs and services;
- Infrastructure designed in accordance with standards of good practice including the Council's Cycling Design Guide;
- Supporting facilities including, signing, secure cycle parking and, where necessary, shower and changing facilities.

Supplementary Planning Guidance

Supplementary Planning Guidance (SPG) are produced to provide further detail on certain policies and proposals contained within the Local Development Plan. The following approved SPGs are relevant to the proposed development:

- Managing Transportation Impacts (July 2018)
- Residential Design Guide (January 2017)

National Planning Policy

Planning Policy Wales (PPW) (11th Edition, February 2021)

Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government, providing guidance to Local Planning Authorities (LPAs) for the preparation of development plans and the determination of planning applications through their development management functions.

Good Design Principles

Planning Policy Wales (PPW) sets out five key objectives to achieve good design within new developments;

- Movement
- Access
- Character
- Community Safety
- Environmental Sustainability

With these five objectives there is also an emphasis on the importance of site and context analysis to development proposals. This analysis may highlight constraints and opportunities presented in each case of development.



Figure 1: PPW Good Design Principles

Design and Access Statements

PPW describes Design and Access Statements as a communication tool that explain how the objectives of good design have been considered from the outset of the development process. It encourages applicants to take an integrated and inclusive approach to sustainable design, proportionate to the scale and type of development proposed.

Placemaking Principles

Planning Policy Wales defines placemaking as a “Holistic approach to the planning and design of development and spaces”. This approach is in line with Placemaking Wales, and considers six placemaking principles:

1. People and Community
2. Location
3. Movement
4. Mix of Uses
5. Public Realm
6. Identity

The principles above have been used to create the ‘National Sustainable Placemaking Outcomes’ (Figure 2). These outcomes are as follows:

- Creating and Sustaining Communities
- Growing Our Economy in a Sustainable Manner
- Making Best Use of Resources
- Maximising Environmental Protection and Limiting Environmental Impact
- Facilitating Accessible and Healthy Environments



Figure 1: PPW Placemaking Principles

Technical Advice Notes (TANs)

Planning Policy Wales is supplemented by a series of Technical Advice Notes (TANs) which provide further national advice and guidance on specific areas of the planning system. Of particular relevance to this application are the following TANs:

- TAN 12: Design (2016)

The purpose of this TAN is to equip all those involved in the design of development with advice on how ‘Promoting sustainability through good design’ and ‘Planning for sustainable building’ may be facilitated through the planning system. This TAN does not provide exhaustive text on good design, other TANs and guidance such as the Manual for Streets, also cover design issues relevant to specific topics or types of development.

Future Wales - The National Plan 2040

The National Plan 2040 is the national development plan that covers Wales that was produced by Welsh Government and covers the period up to 2040. The National Plan 2040 does not replace Planning Policy Wales (PPW) and will complement PPW and the supplementary Technical Advice Notes (TANs).

2.7 Client Brief

Project Vision

The development will provide a range of highly energy efficient council houses for families, set within a green landscape that looks beyond the site boundary to better connect people to local facilities – improving connections to open space, play and other community facilities.

New homes will be spacious, light and practical for family life. Through layout, scale and materials, the aim is for a sustainable development, that encourages a sense of place and integrates with the landscape character of Llanedeyrn.

Original Brief

The original brief targeted approximately 7 homes at 2 storey and 6 apartments up to 3 storeys at approximately 30-35 dwellings per hectare.

Development of Brief

Through reviewing site options the brief has since changed to be focused solely on housing (no apartments), and a reduction in unit numbers is accepted and has been tested from a viability perspective.

The appointed Design Team will be expected to make an assessment of the site's capacity via context appraisals, balancing character, local context, privacy, green infrastructure, SuDs and development viability requirements through design solutions.

Responding to the site

- The design should begin with an analysis and understanding of the local context as a way of exploring potential design narratives.

- The site is reasonably hidden and there is an opportunity to improve the frontage and relationship to its surroundings.

- There is a positive aspect in all directions with views of the woodland and trees, which the new development should seek to utilise, when considering building orientation and views from windows.

- How the site connects with the existing footpath network and improves pedestrian movement through the site should be considered carefully, to ensure any sharp level changes are dealt with appropriately to allow better movement for all users. This should allow better access to the green spaces, local facilities and the adjacent Brynfedw estate.

- The on-site trees should be protected by development where they sit on the verge adjacent to Circle Way West. There is also one tree in the parking area to the south, in an area that could also be enhanced by further planting.

- The existing verge and hedge to the north-west should also be retained and could be made more of a feature by improved new planting.

- Whilst the site is not in a floodplain, drainage should be explored further, noting there are five gullies on site, one further identified on the periphery and a tank labelled to the south.

Character

- The new development design should reflect the distinctive characteristics of Llanedeyrn, in terms of scale and relationship with the wider landscape.

- The buildings should be low rise, between two and four storeys and of a relatively high density.

- To enable a mix of property types on a narrow site, the design will need to seek innovative ways of achieving amenity standards as the density increases, to ensure privacy, access to outdoor spaces and light into new homes are met.

- Flats should have consideration to manage bike and storage needs and consideration to the connection to outdoor space will be required, such as balconies where feasible.

- There is a significant opportunity to create a strong frontage and attractive development, where this is currently lacking in the current discreet set back buildings.

- Residential parking should be discrete and not dominate the street view and consider the existing parking and any commitments nearby.

A sustainable development

- The density of the scheme should be relatively high, offering house typologies such as terraces and flats that provide energy conservation benefits.

- The development should encourage people to walk, cycle and take public transport rather than drive.

- The orientation of the development should seek to take advantage of solar gain and avoid overshadowing.

- We will also expect sustainable urban drainage systems (SuDS) as part of the public realm, and a proactive response to biodiversity.

- The development should protect areas of woodland and be integrated with the wider landscape. Particular regard should be had to the relationship between the SINC area to the south, to protect the green edge / character and any ecology.

- The landscape strategy should seek to retain all existing landscape features. The Design Team should demonstrate how these have influenced the design and how they have been incorporated and afforded importance within the scheme to create a strong character and enviable setting for new homes.

- Every scheme is an opportunity to plant new trees, making boundaries green and providing a variety of landscaped spaces to encourage people outdoors.

3.1 Placemaking - Key Design Principles

The design team recognise the importance of placemaking; creating attractive, healthy and friendly environments integrated within the existing context is a key priority for the team.

People and Community

The public consultation strategy has been developed to ensure full community engagement in the development of these proposals. The first event was held on the 4th of October in the Glenwood Church Centre directly opposite to the site. Information was gathered from locals to understand how people move across the current site and the routes and connections that they use surrounding the site, what local facilities they use, and what their views on the initial concept proposals to inform the ongoing design.

Movement

The redevelopment is an opportunity to strengthen the east west pedestrian connection through the site, a well-used route for locals who currently walk on the grass or the road as no pavement is provided for pedestrians. Improving this key pedestrian route by making it safer, greener and more direct, will be a great tangible benefit for the local community.

Location

There are good travel connections with Circle Way West highway arcing the site from the south-west to north-east with a bus route and is identified as an Integrated Transport Network (ITN) minor road. The existing community bordering the site is well served by retail shops, faith provision and essential services such as healthcare, community, youth, hub, library, learning and leisure facilities within walking distance.

Public realm

Existing landscape features will be retained where possible (mainly the trees along the frontage), and new sections of landscaping, trees and SUDS are proposed as part of the site layout. It is proposed that areas of landscaping and SUDS are extended beyond the site boundaries to the existing estate, to improve the immediate context and provide betterment to existing residents where possible.

Mix of uses

Whilst the site is proposed for solely residential use, there are existing community facilities in the immediate vicinity and within walking distance of the site, and the existing community would benefit from improved pedestrian connections across the site to provide safer and more convenient routes between their homes, green spaces, community centres and shops.

Identity

The pattern of highway access is typical of a Radburn design, with a strict highway of disconnected cul-de-sacs linking to access and distributor roads, which connect to the wider area. Footpaths are limited and disconnected, generous landscaped areas characterise the streets. Buildings are clustered in scaled groups of 2 and 3 storeys. The Bryn Fedw estate adjacent is 1960s/ 80s aesthetic, other estates of note include Chapelwood. Recent developments have included the Maelfa Centre and Glenwood Centre. As the design proposal is developed the characteristics of the surrounding context will be reviewed to ensure that it sits comfortably with the existing context.



Movement: Pedestrian movement opportunities



Public Realm



Identity, connection and safety: Key views and vistas

3.3 Design Development - Design Process

The design process has mainly focused on a placemaking approach which considered height / massing, noise, public realm and focus points and character of the areas. The main discussions were based on maximizing units, providing well located parking and help where possible to improve the nearby surrounding connections.

The Main design principles are:

- Green area and trees maintained fronting Circle Way West.
- Opportunity to provide a pedestrian footway along Circle Way West and Brynfedw Road.
- Side on to the existing footpath through the woodland.
- SUDS features and landscaping to extend beyond original red line to existing estate.



Design Option 1 - Initial design iteration - Houses

ACCOMMODATION SCHEDULE 1		
HOUSES	AREA (m ²)	NO
4P 2B	85	9
TOTAL		9

Design Option 1 - Housing

The first approach did not include the existing rear car parking area within the red line, this does not provide the best layout in terms of placemaking (awkward relationship with rear courtyard and southern PROW) or maximising unit numbers

Design Option 2 - Housing

On plot parking is provided for the majority of units facing Circle Way West, however unit numbers are not maximised and the frontage created is not as strong.

Design Option 3 - Housing

The option explores the incorporation of apartments as frontage to Circle Way West, maximising unit numbers whilst also providing . There is already a high provision of flats in the area and during discussion with local ward members and the community a preference for the development of housing was established as there is a demand for family housing locally.



Design Option 2 - Houses

ACCOMMODATION SCHEDULE 1		
HOUSES	AREA (m ²)	NO
4P 2B	85	7
5P 3B	95	3
TOTAL		10



Design Option 3 - Flats

ACCOMMODATION SCHEDULE 1		
HOUSES	AREA (m ²)	NO
4P 2B	85	9
5P 3B	95	2
FLATS	AREA (m ²)	NO
3P 2B	58	8
TOTAL		19

Design Development - Design Process

Design Option 4 - Site Layout For Public Consultation

The design follows the principles previously established, with a strong frontage and proposed pedestrian footway on Circle Way West, and remaining units facing Brynfedw road and the rear access for car parking.

A courtyard area has been incorporated for car parking to the rear which allowed us to maximize unit numbers whilst ensuring that it is not a car dominant scheme.

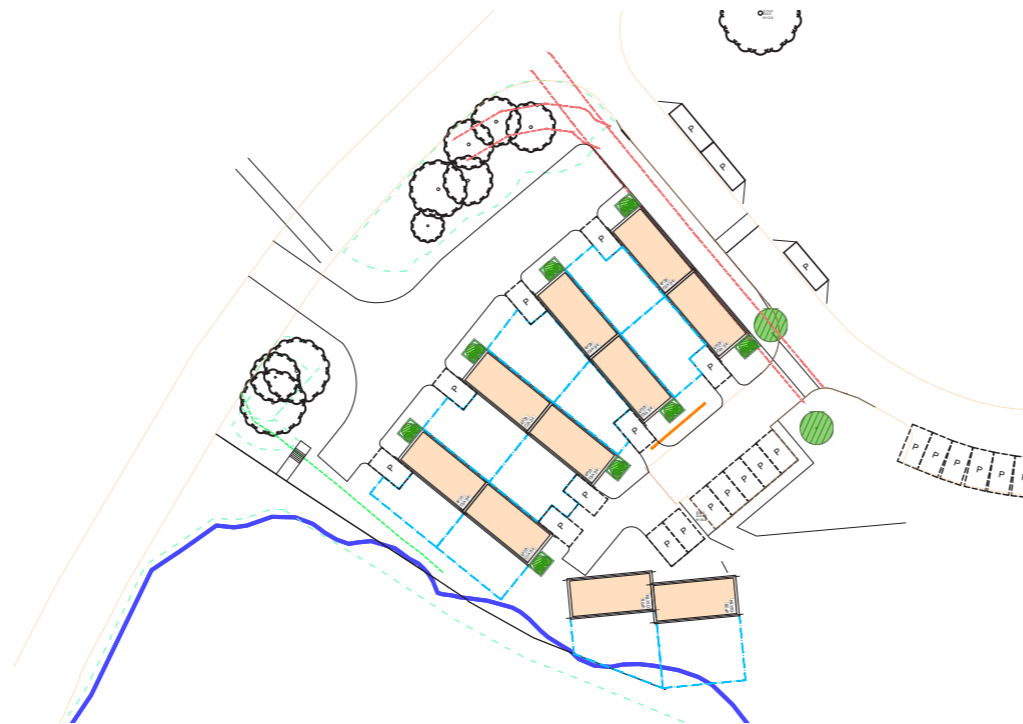


Design Option 4 - Site Layout for Public Consultation

ACCOMMODATION SCHEDULE		
HOUSES	AREA (m ²)	NO
4P 2B	85	9
5P 3B	95	2
TOTAL		11

Design Option 5

Following the Design Commission For Wales review the intention was to explore whether an alternative design approach to the layout could achieve the same unit numbers, whilst resolving the challenges between front and rear relationships that a traditional layout created due to the limited site width. This proposal achieves 10 units, 8 of which are single aspect, 2 units are dual aspect facing Brynfedw Road. Each garden is 50m² and a minimum of 5m in depth. The blind wall from the dwelling creates a courtyard around the garden. This requires a very bespoke housetype design with special attention required for the design of the roof profile to ensure that each dwelling in the dense configuration receives adequate daylighting. The dwellings are arranged as a central spine, and we aimed to reduce the amount of roads penetrating the site for efficiency of the layout; on plot car parking is achieved for the majority of homes.



Design Option 5

ACCOMMODATION SCHEDULE		
HOUSES	AREA (m ²)	NO
4P 2B	85	10
TOTAL		10

3.4 Design Parameters



MIX AND QUANTUM

7 Units - 4P2B Houses

4 Units - 6P3B Houses

100% Affordable housing



SCALE

2 storey homes

2.5 storey homes



FRONTAGE CHARACTER AND DETAILING

Scale and massing to compliment existing context

Key Elevations



MOVEMENT

Pedestrian connections

Vehicle Access

3.5 Public Consultation

The first community event was held on the 4th of October in the Glenwood Church Centre directly opposite to the site. The aim was to gather information from locals to better understand the site and context, as well as introducing them to the development, and gather their opinion on the concept proposals to inform the ongoing design. Conversations were focused on the routes and connections that people use surrounding the site and through the site, what works, what could be improved, and what local facilities they use.

Over 70 replies were received to the questionnaire, and approximately twenty people visited the consultation event (boards were also available to view online).

Summary of responses:

- * General agreement that family housing is required in the area. Some 3 bed houses would also be of value. Preference for housing rather than flats
- * Local Leisure Centre has not re-opened since the Covid pandemic causing frustration (Council intends to reopen following refurbishment). General concern of lack of local facilities for children and young adults.
- * Car parking is an issue in the adjacent estate, spaces are not marked properly, driving on the road can be hazardous.
- * Crime and anti-social behaviour in the locality is an issue. Some noted that the pub exacerbated this so family housing is welcomed.
- * Concern that development will put more pressure on local schools, doctors surgeries and dentists which are already struggling.



PIC•COLLAGE

3.6 Secure By Design

Powell Dobson Architects met with an officer from Secure by Design (SBD) on 2nd February 2023 to discuss recommendations in respect of the site. Our latest proposed layout on this page shows our latest proposal and our response to the comments received from SBD officer.

1. SBD were concerned about increasing permeability to the woodland path to the south of the site in respect of our proposed footpath onto this walkway. In response we removed this path and increased the landscape buffer to retain the existing edge, discouraging antisocial behaviour.
2. SBD suggested that the rear gardens which back onto the public open space should be provided with a wall at least 2m high. In response, we propose a 2m high brick wall along the edge. Vulnerable areas such as exposed side gardens also propose a 2m high brick wall. See boundary treatment enclosures plan and sections types A-C and boundaries layout plan.
3. It was suggested that boundaries to properties needed to be clearly defined. In response to this we enhanced our landscape and boundary proposal to create a clear definition between public and private space. 1.837m gates to the rear gardens are proposed and will be lockable and operable from both sides. See boundary treatment enclosures plan and sections type C.
4. Gable ends are provided with additional windows from habitable rooms for natural surveillance. See proposed elevations.
5. Parking facilities will be well lit for safety.
6. Planting within the scheme has been considered so that once mature, the height exceeds no more than 1m, and trees will have no foliage, epicormic growth or lower branches below 2m, thereby allowing a 1m clear field of vision. See landscape strategy.
7. All external doors and windows will be specified to appropriate safety standards.
8. Bicycle stores are proposed next to buildings and in view of habitable rooms and capable of being locked. External containers will be specified according to the minimum security standards. See garden shed detail drawing.



Scale 1:500 @ A3



4.1 Proposed Site Layout

Scale 1:500 @ A3



Following feedback from the Design Commission For Wales review and the public consultation, refinements to the layout include the elimination of rear alleys and any unnecessary connections through the layout (improving safety), reorientation of Southern units to improve relationship with the PROW to the South, and moving the rear car parking space so that they are close as possible to the houses they serve.

The rear of the properties facing Circle Way West will on occasion function as a primary entrance due to the resident's car parking to the rear. A study of the boundary treatment to this edge (see pages 30-31) proposes to soften this boundary to the benefit of the rear parking court, and the relationship between them and the two southern most units.

The softening of the rear boundaries of the Circle Way properties significantly improves the relationship between these and the two units facing the rear parking court. The proposed approach draws inspiration from the principles of the Radburn layout, seen on the adjacent Brynfedw estate.

2.5 storey units have been introduced fronting Circleway West, increasing the unit sizes and height along this edge.



Minor modifications have been made as a result of feedback from Pre-app which further develops the scheme and incorporates considerations from all disciplines.



ACCOMMODATION SCHEDULE			
HOUSETYPE	STOREYS	AREA (m ²)	NO
4P 2B	2	85	7
5P 3B	2.5	113	4
TOTAL			11

100% AFFORDABLE - 11 UNITS
Development Area: **0.36 Hectares**

15

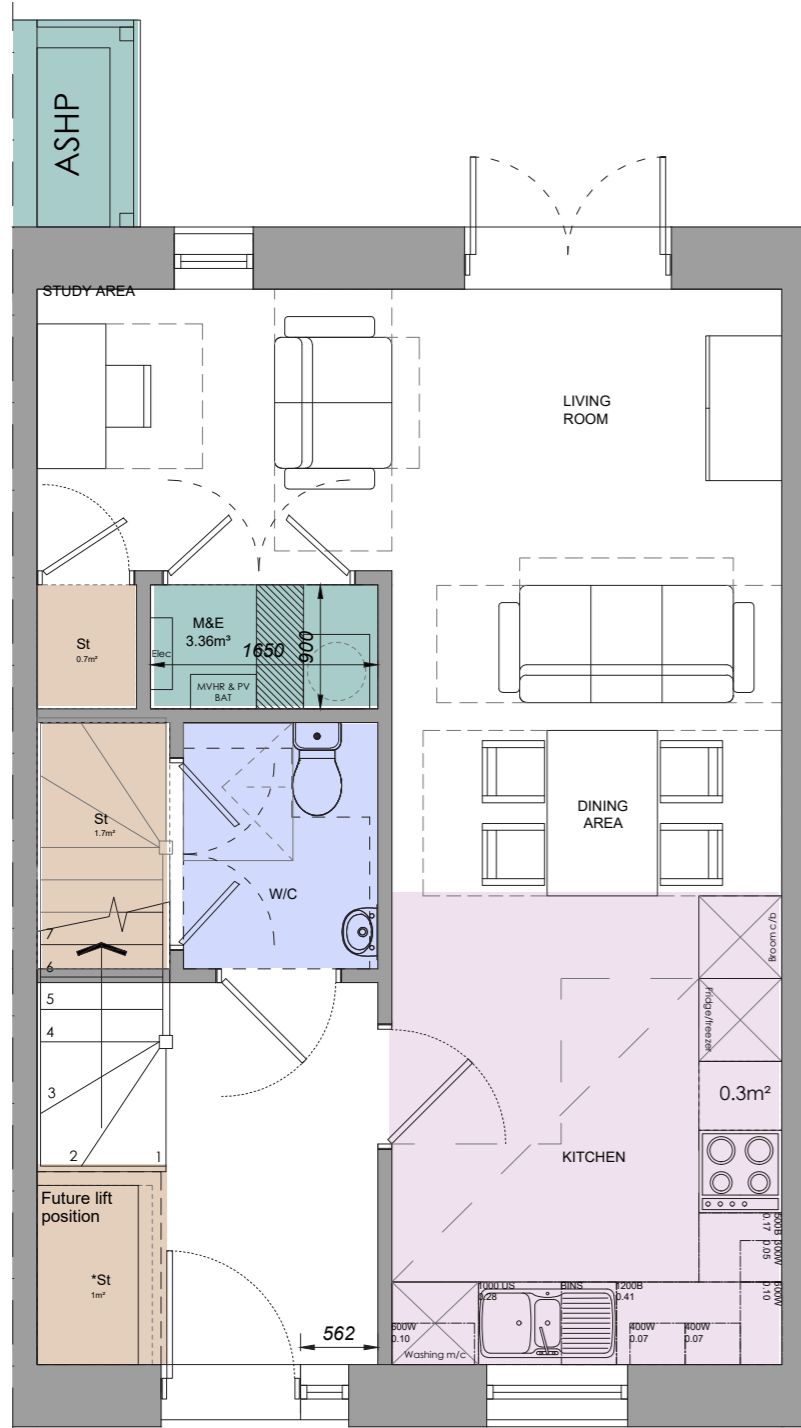
-  Proposed tree
-  SUDs Features

4.2 Housing Typologies - 2 bedroom 4 person home

KEY

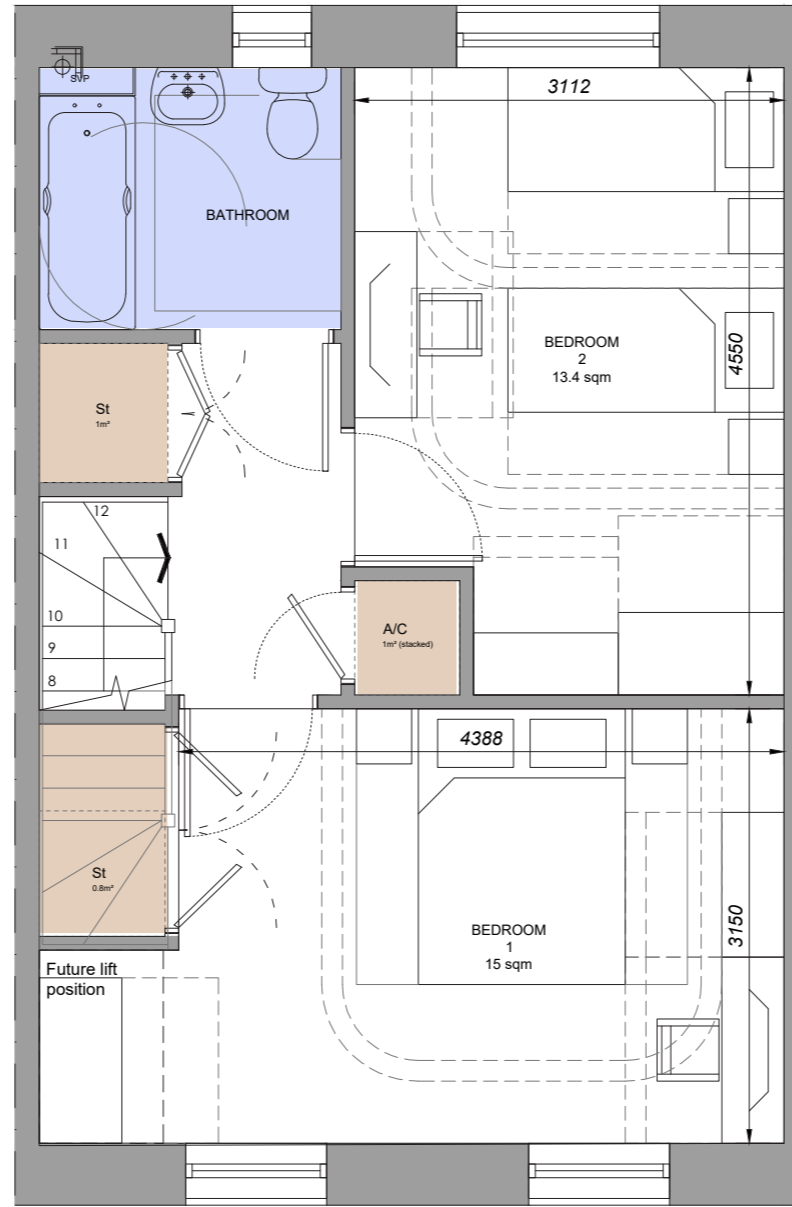
- Storage
- M&E
- Kitchen
- Bathrooms

GIA: 85m²
Cardiff Design Standard Area: 85m²



GROUND FLOOR PLAN

This 2 bed home has a standard footprint that can be adapted to a variety of site conditions. Traditional in form to a straight terrace, the open plan layout maximises the usable living space, natural light and ventilation. A service zone concealing ample storage for general needs and mechanical equipment frees up the rest of the layout allowing it to be completely flexible to suit the occupant's needs, and modern ways of living.



FIRST FLOOR PLAN

- Service spaces (WC and M&E) located centrally in the plan to maximise rear external wall space so that generous living spaces can make the most of the daylight and connection to the garden
- Generous entrance lobby with storage opportunity where future lift may sit
- Open plan kitchen, living and dining creating opportunities for natural light and ventilation, and maximises the usable area for a small household



FRONT ELEVATION

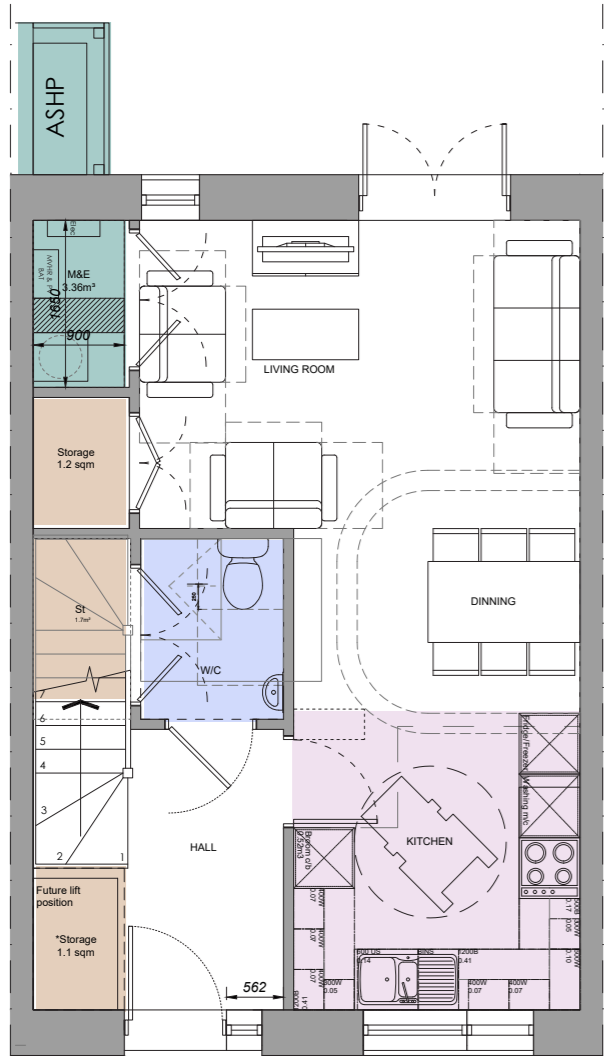
- Kitchen located at the front of the home, minimising extract ductwork runs
- Study area location bright and airy near a window
- Bin and bike store conveniently located to front of property where rear access is not possible
- Space for future shower in ground floor WC
- Rear access to a garden
- M&E located within one store with MMC opportunities

4.3 Housing Typologies - 3 bedroom 6 person, 2.5 Storey home

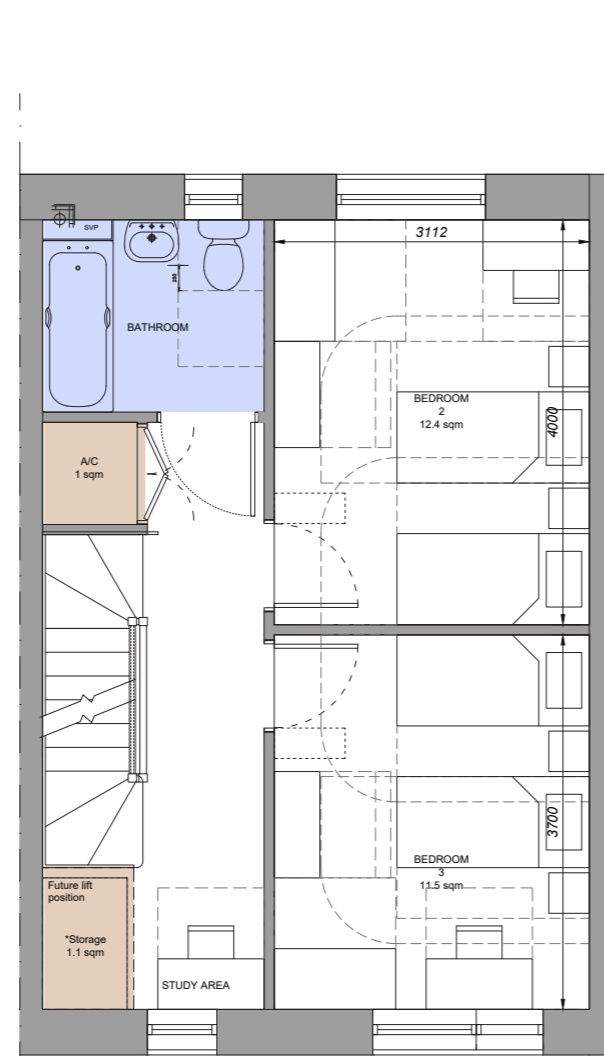
GIA: 113m² (2.5 storeys)
Cardiff Design Standard Area: 93m² (2 storeys)

KEY

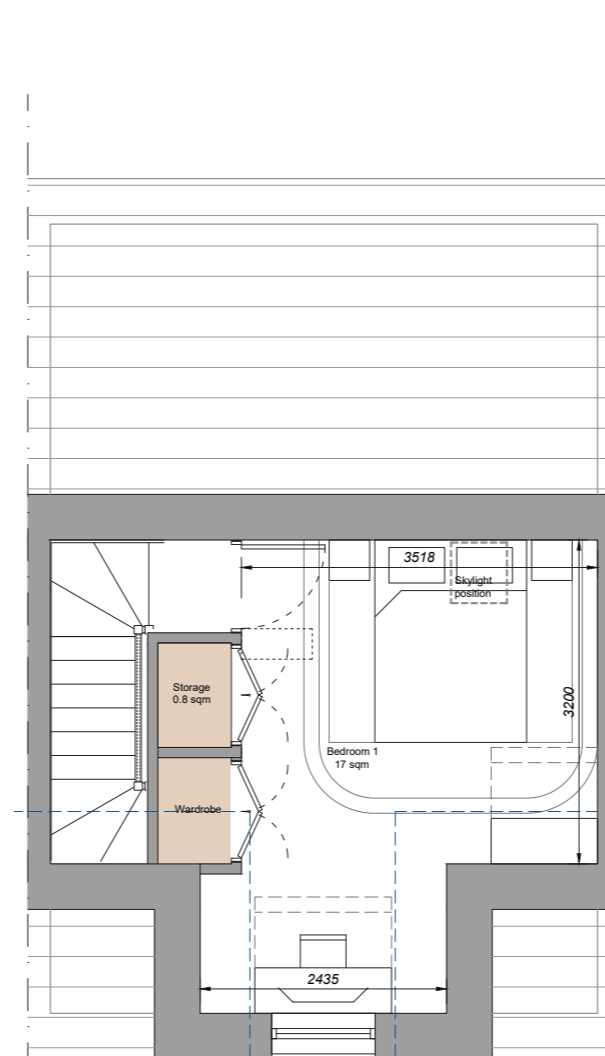
- Storage
- M&E
- Kitchen
- Bathrooms



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



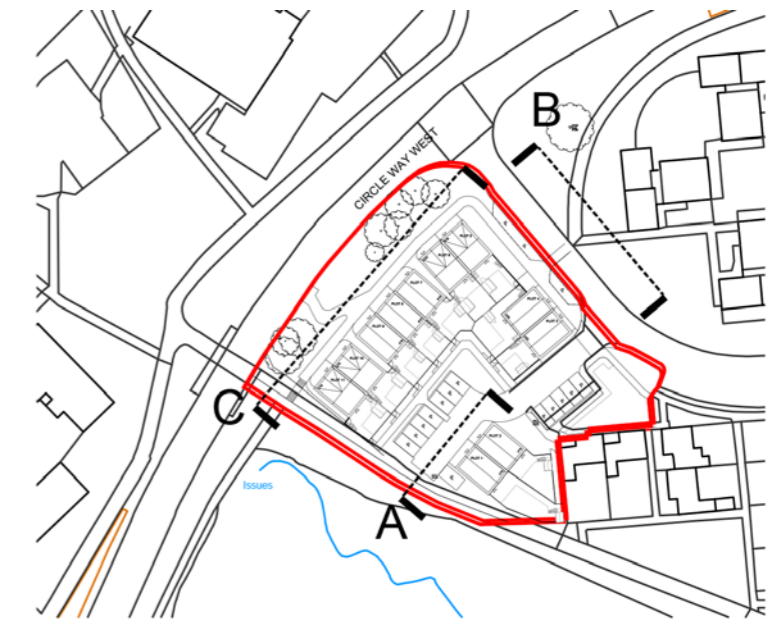
FRONT ELEVATION

- Service spaces (WC and M&E) located centrally in the plan to maximise rear external wall space with light and access to garden for generous living spaces
- Generous entrance lobby with storage opportunity
- Open plan kitchen, living and dining creating opportunities for natural light and ventilation, and maximising usable area for small household
- Generous bedroom dormer with additional living space

- Kitchen located at the front of the home, minimising extract ductwork runs
- Study area location bright and airy near a window
- Bin and bike store conveniently located to front of property where rear access is not possible
- Space for future shower in ground floor WC
- Rear access to a garden
- M&E located within one store with MMC opportunities.

4.4 Elevation Studies

Section A



Proposed Site Location Plan - Section Lines

Section B
Brynfedw Road



Section C
Circle Way West



4.5 Precedent Images

The existing character analysis and precedent images, along with the massing studies produced, will form the basis for the development of the proposed elevations. The site is very visible from Circle Way West and will be an extension to the existing community, the proposed character therefore needs to be reflective of this and of the place.

Welsh Development Quality Requirements

All homes will be designed to Welsh Development Quality Requirements standards, including lifetime homes requirements, which also applies to elements of the wider site design. We will also be working to the Cardiff Design standards which exceed the new Welsh Development Quality Requirements minimum floor areas.



Landscape strategy -Precedent studies



4.6 Indicative Massing

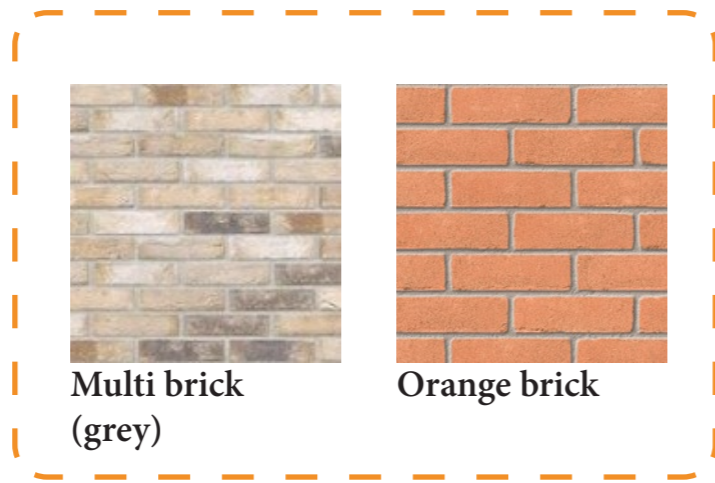


Indicative massing model views - Circle Way West

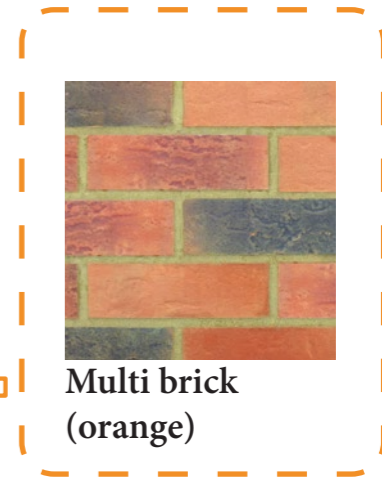
4.7 Materiality



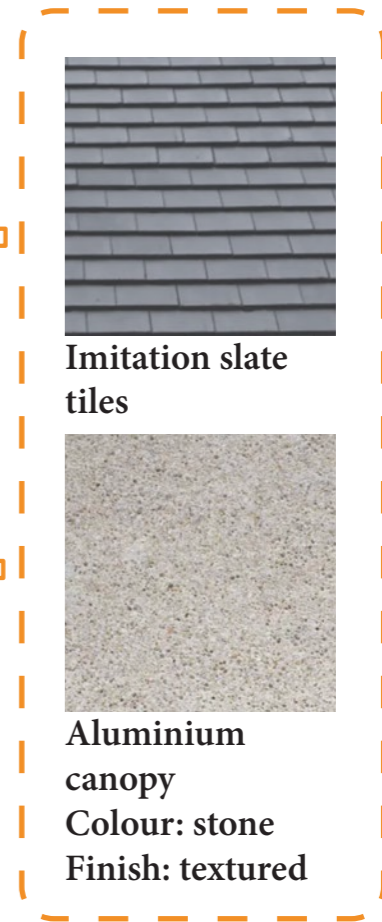
4P2B Street Facing Facade



6P3B Street Facing Facade



6P3B Street Gable
End



4.8 Indicative Views



Indicative massing model views - Circle Way West



Indicative massing model views - Circle Way West



Indicative massing model views

4.9 Rear Boundaries Study



Landscape strategy -Precedent studies

The private rear gardens for units facing Circle Way West and Brynfedw Road have been reduced from 50 sqm (as per SPG) to 40 sqm (Welsh Development Quality Requirements requirement), this allows the green space to be redistributed as shared green space for the benefit of the residents, making the rear parking court greener and more welcoming. The boundary to the rear of these properties on occasion will function as the primary entrance (due to the location of residents' car parking). It is therefore proposed that the boundary treatment is reduced in height from the usual 1.8m wall to a greener edge, formed by a wide planter and a 1.2m trellis fence. The planter functions as a retaining wall and also contributes to the SUDs strategy, it allows growing spaces for the residents whilst also forming benches that encourage the space to be used and inhabited by the residents.



4.10 Rear Boundaries Treatment



Enhanced rear design for residents increased visual impermeability will create charm and character for the area to help enhance and create a strong community links

This proposal will reduce the chance of antisocial behaviour through the enhancement of surveillance created from opening up and integrating the rear boundary of properties

Opportunity for an interesting design element to be incorporated within the scheme, to enhance placemaking through site character features. A raised vegetable growing area or seating can be incorporated as part of the rear boundary feature to separate public from private

Softer rear boundaries will help to integrate the private spaces with its surroundings

Further opportunity for SuDs across the scheme with greater green space

4.11 Landscape Strategy

The proposed landscape for the development aims to provide a harmonious integration into the surrounding built form while enhancing bio-diversity on-site. The majority of existing trees and hedges have been retained. Native hedges have been proposed to connect the existing hedge along Cir Way W to function as a visual barrier between proposed houses and the main road. Ornamental shrubs and herbaceous planting including nectar producers are proposed along proposed houses' frontage to create a buffer between pedestrian and private dwellings to provide privacy and to soften building frontages. At the car park, shrubs planting are proposed along the back garden's fencing to soften the view and provide a green buffer between the pedestrian and the cars. Rain gardens and swale are proposed to meet SuDS requirements and to further boost the bio-diversity on-site via planting rain garden species and wildflower meadow. In addition, wildflower meadow planting is proposed on the bank along southwestern boundary, adjacent to public footpath and existing woodland, which will provide food sources for insects and provide seasonal interests.



4.12 SUDs Strategy

Design concepts:

- SI yet to be undertaken but assumed no permeability on site (worst case).
- Site falls north to south.
- One discharge offsite as a controlled rate.
- Each property has its own bioretention feature before cascading into larger features.
- No runoff from the site for storms protruding up to 5mm of rainfall.

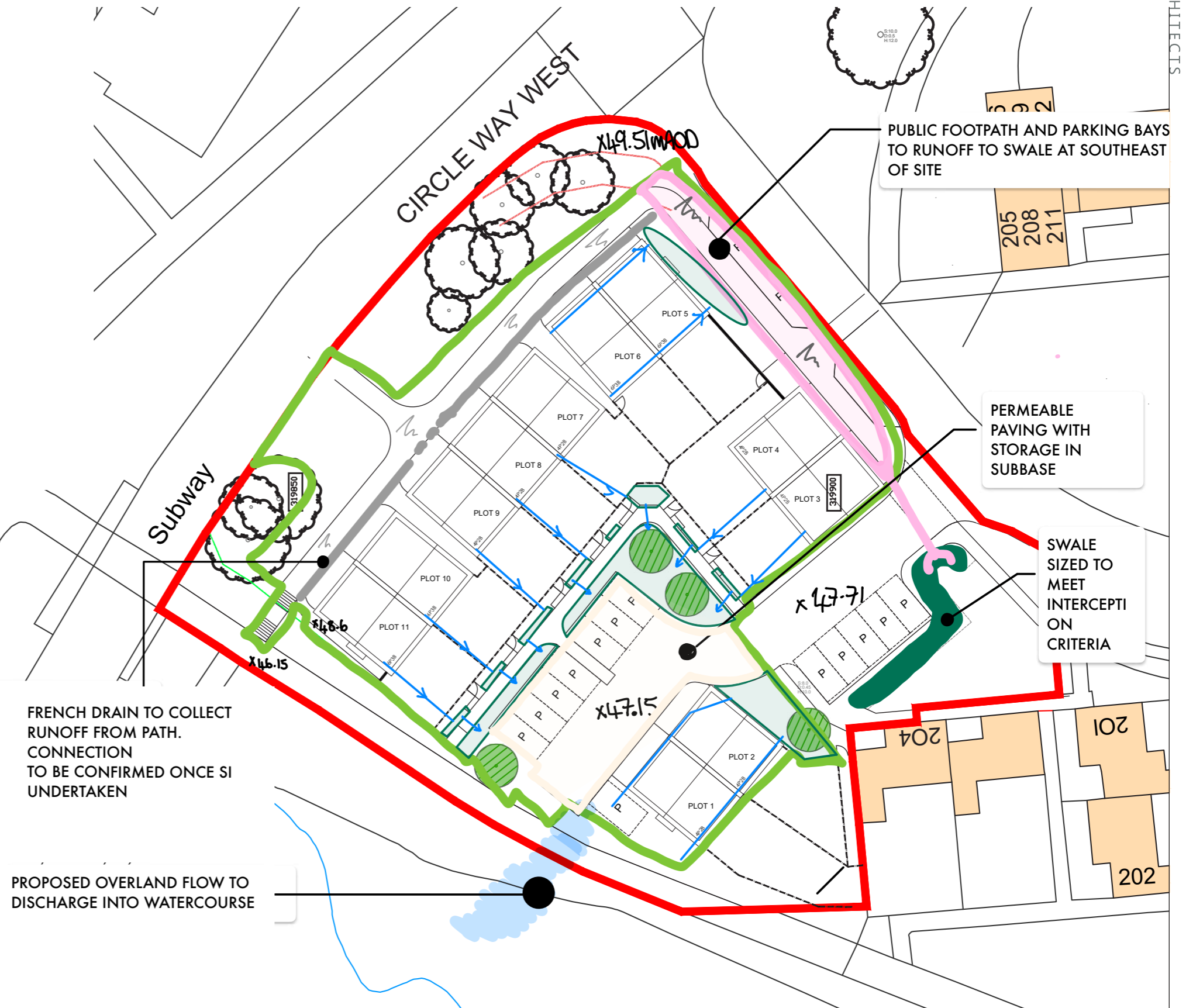
Flooding

The flooding occurring around the subway is considered offsite and does not serve as a primary access or egress route from our site. The Flood Map for Planning identifies the mapped flooding as surface water which primarily results from heavy rainfall and flow in small watercourses. Due to its gradual nature, individuals are unlikely to be caught off guard by the flooding.

To address potential concerns regarding flooding, the redevelopment of our site will incorporate Sustainable Drainage System (SuDS) features. These features are designed to manage surface water discharge at a controlled rate, thereby minimizing the risk of flooding. It is crucial to emphasize that the SuDS measures implemented will redirect any discharged surface water away from the subway. Although we cannot guarantee that the flooding situation will be entirely resolved, we can ensure that it will not adversely impact the subway's vulnerability to flooding.

Drainage

The proposed drainage strategy takes advantage of the site's natural topography and the presence of an adjacent watercourse. The results of the soakaway tests confirm that traditional soakaway systems are not suitable for the redevelopment. The site slopes from north to south, and water will be carefully discharged offsite from the southern end of the site into the adjacent stream. Cardiff SAB, in initial engagements, has expressed support for this discharge method and believes it will help in obtaining the necessary permissions. Each property within the development will incorporate its own bioretention feature to manage water flow, which will then connect to larger features serving the entire site. The design ensures that there will be no runoff from the site for storms producing up to 5mm of rainfall. To the north, a French drain will be installed to collect runoff from the path, while the footpath and parking bays to the south will direct runoff towards a swale situated at the southeast of the site. The swale will be sized to meet interception criteria. Permeable paving will be used across the private road and parking areas, with water storage in the subbase. The proposed overland flow will be discharged into a nearby watercourse at a controlled rate.



4.13 Highways Strategy

Overview

The transport and highway strategy has been developed building upon the site's existing accessibility. It provides improved pedestrian connectivity and knits the site into the surrounding active travel network.

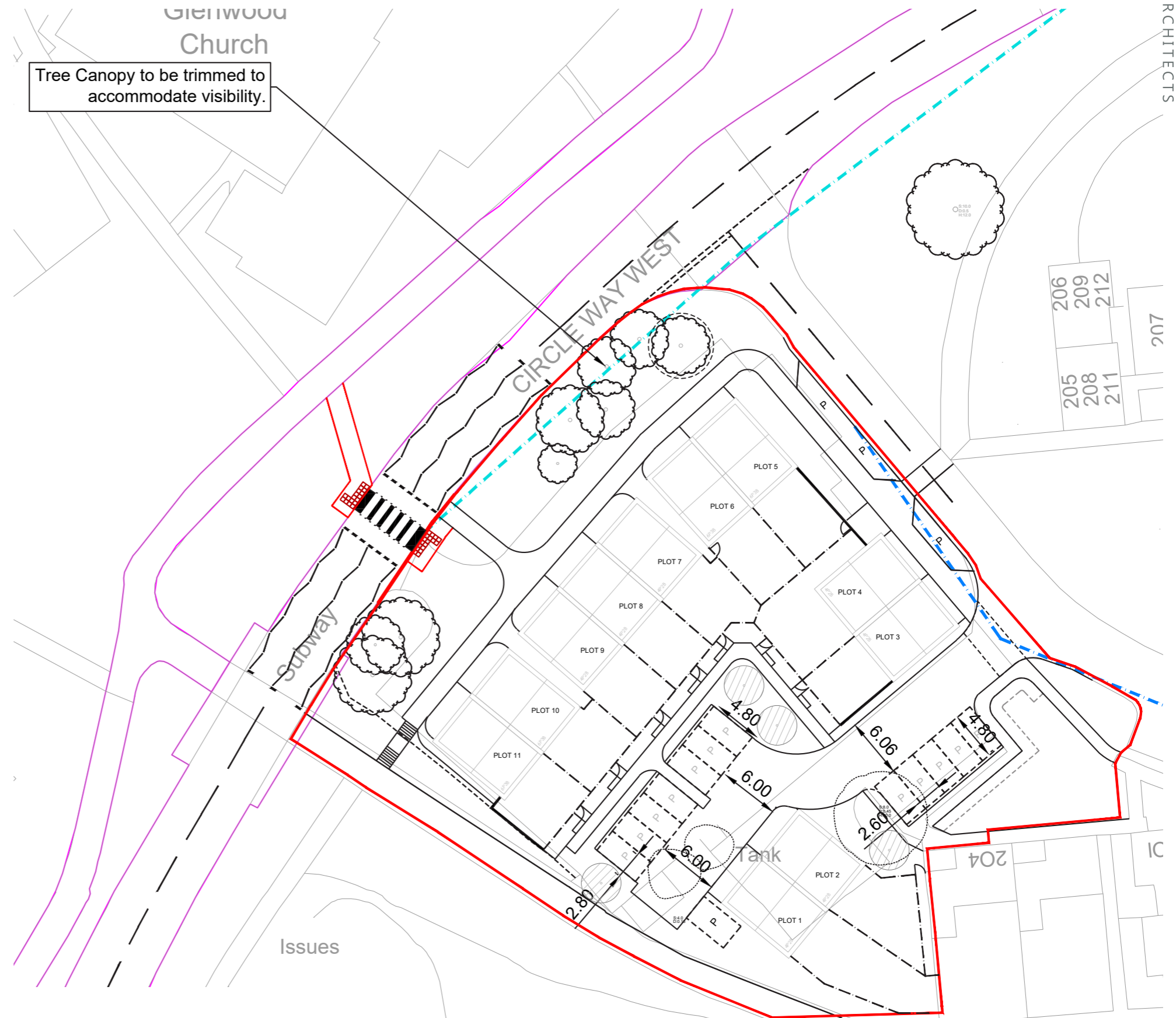
Vehicle Access

Access to the site is proposed from Brynfedw with the existing access from Circle Way West on the western site boundary removed and Stopped Up.

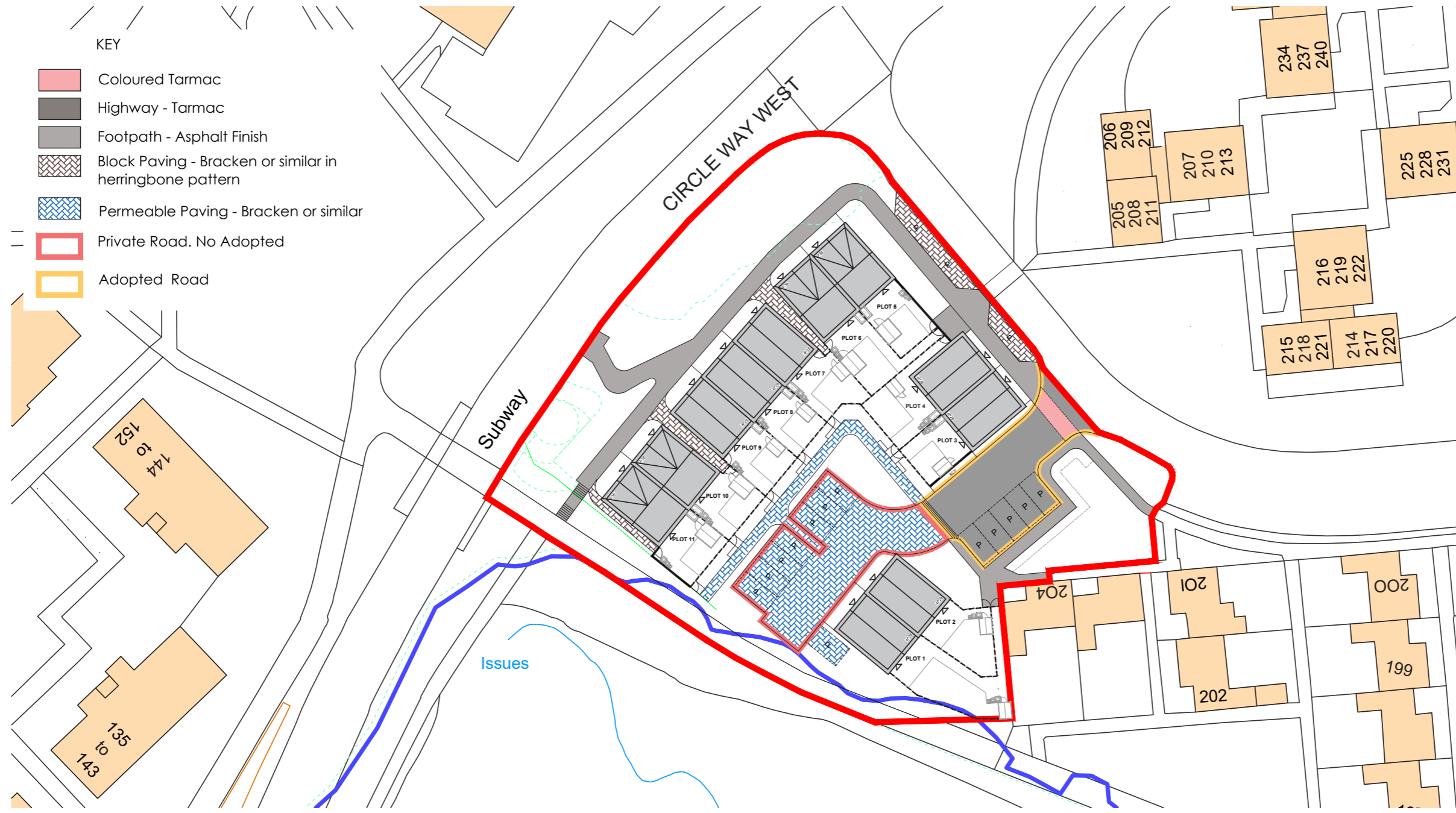
Refuse strategy

The delivery and servicing strategy has been developed such that resident carry distance does not exceed 30 metres and operative trolley distance does not exceed 25 metres. Dwellings will be serviced via the access adjoining Brynfedw with a bin store provided adjacent to the parking area.

All other servicing and delivery vehicles will serve the site from the access adjoining Brynfedw and serving the car park.



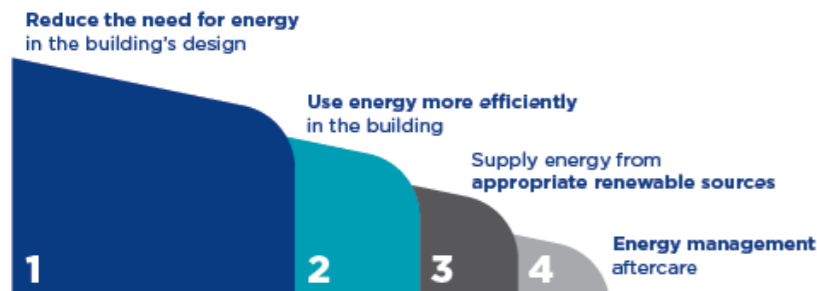
4.14 Sketch - Proposed Adoption Strategy and hard surfaces layout



4.15 Low Carbon Technology

Environmental design strategy

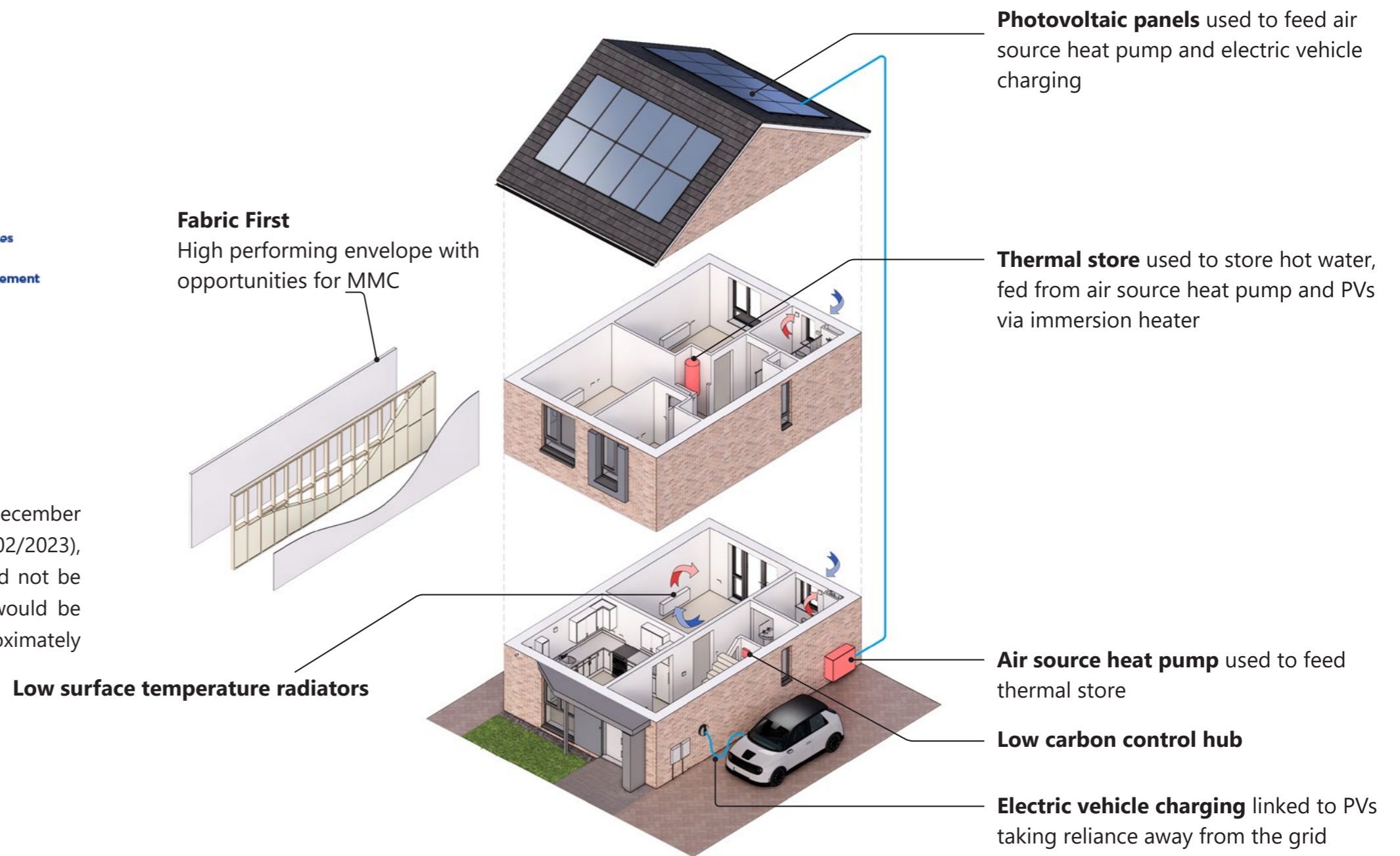
Cardiff Council seek low carbon, low energy homes that are resilient to a changing climate and reduce energy demand and energy bills for their residents. Each home will be expected to achieve Welsh Government’s 2025 energy performance standards achieving a SAP rating of A, by using a high standard of fabric efficiency and low carbon heating. This means: fabric first, optimising solar gain, designing in renewable energy. Exact energy strategy to be confirmed.



Substation statement

An application for a new connection was submitted in December 2022. National Grid provided a budget estimate (13/02/2023), which confirmed a new substation for the site would not be required. The electrical load for the development would be trenched from an existing substation located approximately 170m away for the site.

Illustration showing typical approach to low energy home



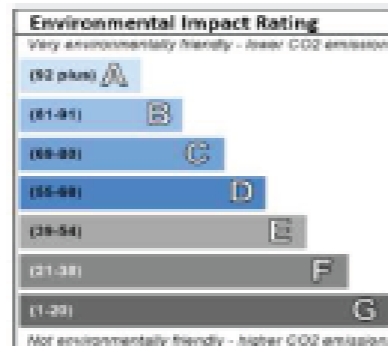
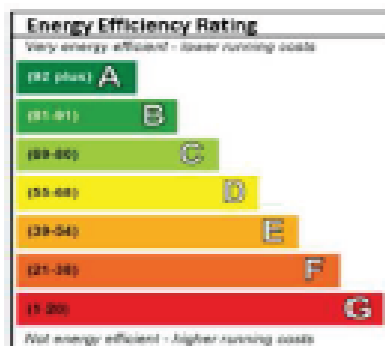
4.16 Initial SAP assessments - Energy Strategy Options for Typical Layout

The following table shows the results of Draft SAP calculations carried out to illustrate the suitability of using differing Mechanical and Electrical Building Services technologies within each House Type. The results of the table have allowed the Design Team and Client to decide to progress with the selected solution – Individual ASHP for radiator heating and domestic hot water services.

	Iteration 1 – Panel Heating	Iteration 2 – Individual GSHP	Iteration 3 – Individual ASHP	Iteration 4 – Storage Heating	Iteration 5 – Panel Heating	Iteration 6 – Storage Heating
Building Fabric	U-Value					
External Wall	0.16 W/m ² K					
Roof	0.16 W/m ² K					
Windows	1.00 W/m ² K					
Doors	1.00 W/m ² K					
Air Permeability	4 m ³ /hm ²					
Window G-Value	0.5					
Window Frame Factor	0.7					
Thermal Bridging (Y-Value)	0.15 (Default)					
M&E Specification						
Primary Heating	Direct Electric (Efficiency - 100%)	Ground Source Heat Pump per apartment	Air Source Heat Pump per apartment	Storage Heater (Efficiency - 100%)	Direct Electric (Efficiency - 100%)	Storage Heater (Efficiency - 100%)
Heating Controls	Programmer and room thermostat	Programmer, TRV's and bypass	Programmer, TRV's and bypass	Controls for high retention storage heaters	Programmer and room thermostat	Controls for high retention storage heaters
Heating Emitters	Electric Panel Heaters	Radiators	Radiators	High heat retention storage heater	Electric Panel Heaters	High heat retention storage heater
Secondary Heating	None provided	None provided	None provided	None provided	None provided	None provided
Hot Water	Electric Immersion	From primary heating system – 210l Cylinder	From primary heating system – 210l Cylinder	Electric Immersion	Electric Immersion	Electric Immersion
Ventilation	Balanced mechanical ventilation with heat recovery: Nuair MRXBOX-ECO2					
Lighting	100% low energy lighting					
Electricity Tariff	Standard Tariff	Standard Tariff	Standard Tariff	Economy 7	Standard Tariff	Economy 7
Renewables (PV)	2kW (South West Facing)	2kW (South West Facing)	2kW (South West Facing)	2kW (South West Facing)	4kW (South West Facing)	4kW (South West Facing)

Predicted EPC Results		
Iteration	Energy Efficiency Rating	Environmental Impact (CO ₂) Rating
1 - Panel Heating	B 85	B 86
2 - Individual GSHP	A 94	A 95
3 - Individual ASHP	A 95	A 96
4 - Storage Heating	A 94	A 95
5 - Panel Heating	A 96	B 86
6 - Storage Heating	A 106	A94

Total Emissions			
Iteration	Dwelling Emission Rate (DER) kg/m ²	Target Emission Rate (TER) kg/m ²	Pass Margin %
1 - Panel Heating	19.61	24.79	20.90
2 - Individual GSHP	9.92	24.79	59.98
3 - Individual ASHP	7.54	24.79	69.98
4 - Storage Heating	8.60	24.79	65.31
5 - Panel Heating	19.92	24.79	19.65
6 - Storage Heating	10.23	24.79	58.73



5.1 Conclusion

This Design and Access Statement supports a full detailed application for the development of the Former New Pennsylvania Inn.

The proposed development will provide a range of high quality contemporary affordable housing which is suited to the area.

It will be a well connected place to live and a benchmark for high quality design and placemaking.

It will promote the objectives of sustainable development through the layout and design and aims to protect and enhance the sites ecology and to provide mitigation where the new development affects the existing ecology.

It will deliver benefits for the new and existing communities which will extend to future generations, providing new homes to meet the areas's needs.

