



## **DESIGN AND ACCESS STATEMENT**

### **RESIDENTIAL DEVELOPMENT**

AT FAIRWATER ATHLETICS AND SOCIAL CLUB, PLAS-MAWR ROAD, CARDIFF



## 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 Pre-Application Review to Cardiff Council.

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The site is located on the site of the former Fairwater Athletic and Social Club, and is proposed to accommodate Circa 14 dwellings.

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# 1.0 Introduction



## 1.1 Introduction

This document has been prepared by Powell Dobson Architects on behalf of Cardiff Council for Pre-Application Consultation on the proposed residential development on land at the Former Fairwater Athletic and Social Club.

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 circa 14 residential homes, of which 100% will be affordable housing, ranging from 2 bed houses to 4 bed family homes along with a 3 bed Adult Supported Living Bungalow, 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 Wellbeing of Future Generations (Wales) Act 2015.







## 2.0 Site Analysis

## 2.1 Location

The site is located in the Fairwater ward of Cardiff, approximately 4.5km north-west of Cardiff city centre. It is a sloping, irregular shaped site, measuring approximately 2.1 hectares and is sited behind residential properties fronting Plas-Mawr Road and the western boundary of Fairwater Park.

The Site is roughly 5543m<sup>2</sup> (59,664 sqft) located to the west of Fairwater Park with a vehicular and pedestrian access from Plas-Mawr Road.

The site is located in a predominantly residential area that is suburban in character comprising two-storey hipped and gabled semi-detached homes, on reasonably large plots and with a consistent set back. The post-war character of the housing in the area is reasonably uniform, with some more contemporary infill schemes, such as the sheltered housing development adjacent the site.



## 2.2 Description

### Culture and Community

The site was previously used by the Athletic and Social Club which has been closed for a number of years. The site now serves primarily as a cut-through by local residents to access fairwater park via the southern boundary of the site.

### Landscape

The site comprises a sloping site of 0.36 hectares of land. There are established trees to the north, south and west boundaries. One of the site strengths is pleasant aspect across the Eastern boundary with fairwater park.

### Movement and Infrastructure

The site is bounded to the North by Ferrier Avenue which provides a connection to the fairwater area and plas-mawr road. Vehicles access to the site will be from a single access point on Plas-Mawr Road to the south-west. There are existing utility easements on the Western boundary which must be retained. The central Western boundary comprises of a substation serving the local community with access to this from the north west, immediately adjacent to the site.

### Built Form

To the north and west are residential dwellings. These dwellings are terraced post-war ex-council properties with habitable rooms that overlook the site. The semi-detached brick properties to the North have generous front gardens and sit back from ferrier avenue. The nearby Fairwater FC and Fairwater Park provide the closest maintained natural spaces.



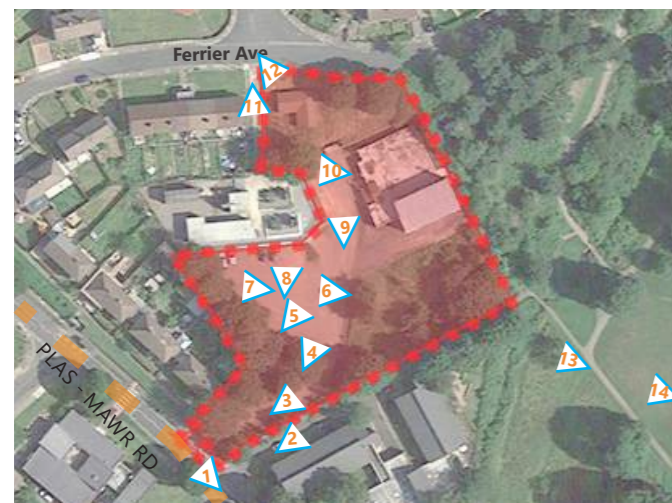
## 2.3 Site Photos

The site is largely sloping with levels rising by roughly 10 metres from the lowest point adjacent to Plas-Mawr Road at the south-western corner, to its highest point in the north. Journeys to and from the site involve a steep incline via the drive from Plas-Mawr Road and leading up to a mostly flat area, which currently contains the vacant Social Club and car park. The land continues to rise more steeply to the north, with a small plateau to the site of a demolished bungalow.

An electrical substation with access from the north adjoins the site, with cables to the station running along the western edge of the site to ferrier avenue. Two telecommunications masts operated are located on the roof of the social club building and require relocation before the building can be demolished.

The site is reasonably hidden and visually isolated from the wider area, although there are channelled views over the neighbouring Fairwater Park between the existing trees. The visibility of any scheme from within the park will need care and consideration, as development on the site will sit about 5m above the Park in close vicinity.

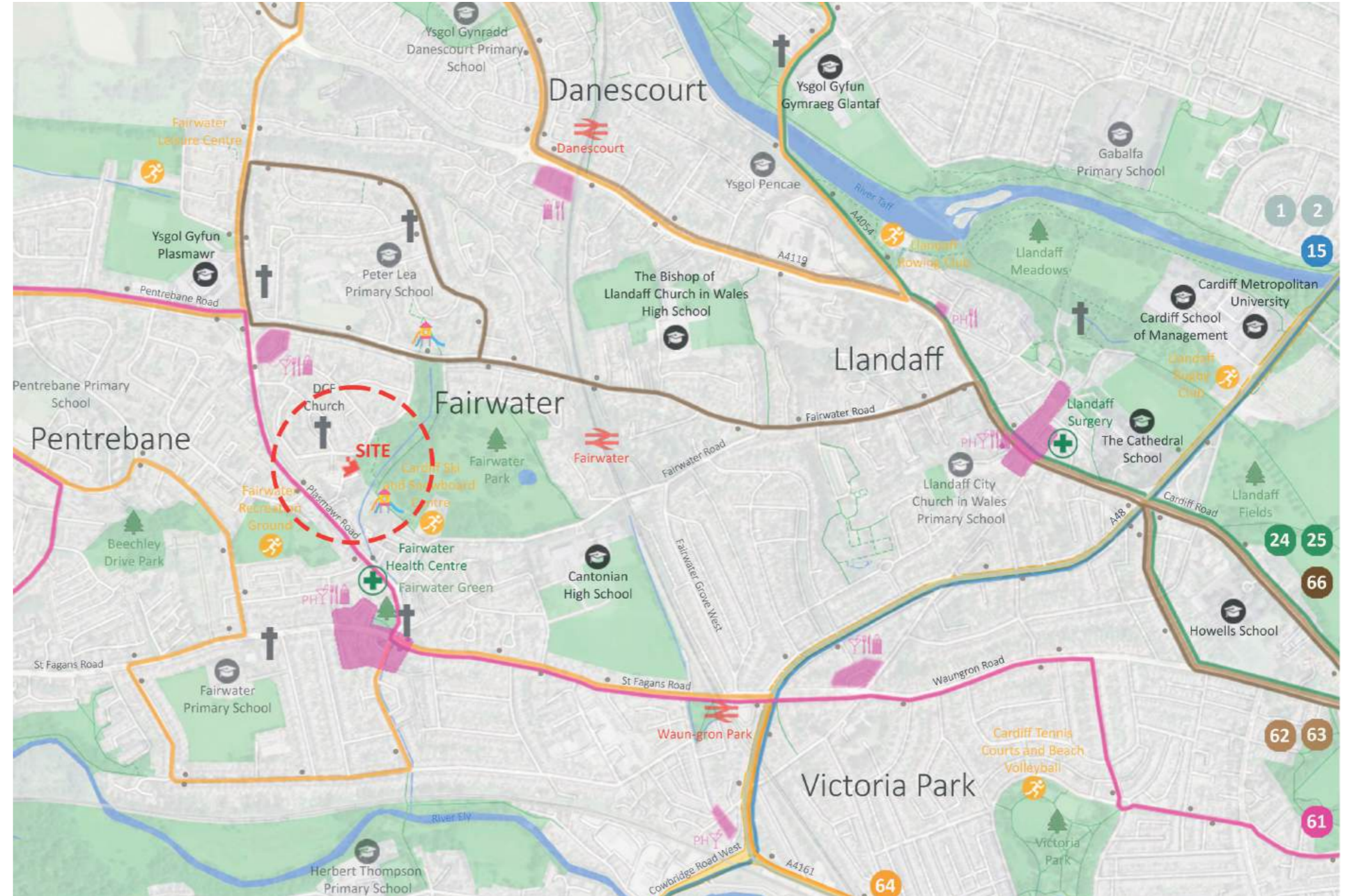
Location Plan



## 2.4 Wider Area Analysis

The local facilities mapped here are accessible within a 15-30 min walking radius. The area benefits from a number of amenities with good connections to local shops at Ferrier Avenue and St Fagan's Road, including a post office and chemist, Fairwater Park and a number of English and Welsh-medium schools.

Bus stops are also conveniently located within walking distance on Plas-Mawr Road, providing access to destinations further afield. Fairwater has bus services provided by Cardiff Bus. Service 61 through the area to Pentrebane, while Service 64 runs through to Heath Hospital and Service 66 serves Keyston Road. Easyway run an infrequent bus service through Fairwater to St Fagans.



## 2.5 Opportunities & Constraints

An established access point for pedestrians and vehicles into the site is available from Plas-Mawr Road, which is deemed suitable and negates the need to create any additional arrangement.





























A non-statutory pedestrian route traverses the site north to south, providing access to the rear of the properties facing Plas-Mawr Road and is recognised as a 'safe route to school'. A route for pedestrians north should be maintained in any scheme.

Existing landscape features of value include the semi-natural woodland to the east of the site, signalling the boundary of Fairwater Park, which slopes down in an eastwardly direction towards a brook and is recognised for its ecological importance, designated as a Site of Importance for Nature Conservation (SINC). A completed tree survey also highlights groups of trees on site with a number afforded Category A/B, mostly located near the entrance and on the periphery of the site, which would need to be incorporated into the overall landscape strategy for the scheme.

An ecological assessment identifies these natural features for their habitat value in particular, as areas likely as foraging and commuting corridors for bats. An Ecological Assessment produced by Wardell Armstrong in September 2020 accompanies this brief.

PAH contamination is identified in made ground at the location of the private garden area of the now demolished bungalow in the far northwest of the site.

### KEY

 The Site	 Flatter Areas	 Category A/B trees	 Footpaths	 Medical Centre	 Bus Stop	 Access to neighbouring properties	 Access to the electrical substation
 Integrated Networking Walking	 Nature Conservation Area (SINC)	 Tall trees	 Cables to Substation	 Sport Facilities	 Church	 Facilities	 Key Views
 Main Road	 Fairwater Park	 Prominent substation	 Two telecommunications masts to be relocated within the site	 Main Vehicle Access	 Pedestrian Access	 Desire line to park	
 Secondary Roads	 Green Edge	 Safe Pedestrian Route - North/South school route					
 1 Storey Buildings							
 2 Storey Buildings							
 3 Storey Buildings							



## 2.6 Local Context and Character

The existing character comprises primarily of post-war housing and some more historical examples in the immediate surroundings. These primarily feature some combination of red brick and render and/or stone. The immediate context is overwhelmingly semi-detached eaves-fronted with relatively large front gardens.



Plas-Mawr Road (immediate context).



Fairwater Green. 2- storey traditional, hipped roof commercial and residential development in brick and render.



Fairwater Green. Roof with eaves at the front, utilizing small gables to break the rhythm of the facade.



Ferrier Avenue (immediate context). 2-storey, hipped roof, brick and render.



DCF Church (immediate context). Pitched roof, using brick as main material.



Plas-Mawr Road (immediate context) 2-storey, hipped roof, brick and render.

## 2.7 Precedent Studies

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 reasonably hidden and visually isolated, this give us the opportunity to explore a new architectural vocabulary whilst incorporating elements from the wider area.

### WDQR

All homes will be designed to WDQR 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 WDQR minimum floor areas.



Riverside Road, Watford Borough



Oakfield street, Swindon



Manor Park



New Islington, Manchester

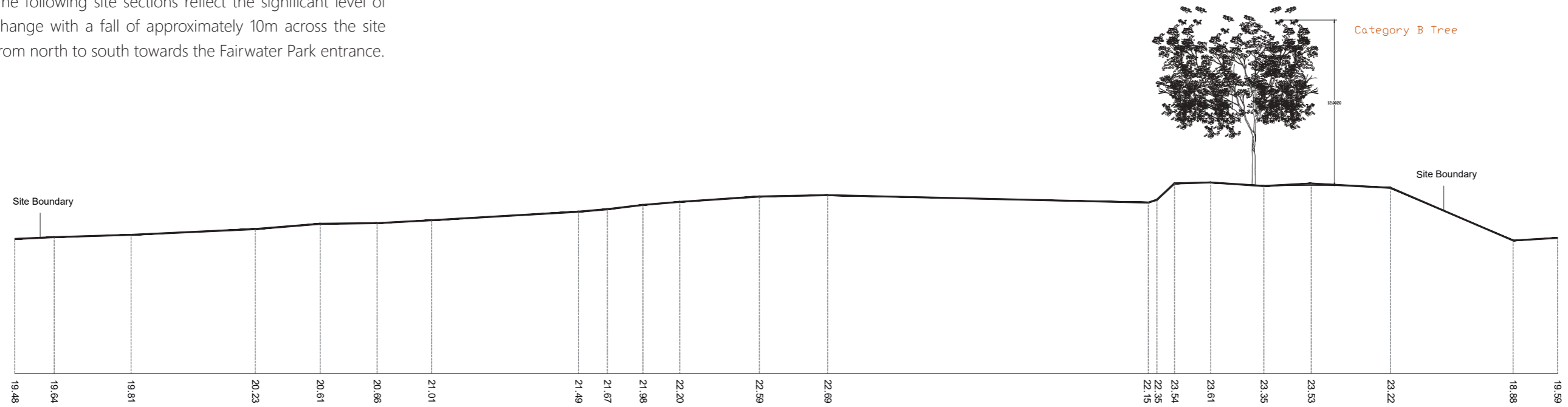


Landscape strategy -Precedent studies

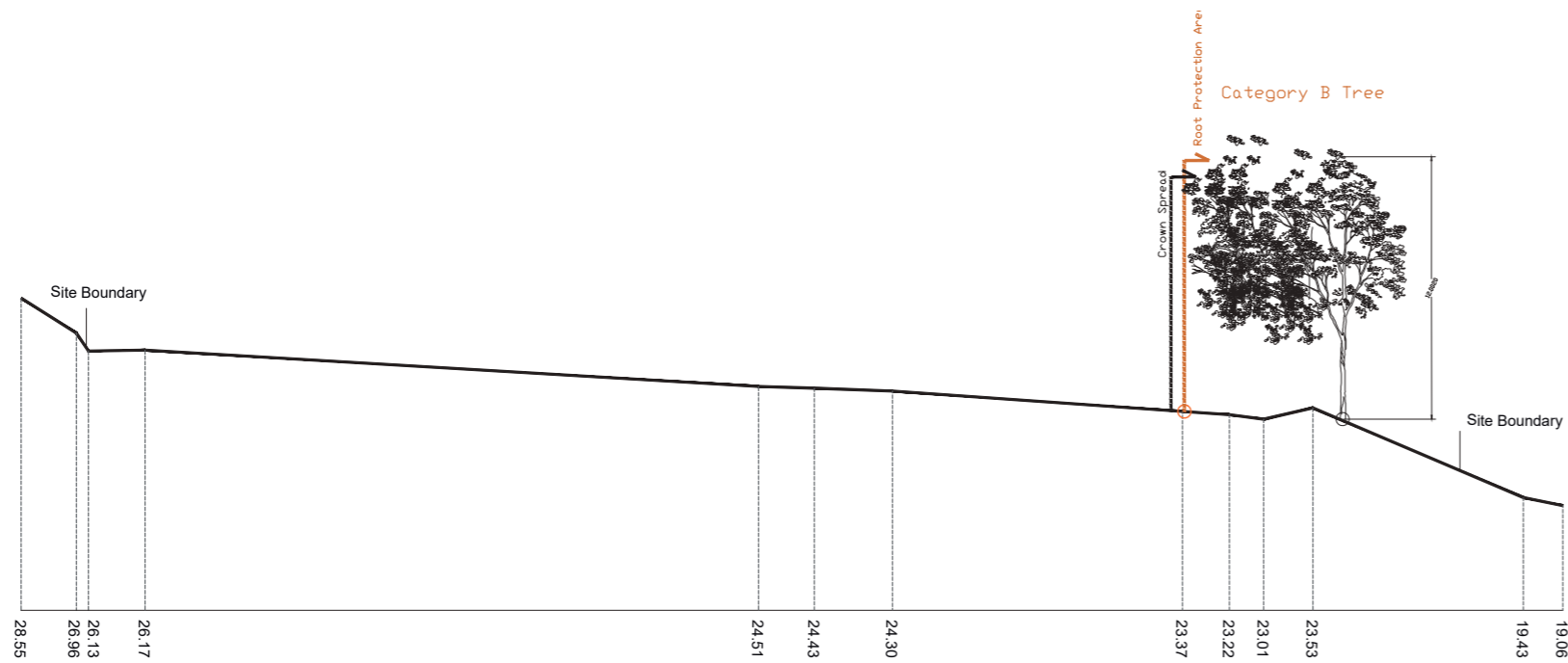


## 2.8 Existing Site Sections

The following site sections reflect the significant level of change with a fall of approximately 10m across the site from north to south towards the Fairwater Park entrance.



SECTION A - A



SECTION B - B



## 2.9 Planning Policy Review

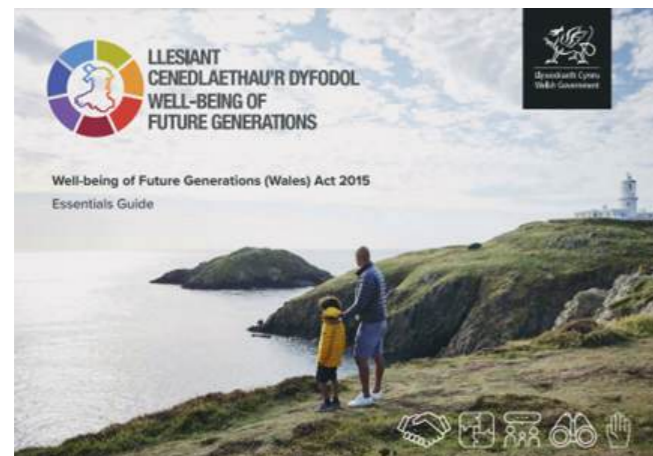
### Introduction

The planning policy framework for the determination of this application is provided by the content and scope of National Planning Policy, which is contained within the eleventh edition of Planning Policy Wales (PPW) and its associated Technical Advice Notes (TANs), together with the Local Planning Policy and its supplementary planning guidance. A full review of relevant planning policy is included within the planning statement.

### 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).



Figure 1: PPW Placemaking Principles



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

### 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).

### Local Planning Policy

The following key Local Development Plan policies are of relevance to this enquiry:

#### Policy EN6 – Ecological Networks and Features of Importance for Biodiversity

Development will only be permitted if it does not cause unacceptable harm to:

- i. Landscape features of importance for wild flora and fauna, including wildlife corridors and 'stepping stones' which enable the dispersal and functioning of protected and priority species;
- ii. Networks of importance for landscape or nature conservation.

#### Policy EN8 – Tees, Woodland and Hedgerows

Development will not be permitted that would cause unacceptable harm to trees, woodlands and hedgerows of significant public amenity, natural or cultural heritage value, or that contribute significantly to mitigating the effects of climate change.

#### Policy KP3 (B) – Settlement Boundaries

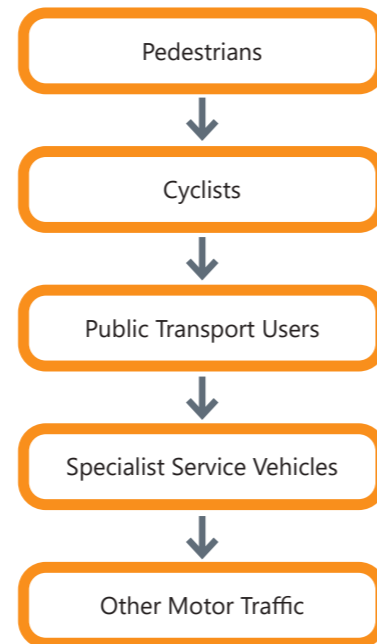
Cardiff's settlement boundaries are a key mechanism for helping to manage growth by defining the area within which development would normally be permitted, subject to material planning considerations. This Policy should be informed by Green Wedge Key Policy (KP3(A)) set out above.

### Policy T5 – Managing Transport Impacts

Measures appropriate to a particular development will depend on its scale, location and use(s). They may include providing for and/or improving, as appropriate:

- i. Walking links to existing pedestrian routes and networks, District and Local centres, open space and other community facilities; (e.g. safe routes to school) - for access and recreational purposes - and designed for use by everyone;

In assessing the transport and access aspects of proposals the Council will be more likely to give favourable consideration to developments which through their design and layout give priority to movements by sustainable travel modes and reflect the user hierarchy in Department for Transport Manual for Streets, namely the LDP Transport Hierarchy illustrated below:



**Policy C2 – Protection of Existing Community Facilities**

Proposals involving the loss or change of use of buildings currently or last used for community facilities will only be permitted if:

- i. An alternative facility of at least equal quality and scale to meet community needs is available or will be provided within the vicinity or;
- ii. It can be demonstrated that the existing provision is surplus to the needs of the community.

In order to satisfy criterion ii of the policy it will be necessary to demonstrate that continued use as a community facility is no longer viable giving consideration to appropriate marketing, and local need and demand for the existing community facility.

**Policy C3 – Community Safety**

All new development and redevelopment shall be designed to promote a safe and secure environment and minimise the opportunity for crime. In particular development shall:

- i. Maximise natural surveillance of areas which may be vulnerable to crime such as publicly accessible spaces, open space, car parking areas and footpaths;

**Policy H3 – Affordable Housing**

The Housing Market Assessment (LHMA) has provided the evidence base to support policies to deliver such housing through the planning system. The Cardiff LHMA update (2013) indicates

an annual shortfall of 3,989 affordable dwellings per annum.

**Policy H6 – Change of Use or Redevelopment to Residential Use**

Change of use of redundant premises or redevelopment of redundant land for residential purposes will be permitted where;

- I. There is no overriding need to retain the existing use of the land or premises and no overriding alternative local land use requirement;
- II. The resulting residential accommodation and amenity will be satisfactory;
- III. There will be no unacceptable impact on the operating conditions of existing businesses;
- IV. Necessary community and transportation facilities are accessible or can be readily provided or improved; and
- V. It can be demonstrated that the change of use to a more sensitive end use has been assessed in terms of land contamination risk and that there are no unacceptable risks to the end users.

Policy:	Relating to
KP4	Master Planning Approach
KP5	Residential Requirement
KP6	New Infrastructure
KP7	Planning Obligations
KP8	Sustainable Transport
KP13	Responding to Evidenced Social Needs
KP15	Climate Change
KP16	Green Infrastructure

KP17	Built Heritage
KP18	Natural Resources
H3	Affordable Housing
H6	Change of use or redevelopment to residential use
EN5	Designated Sites
EN6	Ecological Networks and Features of Importance for Biodiversity
EN7	Priority Habitats and Species
EN8	Trees, Woodlands and Hedgerows
EN9	Conservation of the Historic Environment
EN12	Renewable Energy and Low Carbon Technology
EN13	Air, Noise, Light Pollution and Land Contamination
T1	Walking and Cycling
T5	Managing Transport Impacts
T6	Impact on Transport Networks and Services
C2	Protection of Existing Community Facilities
C3	Community Safety/Creating Safe Environments
C4	Protection of Open Spaces
C5	Provision of Open Space, Outdoor Recreation, Children's Play and Sport
W2	Provision for waste management facilities in development

**Supplementary Planning Guidance (SPG)**

The following SPG is considered relevant:  
 Green Infrastructure;  
 Managing Transportation Impacts;  
 Planning for Health and Wellbeing;  
 Planning Obligations;  
 Residential Design Guide;  
 Residential Extensions and Alterations  
 Waste Collection & Storage Facilities

**Green Infrastructure**

Section 6.2 sets out green infrastructure should be given early consideration in development proposals and how it should be integrated into developments.  
 Paragraph 6.2.12 states "A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal... The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach has been applied."



## **3.0 Design Vision and Development**



## 3.1 Client Brief

### Project Vision

The new development will deliver attractive, energy efficient council homes designed to make the most of every useable space creating light, spacious rooms, with the potential to adapt to new circumstances. In particular the development will include a bungalow designed as supported accommodation for persons with a learning disabilities.

Our aim is for the new development to work with the site's topography, making it a key part of the scheme's identity and retaining and enhancing the nature conservation of Fairwater Park.

### Responding to local housing needs

- Proposals should be at a suitable scale and density in relation to the local area. We are seeking approximately 15-20 houses at 2 to 3 storeys at approximately 30-35 dwellings per hectare.
- The appointed Design Team will be expected to make an assessment of the site's capacity to accommodate any increase via context appraisals, balancing character, topography, local context, privacy, green infrastructure, SuDs and development viability requirements through design solutions.
- A range of house types and sizes must be delivered to meet the needs of local communities, comprising a mixture of semi-detached and terraced family housing as shown in the table below:
- The scheme should also include one family sized (4-bedroom/ensuite) bungalow designed as supported accommodation for a person with a learning disability.

### 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 sloping character of the site provides the opportunity to create a distinct identity to the scheme, by working with the natural topography for opening up views, integrating parking, designing interesting house types and providing good access to natural light.
- Designing new homes to work with the existing topography as much as possible helps to minimise the cost of groundworks, however, at the concept stage we would like to explore an alternative option where building footprints might be stepped along the street frontage, if it offers more houses to be built.
- The required extent (and cost) of any cut-and-fill is also important to establish early in the project (Stage 0-1).
- The site is reasonably hidden and could readily establish its own architectural vocabulary and reflect a commitment to lifting the architectural quality of the local area.
- Visibility from within the Park will need care and consideration, as will the interface with Ferrier Road to the north; avoiding rear boundaries becoming prominent on that frontage.
- The constraints imposed by the substation and new telecommunications mast in particular should be appropriately resolved. The Design Team will be expected to work with the telecommunications company to develop the most suitable approach to incorporating a new mast on site, which will need

vehicular access and roughly a developable area of 70-80m<sup>2</sup>. The proximity of the mast to new homes must also be a key consideration.

- Pedestrian linkages should be maintained to allow access to the rear of properties fronting Plas-Mawr Road and enhancing the 'safe route to school' from the south of the site up to the Ferrier Avenue.

### Character

- The design response should seek to achieve variation, intimacy and animated spaces that create a sense of security and community.
- A welcoming entrance to the scheme should be achieved using the arrangement of buildings, landscaping and SuDs to reinforce a sense of place.
- There is scope for less regular built form with shorter terraces and some semi-detached properties of two storeys, with occasional three storeys at key corners or end of terrace plots.
- There is some scope for relaxation in places, to create well lined but less formal streets and spaces with opportunities for mews/courtyard and shared space.
- Streets should be designed as places where people can choose to meet and children can feel safe to play that are overlooked and where people and vehicles can co-exist safely.

### A sustainable development

- The development should protect areas of woodland and be integrated with the wider landscape. Particular regard should be had to the relationship between the site and Fairwater Park to protect the green edge/character. An ecotone may be the most suitable design response to this boundary.
- The landscape strategy should seek to retain wherever possible, existing landscape features and demonstrate how these have influenced the design to create a strong character and enviable setting for new homes.
- SuDs will need to be incorporated holistically into the scheme layout, responding creatively to the sloping character of the site. There is a critical watercourse to Cardiff running through the nearby Park, where additional pressure should be avoided. Therefore, a strategy that splits the catchment of surface water run-off is likely for this site.
- 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. Consideration should be given to whether the scheme could take a Passivhaus approach, always subject to site constraints and cost.

## 3.2 Placemaking - Key Design Principles

### People and Community

The public consultation strategy has been developed to ensure full community engagement in the development of these proposals. The first event is scheduled for November 28th, as an information gathering exercise so that we can listen to the views of the local community – understanding how they use or relate to the site, the park and the local routes and connections, what works, what doesn't work, and their thoughts on the initial proposal.

### Mix of uses

A variety of family houses are proposed on the site. Whilst the site is proposed for solely residential use, the existing community would benefit from improved pedestrian connections across the site to provide safer and more convenient routes between their homes and schools, green spaces, and public transport. Improving these connection is a priority for the project.

### Location

The site is located in the Fairwater ward of Cardiff, approximately 4.5km north west of Cardiff city centre. The area benefits from several amenities and good connections to local shops at Ferrier Avenue and St Fagan's Road, including a post office and chemist, and a number of English- and Welsh-medium schools. There are good public transport connections from Plas Mawr Road to the South of the site. Fairwater park to the East is a fantastic local resource, with good views from the site over the Park between the existing trees. The semi-natural woodland to the east that slopes down towards a brook is designated as a SINC.

### Public realm

Existing landscape features will be retained where possible, and new sections of landscaping, trees and SUDS are proposed as part of the site layout.

### Movement

The redevelopment is an opportunity to strengthen the existing north south pedestrian connection through the site, a well-used route for locals and school pupils. By separating the path from the substation access and relocating it to the East, the new dwellings can be designed to properly front and provide natural surveillance for the route. Recognising the desire line to reach Fairwater Park, a stepped access connection is proposed to the south connecting to Clos-y-Nant, otherwise the footway continues to Plas Mawr Road where the existing vehicular and pedestrian access is retained. Improving this key pedestrian route by making it safer, greener and more direct, will be a great tangible benefit for the local community

### Identity

There is a significant level change across the site, the aim is to work with the site's topography, making it a key part of the scheme's identity, and retaining and enhancing the nature conservation of Fairwater Park.

**Movement: Pedestrian movement - Safe Pedestrian Route**



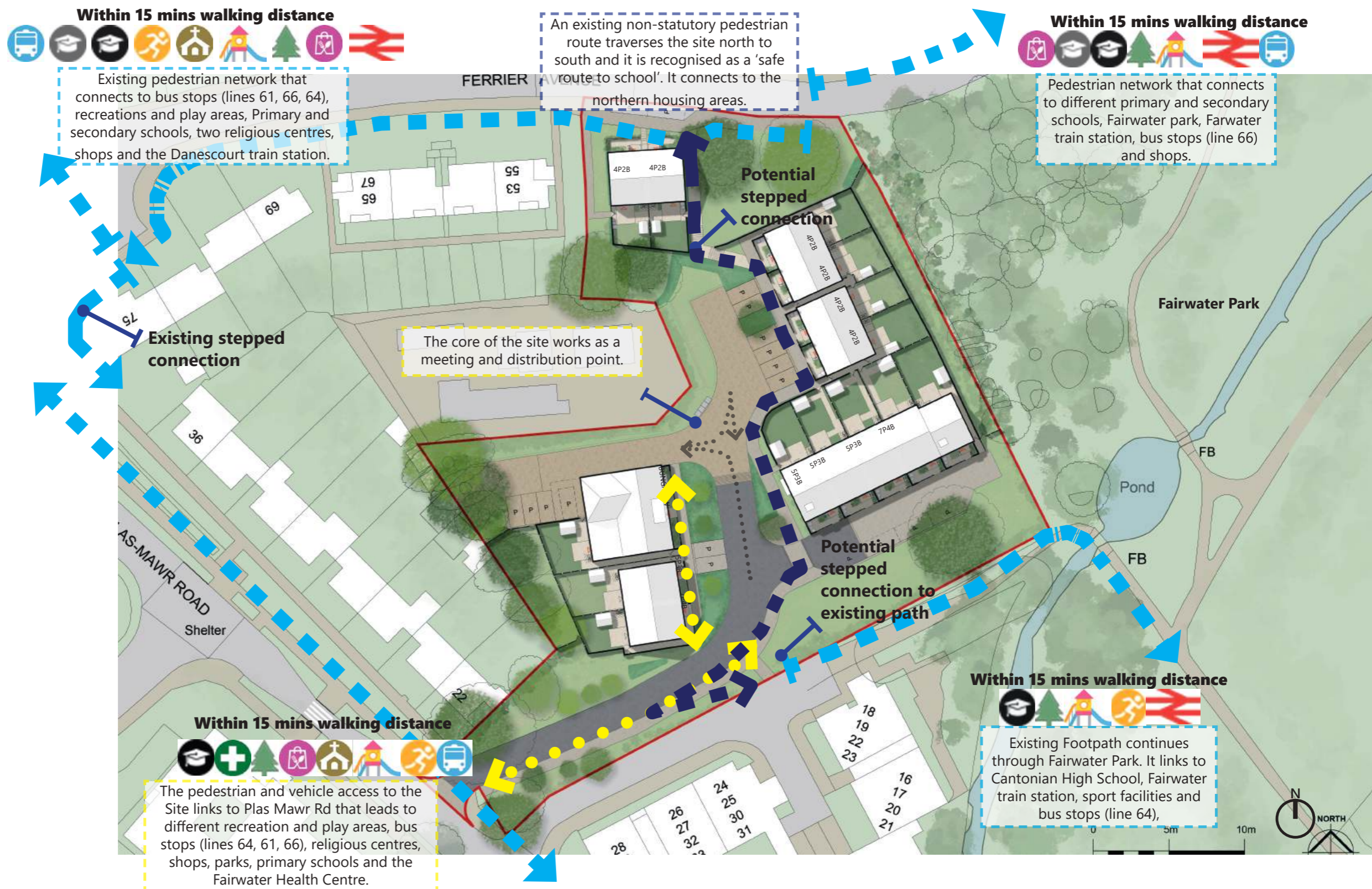
**Public Realm**



**Identity, connection and safety: Key views and vistas**



### 3.1 Pedestrian Movement and Access



## 3.2 Design Development

The design process for The Fairwater Site took into account housing need, density, site constraints and other placemaking objectives (height / massing, noise, public realm and focus points and character of the areas) to ascertain the capacity of the site.

The Main design principles are:

- Dwellings face Ferrier Avenue and park entrance to the south, increasing activity and natural surveillance.
- Direct and oblique green views of park to south and east maximised.
- North south pedestrian connection relocated to make safer, greener and more attractive.
- Bay windows to housetypes on key corners to provide natural surveillance and frontage.
- Stepped access connection to Fairwater Park entrance, recognising existing desire line.
- Green blue infrastructure to principle pedestrian route north south.
- Majority of category A and B trees retained.
- Green edge to park's access retained.
- Substation screened by landscape buffer.
- Two storey frontage to Ferrier Avenue.
- Four bedroom supported accommodation bungalow separated from the main pedestrian route and open park land, in close proximity to public transport links.

### Design Process 1 - Initial design iteration - Walk up flats + houses



### Design Process 1. Walk - Ups + Houses

In the first approach to the site we explored the option of including walk-up flats to increase the density but the analysis results (Cardiff Council housing needs analysis tool) for this part of Fairwater highlighted to us the demand for family sized housing in particular.

### Design Process 2 - Houses + Mast



### Design Process 2. Houses + Mast

The Mast (20 m height with a fenced enclosure of approximately 6 x 8 m) has been a challenge to place on the development. We explored different options to understand its impact. We concluded that the best location would be near the eastern boundary where its shadow wouldn't impact on the houses.

Following the Design Commission for Wales review, which took place last November the intention was to explore other alternatives that could offer different options for the relationship between the site and the substation. However, after consulting with Western Power Distribution and National Grid, we concluded that a 10 meter space must be maintained between the gardens and its perimeter. As a result, we decided to discard this approach.

### Design Process 3 & 4 - Houses wrapping the substation



### Design Process 1. Walk - Ups + Houses

In the first approach to the site we explored the option of including walk-up flats to increase the density but the analysis results (Cardiff Council housing needs analysis tool) for this part of Fairwater highlighted to us the demand for family sized housing in particular.



### Design Process 2. Houses + Mast

The Mast (20 m height with a fenced enclosure of approximately 6 x 8 m) has been a challenge to place on the development. We explored different options to understand its impact. We concluded that the best location would be near the eastern boundary where its shadow wouldn't impact on the houses.

### 3.3 Pre - Application Consultation

The scheme underwent pre-application consultation in July 2023; The primary comments and actions are set out below:

#### Comments:

##### Design and Character

- No concerns raised with density or housing mix.
- The design evolution of the scheme is noted as thorough and welcomed.
- The layout of both options (with/without the mast) are both noted as well considered, and the inclusion of the path link to Ferrier Avenue is welcomed. To increase surveillance on the path and security, it is suggested that unit P.02 is a dual aspect unit.
- If the mast is being retained the surrounding hedge will be deemed a key feature and more detail of this boundary treatment should be submitted with the application.
- The parking for the bungalow is deemed to be a little vulnerable, and it is noted that security could be improved if a window were to be installed in the residential unit to overlook those spaces.
- It is noted that inevitably, the layout does expose some rear boundaries, and these should be uplifted through the use of interesting masonry walls.
- Residential unit P.11 is noted as being in a prominent position, and would benefit from being fully dual aspect to enhance the overall appearance when approaching the development site.

- It is advised that the extent of block paving on the eastern private drive would benefit from being fully block-paved.
- Overall, the design, layout and scale of the scheme is welcomed and complies with Policy KP5.

##### Amenity

- No concerns raised.

##### Noise

- The details submitted in support of noise through the Noise Assessment are considered acceptable.

##### Highways

- Whilst in a general sense there is no issue with re-using the existing access, it is advised for it to be converted to a dropped footway type arrangement whereby pedestrians on Plas Mawr Rd (east side) would have priority (and reflecting the reduction in car park spaces proposed for the site).
- It is advised that a shared surface arrangement may need to be considered.
- The TS will need amending to include for some small revisions in the written word noted by the Highways Consultee.
- The extent of adoption seems reasonable but should also include the southern footway.
- Minimum footprints per cycle should be 2m x 0.5m. Cycle stores should be sited so that cycles have a direct link to the highway.

#### Site Layout at Pre-App Submission



- Incorporating a north-south pedestrian link through the site is welcomed. It seems this has two sets of steps proposed, and a ramped route is not shown. The alternative for users not able to use steps is considered a detour, and this should be considered further
- The proposal for parallel parking bays on Ferrier Avenue for plots 1-2 is not supported as it results in additional walking distance for pedestrians.
- The private drive south of units 7-11 would appear to involve difficult turning manoeuvres and would suggest a small turning head is provided, although it is noted that this is not proposed to be adopted highway.

#### **Waste**

- Advice has been given in regards to provision of waste facilities.
- The vehicle swept analysis has been noted but it is advised to consider that the blockwork driveway sections will need to be strong enough to take the weight of a fully laden 28 tone RCV.
- Landscape & Trees
- The Tree Officer has suggested some alternative planting options.
- It has been advised to minimise encroachment of the "B" category tree (Norway Maple) as much as possible.
- An AIA and TPP is requested.
- A scope of work has been provided that will need to be submitted in regard to Landscape Impacts.

#### **Contaminated Land**

- A remediation scheme will be required to deal with the contaminants on site.
- Relevant planning conditions will be sought.

#### **Section 106 Obligations**

- The Authority will seek an obligation to ensure that 20% of the units are retained as affordable in perpetuity.

#### **Parks**

- An open space requirement of 0.072ha of on-site open space or an off-site contribution of £30,608 is sought.

#### **Actions:**

##### **Design and Character**

- Unit P02 and P03 are dual aspect units and overlook the northern path.
- The mast is in the process of being relocated off-site.
- Windows from the bungalow overlook the entrance to the accessible parking, and the parking is overlooked from P13.
- Where exposed, rear boundaries are Masonry walls with soldier course capping.
- P11 is fully dual aspect and has a feature window on the ground, first and second floors that maximises this facade and provides visual interest to the development.

##### **Highways**

- The existing access will be converted into a dropped-access, pedestrian-priority arrangement as suggested.
- A ramped pedestrian access route through the site has been considered unachievable due to the extent of the levels present on the site.
- Parallel parking bays on Ferrier Avenue for plots 1-2 are required in order to achieve lifetime homes access to these plots.

##### **Parks**

- Open Space of 0.092 Ha provided on site.





# 4.0 Final Design Proposals

## 4.1 Proposed Site Layout

A range of house types and sizes are proposed to meet the needs of the local community, comprising a mixture of 2 storey semi-detached and terraced family housing. 2.5 storey units have been introduced facing the park, increasing the unit sizes and height along this edge.

The bungalow provides supported accommodation for local people who have a learning disability, including for those known to exhibit challenging behaviour. It is located on the flattest area of the site. Tall fences, trees and other natural vegetation provide visual amenity and privacy.

The scheme also proposes safe access for vehicles and pedestrians and delivers green infrastructure and sustainable drainage. "The safe route to school" runs through the development always in overlooked areas. With regards to placemaking and safety, alleyways have been avoided, and refuse bins will be stored in the rear gardens, with all units having easy access to ensure proper disposal. The parking spaces will be allocated with the potential for future installation of electric vehicle charging stations.

ACCOMMODATION SCHEDULE		
HOUSES	AREA (m <sup>2</sup> )	NO
4P2B	85	6
5P3B	95	5
6P3B	105.7	1
7P4B	119	1
BUNGALOW 4B	APPROX. 200	1
<b>TOTAL</b>		<b>14</b>

**100% AFFORDABLE - 14 UNITS**  
**Development Area: 0.36 Hectares**





## 4.2 Massing



# 4.3 Design Parameters

Ferrier Ave



## MIX AND QUANTUM

- 6 Units - 4P2B Houses
- 5 Units - 5P3B Houses
- 1 Units - 6P3B Houses
- 1 Units - 7P4B Houses
- 1 Bungalow - 3B + 1B

100% Affordable housing



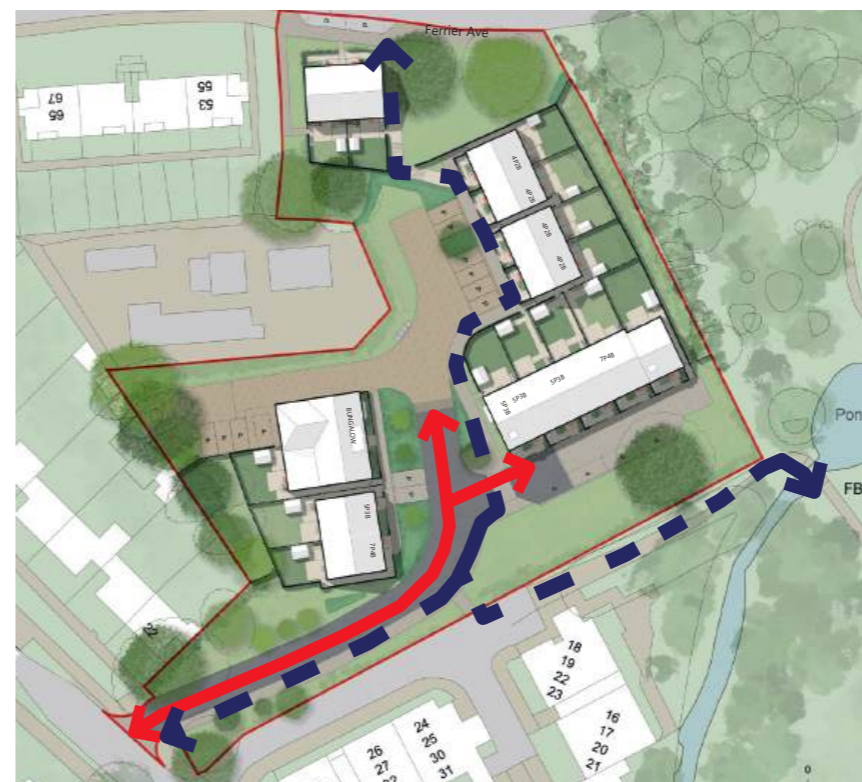
## SCALE

- 1.5 Storey Bungalow
- 2 Storey homes
- 2.5 Storey homes



## FRONTAGE CHARACTER AND DETAILING

- Character to match the surrounding areas
- Key Features



## MOVEMENT

- Pedestrian connections
- Vehicle Access

## 4.4 Car Parking

The parking strategy is in accordance with the Vale of Glamorgan's Policy requirement and follows the residential parking standards. The amount was acceptable when reviewed by the DCfW.

- Houses have 1 designated parking space generally in communal parking areas or located in front of the properties on shared private drives.
- The Bungalow has 1 designated parking space per bedroom with one designated disabled space grouped along a private drive.

## 4.5 Refuse Strategy

The local authority requires that there is space for refuse and recycling storage and collection.

All plots are to be provided with recycling bags and caddies for weekly collection.

Bags and bins are to be presented at the roadside to the front of the property or at designated refuse collection points on refuse collection days.

Bin collection points are provided on shared and private drives for certain plots and are located as conveniently as possible for residents and refuse collection.

## 4.6 Access

The proposals aim to reflect an inclusive approach to access, providing equal access for all users including those with impaired mobility. The scheme is designed in accordance with WDQR and Lifetime Homes guidance.

The site has been designed to allow a clear hierarchy of streets with 1 vehicular access point and level access to designated parking for all dwellings.

The site entrance onto Plas Mawr Road has been reconfigured for pedestrian priority.

## 4.7 Safety

The following key principles have been considered.

- Public and private routes are well defined with spaces and entrances that provide convenient and safe movement.
- The nature, extent and detailed design of boundaries to ensure security but not at the expense of other design principles.
- Public pedestrian routes are clear, legible, overlooked and well lit.
- The majority of cars are parked in direct view of the curtilage to provide optimum surveillance. Other parking areas are limited in size and are overlooked by dwellings.
- Physical security measures such as entrance doors, opening windows and locking systems will be carefully designed to ensure optimum performance.
- Following early DOCO consultation side windows have been added to gable ends on when plots turn the corner for improved natural surveillance and to car parking spaces.

## 4.8 House Type Design: Key Considerations

### WDQR

The proposals are based around high quality placemaking with the new homes built in accordance with the new standards technical requirements. All the homes will exceed the new minimum WDQR space standards regardless of tenure, as we recognise the additional space required for an increased amount of domestic M&E equipment in delivering low and zero carbon homes.

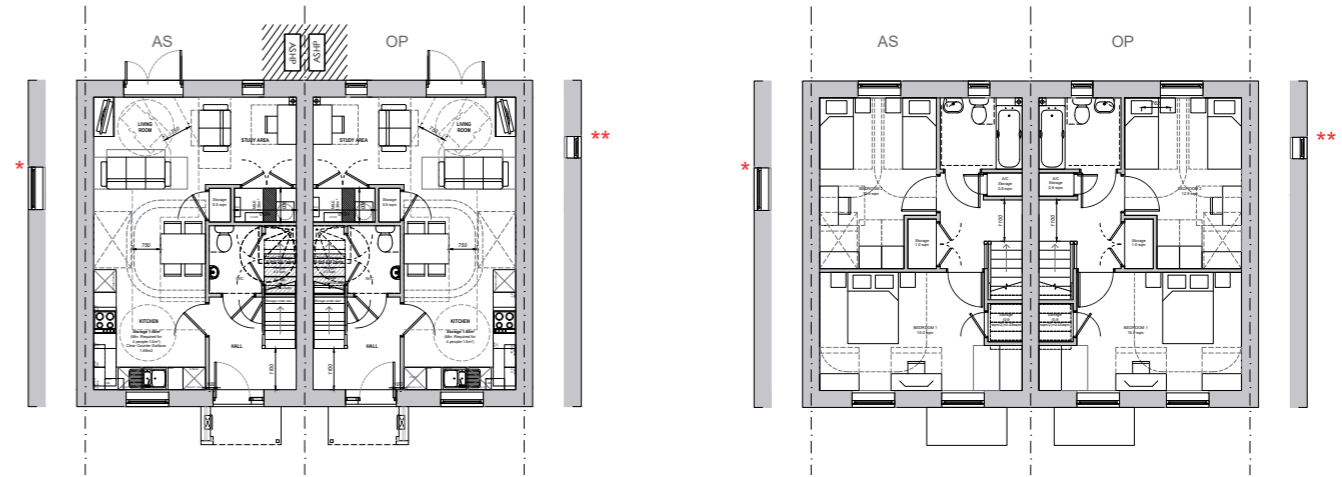
All homes are of a sufficient size to allow future flexibility, to meet the changing needs of the occupants and future households across the lifetimes of the residents. Accessibility requirements will be met through compliance with Lifetime Homes Standards, for both private and affordable tenures, which include the design of external entry routes, as well as the internal configuration of the dwellings.

### MMC

MMC options are currently being explored for this site. The house types have been designed to be suitable for Off-Site Manufacture and can be easily adapted to pursue either a number of approaches to MMC, whichever is most suitable in respect of the local supply chain.

### Architecture and Materials





We believe that the character of new place should be driven by the landscape, history and context of its' setting. Architectural forms can be familiar in scale and massing, referencing the wider local vernacular of Fairwater and the Cardiff City area, whilst translating of the context into refreshing and high-quality Architectural Language that builds on the rich historical layers of place.

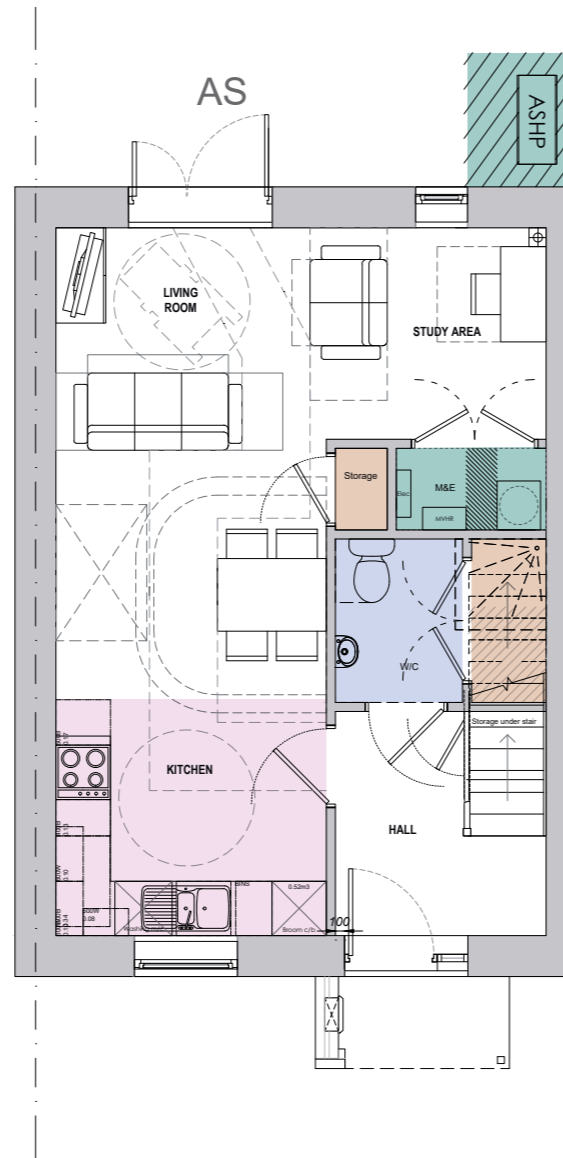


## 4.9 House Typologies: 2 Bed Home

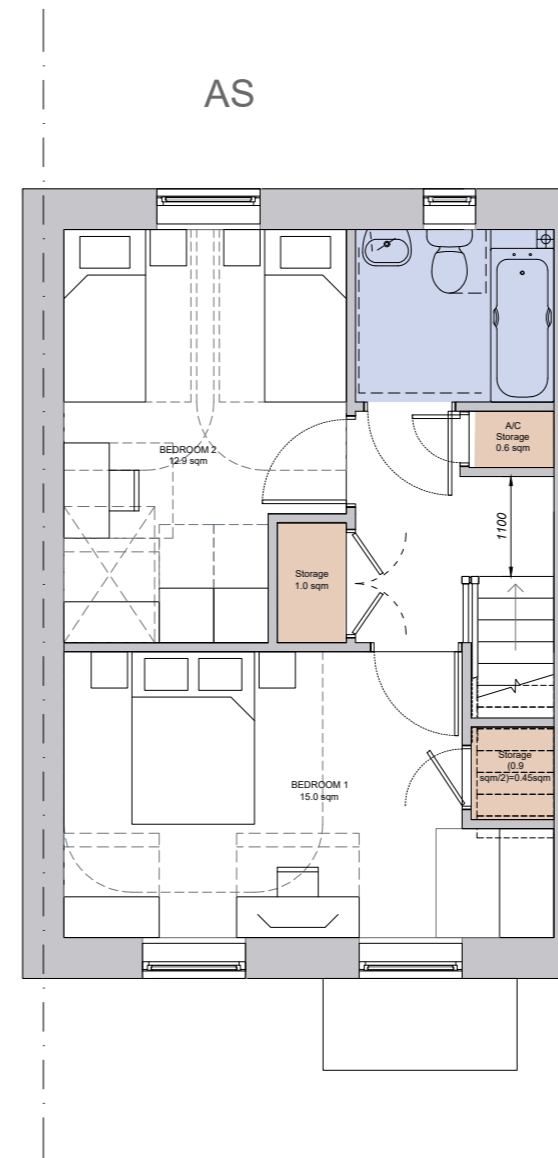
- Service spaces (WC and M&E) located centrally in the plan to maximise rear external wall space so that generous living spaces can make the most of the daylight and connection to the garden.
- Generous entrance lobby with storage opportunity.
- Open plan kitchen, living and dining creating opportunities for natural light and ventilation, and maximises the usable area for a small household.
- Kitchen located at the front of the home, minimising extract ductwork runs.
- Study area location bright and airy near a window
- Space for future shower in ground floor WC
- Rear access to a garden.
- M&E located within one store with MMC opportunities.

**GIA:** 85m<sup>2</sup>  
Cardiff Design Standard Area: 85m<sup>2</sup>

KEY	
	Storage
	M&E
	Kitchen
	Bathrooms



GROUND FLOOR







FIRST FLOOR

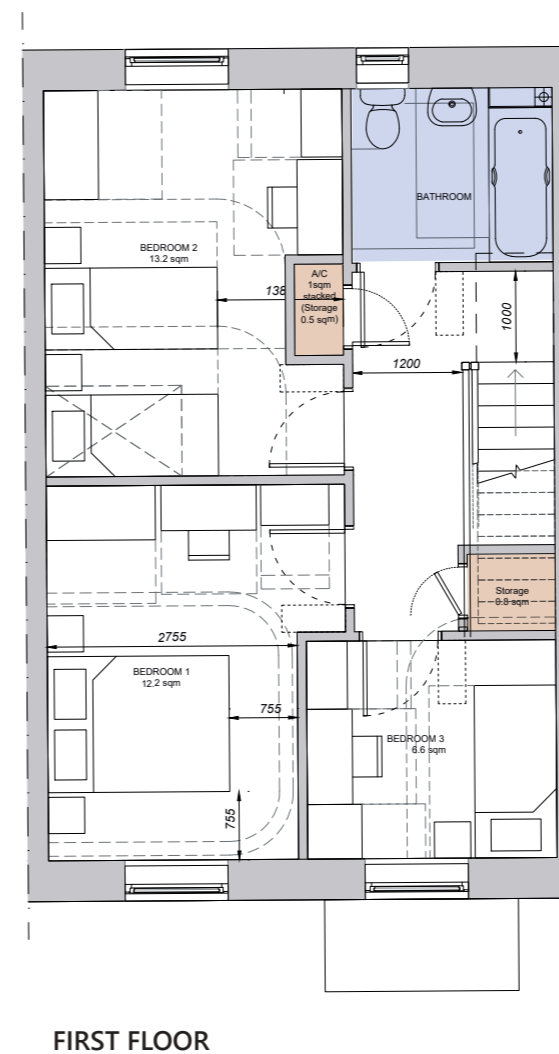
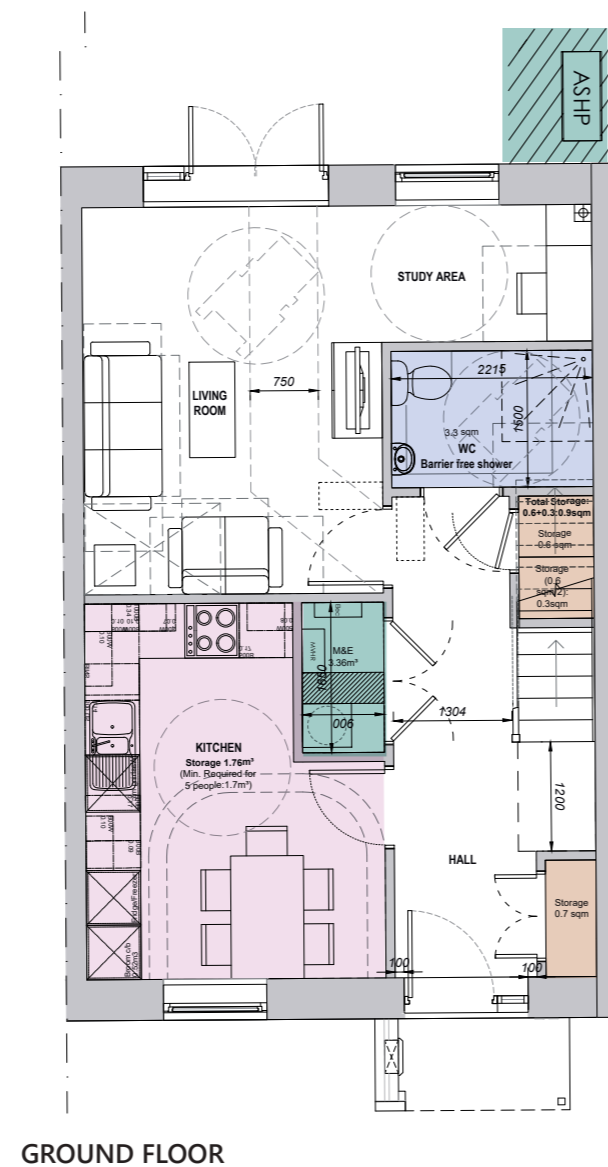


## 4.10 House Typologies: 3 Bed Home

- 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 different storage opportunities.
- A separate kitchen and living room help to reduce noise and provide separate spaces for different activities in a large household.
- Kitchen located at the front of the home, minimising extract ductwork runs.
- Study area location bright and airy near a window.
- Space for future shower in ground floor WC.
- Rear access to a garden.
- M&E located within one store with MMC opportunities

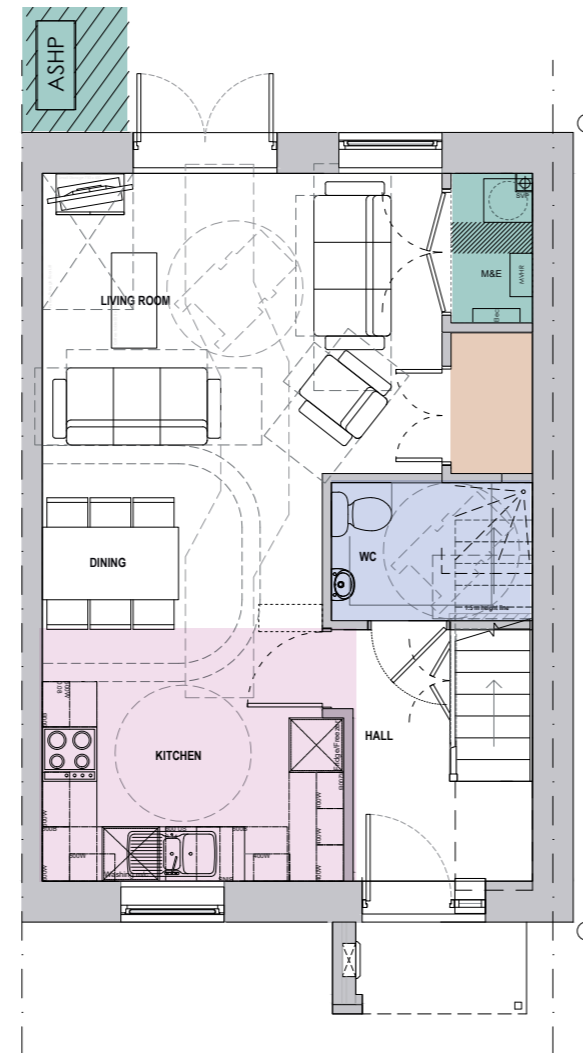
**GIA:** 95m<sup>2</sup>  
Cardiff Design Standard Area: 95m<sup>2</sup>

KEY	
	Storage
	M&E
	Kitchen
	Bathrooms

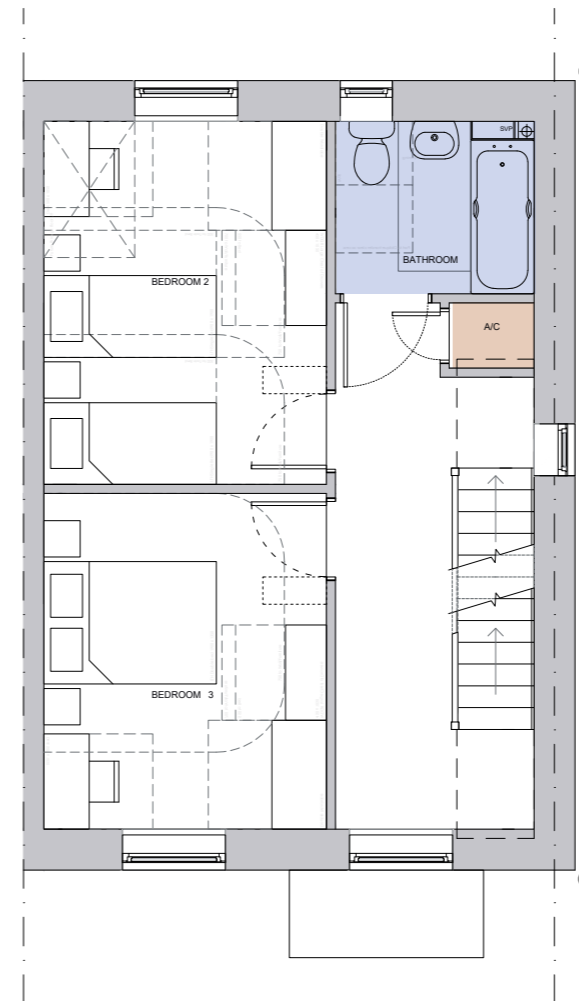


## 4.11 House Typologies: 3 Bed 2.5 Storey Home

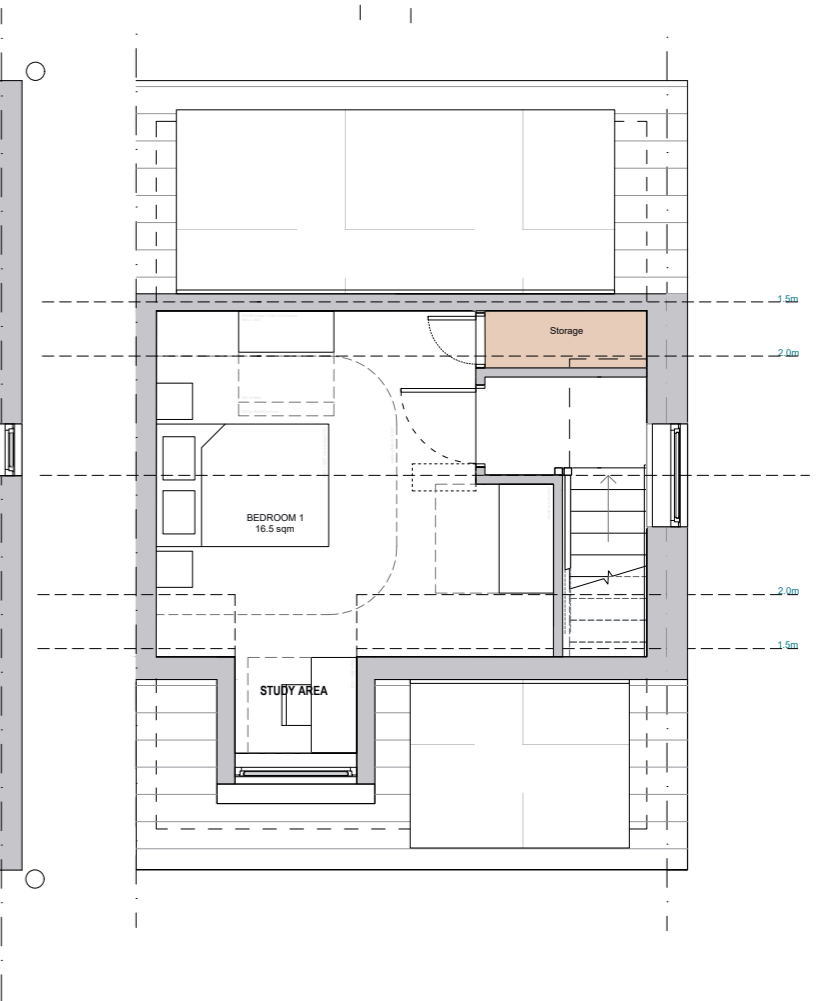
- Service spaces (WC and M&E) located conveniently on the plan to maximise rear external wall space with light and access to garden for generous living spaces
- Generous entrance lobby with storage opportunity
- Open plan kitchen, living and dining creating opportunities for natural light and ventilation, and maximising usable area.
- 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
- Space for future shower in ground floor WC
- Rear access to a garden
- M&E located within one store with MMC opportunities.



GROUND FLOOR

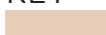





FIRST FLOOR



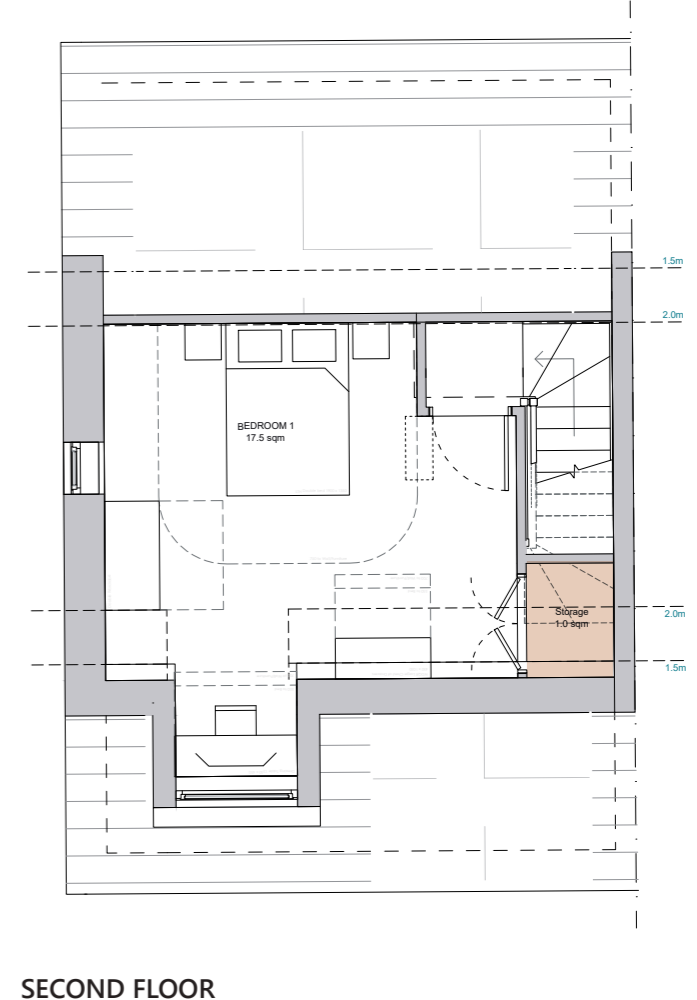
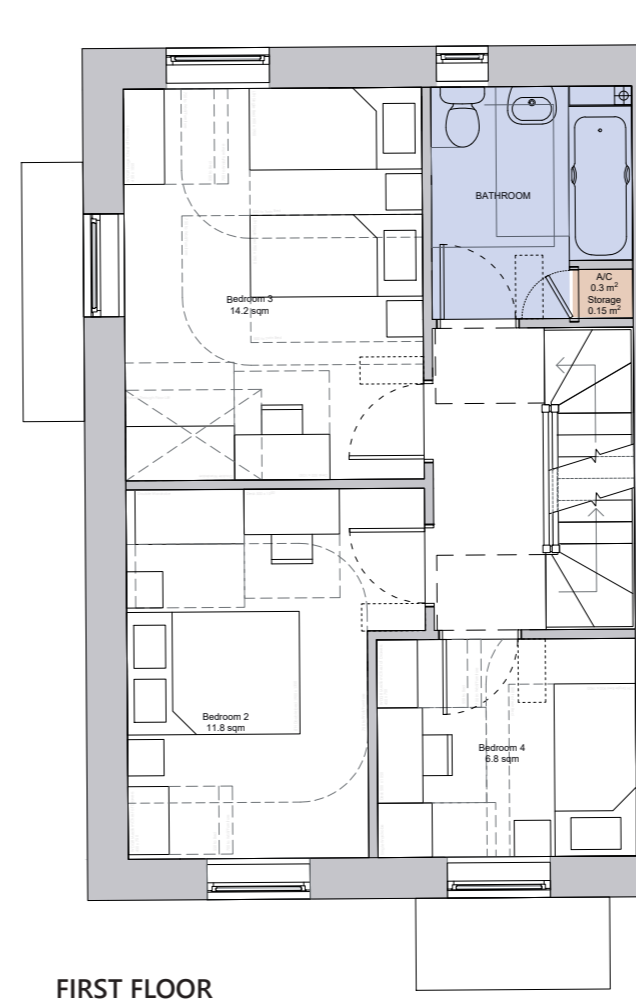
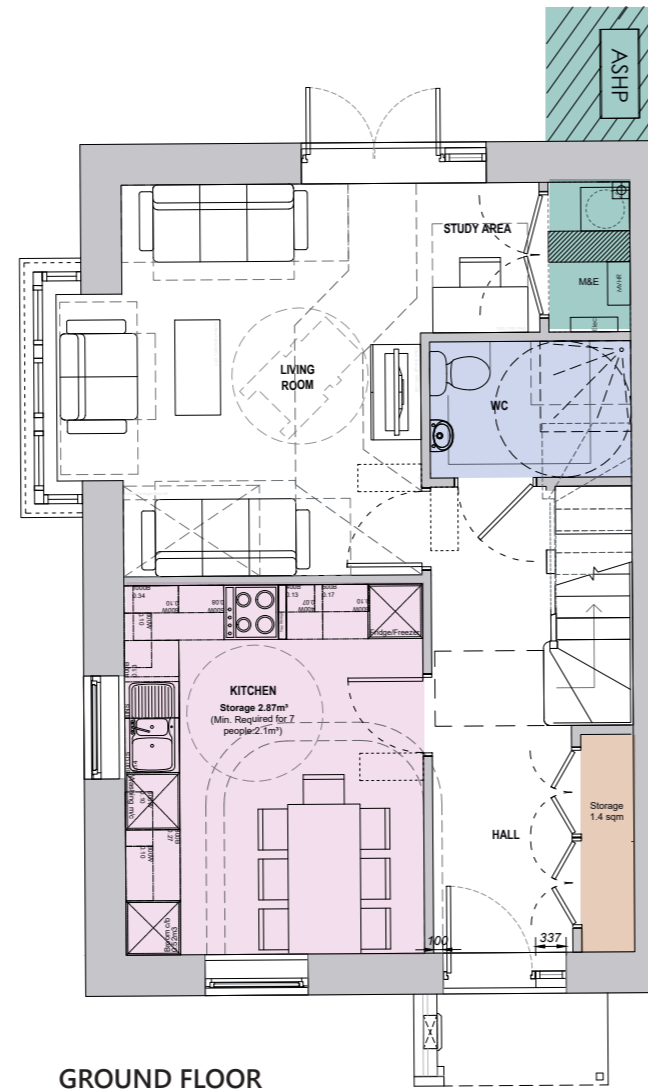
SECOND FLOOR

**GIA:** 113m<sup>2</sup> (2.5 storeys)  
Cardiff Design Standard Area: 93m<sup>2</sup> (2 storeys)

KEY	
	Storage
	M&E
	Kitchen
	Bathrooms

## 4.12 House Typologies: 4 Bed 2.5 Storey Home

- Generous entrance lobby with storage opportunity
- A separate kitchen and living room help to reduce noise and provide separate spaces for different activities in a large 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.
- Space for barrier free shower in ground floor WC
- Rear access to a garden
- M&E located within one store with MMC opportunities.
- Service spaces (WC and M&E) located conveniently on the plan to maximise rear external wall space with light and access to garden for generous living spaces



**GIA:** 119m<sup>2</sup>  
Cardiff Design Standard Area: 85m<sup>2</sup>

KEY	
<span style="display:inline-block; width:15px; height:10px; background-color:orange; border:1px solid black;"></span>	Storage
<span style="display:inline-block; width:15px; height:10px; background-color:green; border:1px solid black;"></span>	M&E
<span style="display:inline-block; width:15px; height:10px; background-color:blue; border:1px solid black;"></span>	Bathrooms
<span style="display:inline-block; width:15px; height:10px; background-color:lightblue; border:1px solid black;"></span>	Kitchen

GROUND FLOOR

FIRST FLOOR

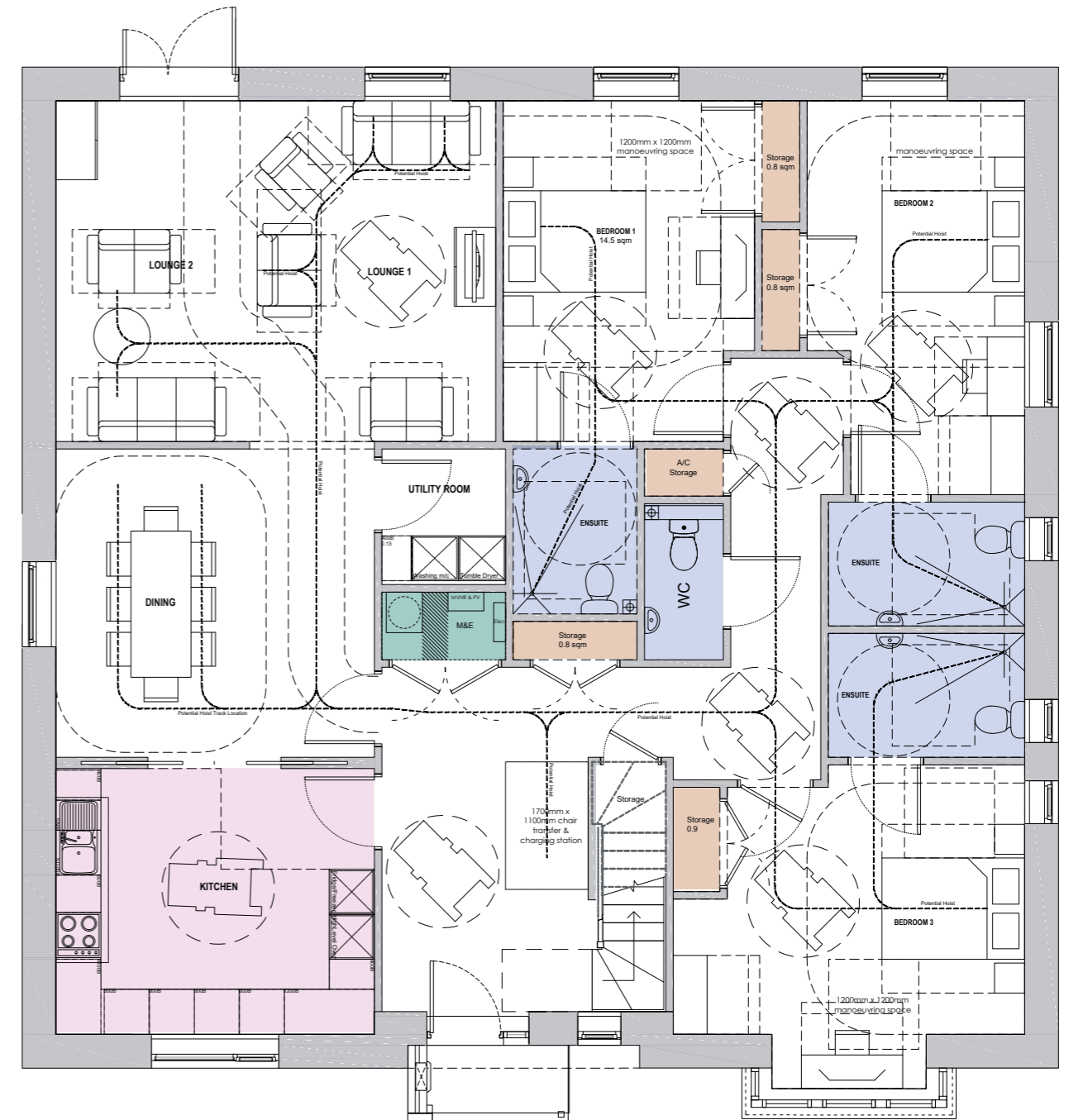
SECOND FLOOR

## 4.13 House Typologies: Adult Supported Living Bungalow

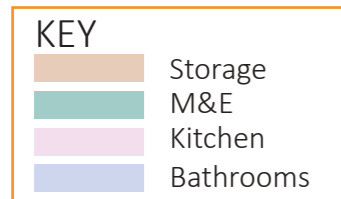
Plot 14 is an Adult Supported Living Bungalow adapted for wheelchair users with a dedicated staff bedroom space on the first floor.

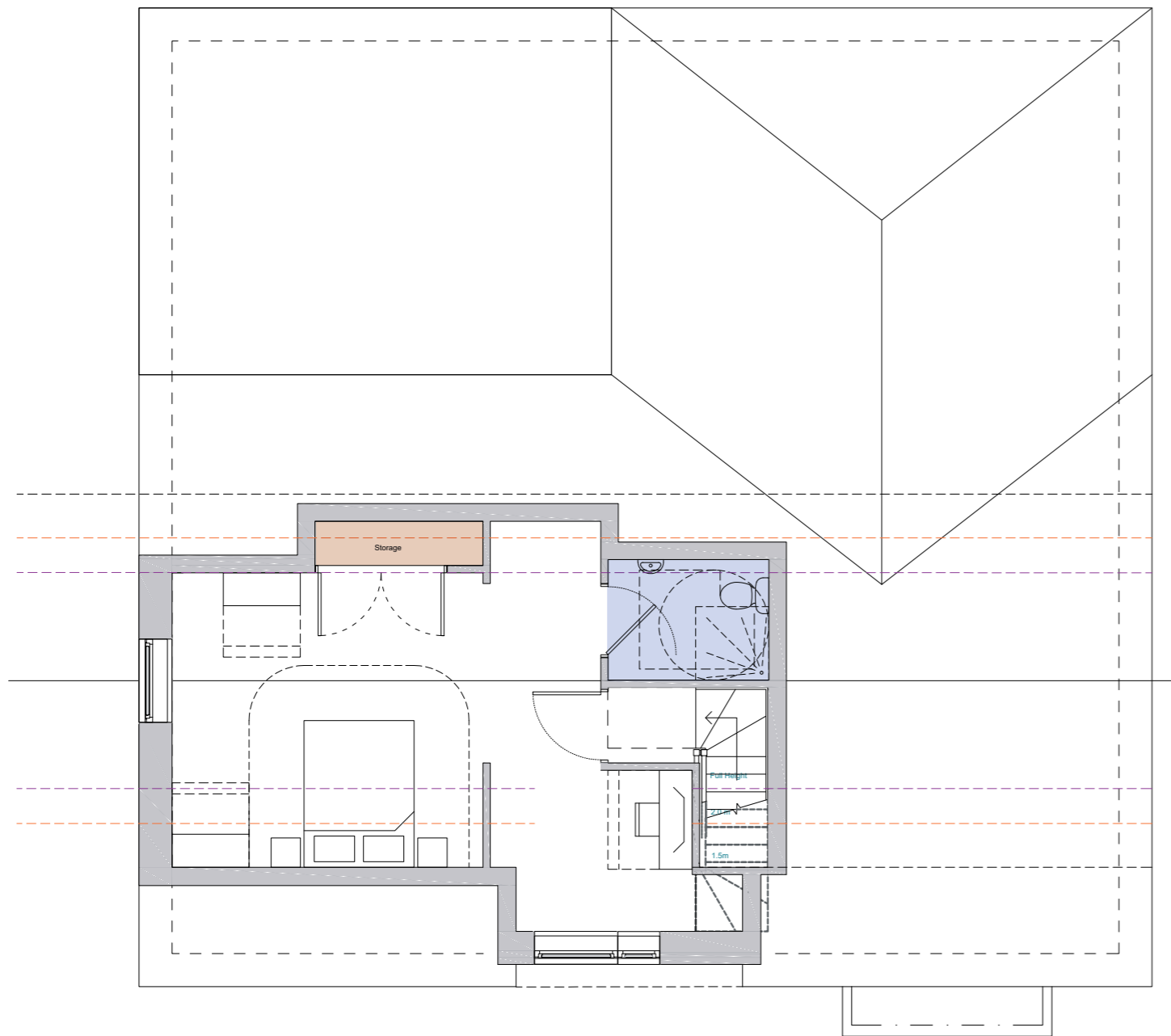
### Key features:

- Optionally open-plan kitchen, living and dining creating opportunities for natural light and ventilation.
- Service spaces (WC and M&E) located centrally in the plan to maximise usable space so that generous living spaces can make the most of the daylight and connection to the garden.
- Utility room that includes a washing machine and a dryer with access from the kitchen.
- All client bedrooms have built-in wardrobes, ensuites and dropped window sill heights for comfortable and accessible views and uses.
- Future hoist positions throughout the home.



GROUND FLOOR





FIRST FLOOR

## 4.14 Proposed Street Scenes



Section A-A



Section B-B



Section C-C

View Location Plan



## 4.15 Materials Strategy

The architectural language is one of a contemporary settlement and we propose a palette of robust materials, referencing both the wider and local vernacular of the Fairwater area. The palette of materials is as follows:

### Walls

- A Red multi-texture facing brick will be used predominantly with darker smooth brick to compliment as an accent, with a light mortar.

### Roofs

- Artificial slate in grey.

### Windows

- UPVC windows in RAL Classic Mouse Grey colour with a contemporary fenestration pattern.

### Doors

- IG doors in three colours varied throughout the site.

### Materials

#### Option 1



Windows and RWP+Trim -  
RAL 7005 Mouse Grey



Artificial slate roof tiles.  
Colours: grey



Ivanhoe Olde Village



Forterra Country Red  
Smooth or Similar Approved

### Materials

#### Option 2



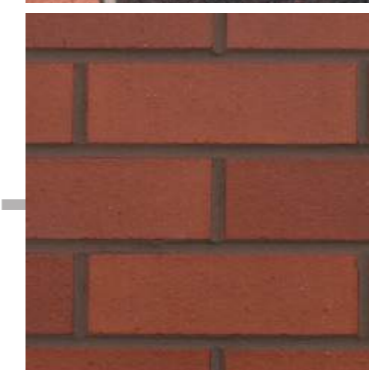
Windows and RWP+Trim -  
RAL 7005 Mouse Grey



Artificial slate roof tiles.  
Colours: grey



Taylor Maxwell Wakerly  
multi-stock facing brick



Forterra Country Red  
Smooth or Similar Approved

#### Front Doors



IG Doors Chartwell Green



IG Doors Fir Green



IG Doors Pidgeon or  
Larkspur Blue

#### Houses - Primary

#### Houses - Secondary and Boundaries

## 4.16 Illustrative Views



1 View from main site access towards plot 11

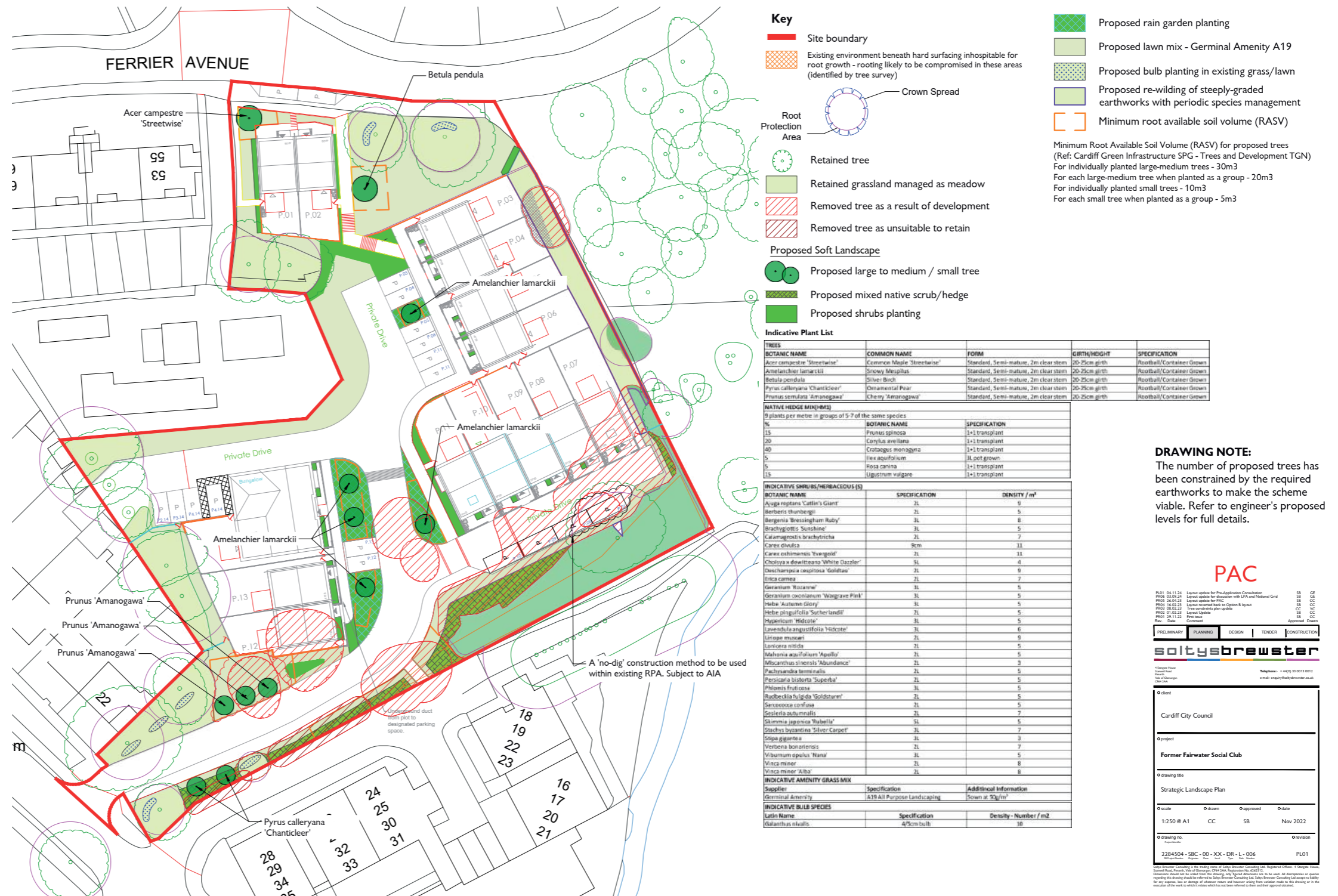




2 View down private drive towards plot 12 -13

# 4.17 Green Infrastructure and Landscape Strategy

The proposed landscape scheme aims to provide an attractive, biodiverse landscape through trees, native hedges, shrub and rain garden planting which enhance the wildlife connection to the adjacent Fairwater Park. Native hedge planting and new tree planting proposed from west to east along the south of the site enhance the existing green corridor connection to Fairwater Park for local wildlife while also providing a greater sense of arrival to the development. Along the houses' frontage, ornamental shrubs and herbaceous planting are proposed to provide aesthetic value and a privacy buffer to footpath. Rain gardens have been proposed to meet SuDS requirement, which will be planted with rain garden species, further boosting the nectar source on site.



**DRAWING NOTE:**  
 The number of proposed trees has been constrained by the required earthworks to make the scheme viable. Refer to engineer's proposed levels for full details.

**PAC**

04/21/24  
 14/02/24  
 14/02/24  
 08/02/24  
 01/02/24  
 01/02/24

Lead update for Pre-Application Consultation  
 Lead update for Application with SPA and Natural Grid  
 Lead update for SPA  
 Update received back on Option B layout  
 Final amended plan update  
 Lead Update  
 Pre-Application  
 Approved  
 Consent

PRELIMINARY | PLANNING | DESIGN | TENDER | CONSTRUCTION

**soilysbrewster**

11 Chapel Street, Cardiff, CF10 1JY  
 Telephone: +44 (0) 303 001002  
 Email: enquiry@soilysbrewster.co.uk

Client: Cardiff City Council

Project: Former Fairwater Social Club

Drawing title: Strategic Landscape Plan

Scale: 1:250 @ A1  
 Drawn: CC  
 Approved: SB  
 Date: Nov 2022

Drawing no.: 2284504-SBC-00-XX-DR-L-006  
 Revision: F01



- KEY
- Site Boundary
  - Primary Green Infrastructure Network
  - Allotments
  - Ancient Semi-Natural Woodland
  - Site of Importance for Nature Conservation (SINC) - Fairwater Park
  - Blue Infrastructure - Stream
  - Blue Infrastructure - Pond

PAC

**soltysbrewster**

o client/project	o figure		
Cardiff City Council	Green Infrastructure Context Plan		
<b>Former Fairwater Social Club, Cardiff</b>			
o figure no.	o scale	o drawn	o date
2284504-SBC-XX-ZZ-DR-L-0001	NTS	GE	JULY 2024

4 Stangate House  
 Starwell Road  
 Penarth  
 Vale of Glamorgan  
 CF64 2AA

Telephone: + 44(0) 29 2040 8476  
 e-mail: enquiry@soltysbrewster.co.uk

# 4.18 SUDs Strategy



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CONTRACTORS MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO CAMBRIA CONSULTING LIMITED BEFORE PROCEEDING.

THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESOURCING RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS. IN PARTICULAR, THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

**THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS. ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.**

**NOTES**

- THE BELOW TABLE OUTLINES THE CALCULATED GREENFIELD AND BROWNFIELD RUNOFF RATES FROM THE SITE. ATTENUATION REQUIREMENTS CALCULATED USING A QUICK STORAGE ESTIMATE AND ONE-THIRD DESIGN VALUE FOR THE DESIGN STORAGE.

DESIGN DATA			
	DISCHARGE	ATTENUATION	ONE-THIRD
GREENFIELD	0.6%	853-1073m <sup>3</sup>	913m <sup>3</sup>
BROWNFIELD	17.4%	205-312m <sup>3</sup>	240m <sup>3</sup>

- THE GREENFIELD RUNOFF RATE WAS CALCULATED USING FEH DATA AND R4FD METHODOLOGY.
- THE BROWNFIELD RUNOFF RATE WAS CALCULATED THROUGH MODELLING THE EXISTING SURFACE WATER DRAINAGE NETWORK. A 30% BETTERMENT HAS BEEN PROVIDED ON 1 IN 1 YEAR FLOWING.
- A 10% CATCHMENT AREA INCREASE HAS BEEN APPLIED TO CALCULATIONS TO TAKE INTO CONSIDERATION URBAN CREEP.
- THE LOWEST INFILTRATION RATE RECORDED ON SITE WAS 7.80x10<sup>-5</sup> m/s. INFILTRATION HAS NOT BEEN CONSIDERED FOR ATTENUATION SIZING AT THIS STAGE.
- RWF LOCATIONS SHOWN INDICATIVELY AT THIS STAGE.

**KEY:**

- SURFACE WATER DRAINAGE
- PERFORATED SURFACE WATER DRAINAGE
- FOUL WATER DRAINAGE
- LINEAR / CHANNEL DRAIN
- RAINWATER PIPE
- RWP
- GEO-CELLULAR CRATES
- PERMEABLE BLOCK PAVING
- RAINGARDEN BASE
- RAINGARDEN BATTER
- OVERFLOW GULLY
- HYDROBRAKE FLOW CONTROL CHAMBER
- ORIFICE FLOW CONTROL CHAMBER
- SURFACE WATER MANHOLE
- FOUL WATER MANHOLE
- SURFACE WATER INSPECTION CHAMBER
- FOUL WATER INSPECTION CHAMBER
- SITE BOUNDARY
- SAB BOUNDARY
- OUTLET
- INLET

P02	REVISED SITE LAYOUT	JD	BW	BW
				07/11/24
P01	ISSUED FOR PAC	JD	BW	BW
				28/10/2024
Rev.	Description	By	Chk	App

Client: CARDIFF COUNCIL

Project: FAIRWATER HOUSING SITE

Drawing Title: PROPOSED DRAINAGE STRATEGY

Drawing No: CC2419 CAM XX XX DR C 0500

Project	Originator	Vol	Level	Type	Rate	Number
SS	PRELIMINARY		1:200			P02

**CAMBRIA**  
Constructive Thinking

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Penarth Marina @cambriauk  
Cardiff, CF64 1TR uk.linkedin.com/in/cambriauk

## 4.19 Highways Strategy

### Overview

The transport and highway strategy has been developed building upon the site's existing accessibility. It provides improved pedestrian connectivity through to the adjacent Fairwater Park.

The site is sustainably located with a range of transport opportunities in the immediate vicinity including access to the pedestrian, cycle and public transport networks. The site will benefit from the ongoing development of the South Wales Metro at both Fairwater and Waun-gron Park stations.

In addition, there are a good level of amenities within the locality to encourage future residents to travel by modes other than the private vehicle in accordance with the policy aims of the Welsh Government and Cardiff Council.

### Pedestrian Connections

The access from Plas Mawr Road will include provision for pedestrians with the existing footway retained as a connection to the wider pedestrian network.

A new pedestrian connection will be provided through the site which connects Ferrier Avenue in the north with Fairwater Park in the south. The route to the south will require limited use of the adjacent sheltered living internal access route to provide onward connections to Fairwater Park.

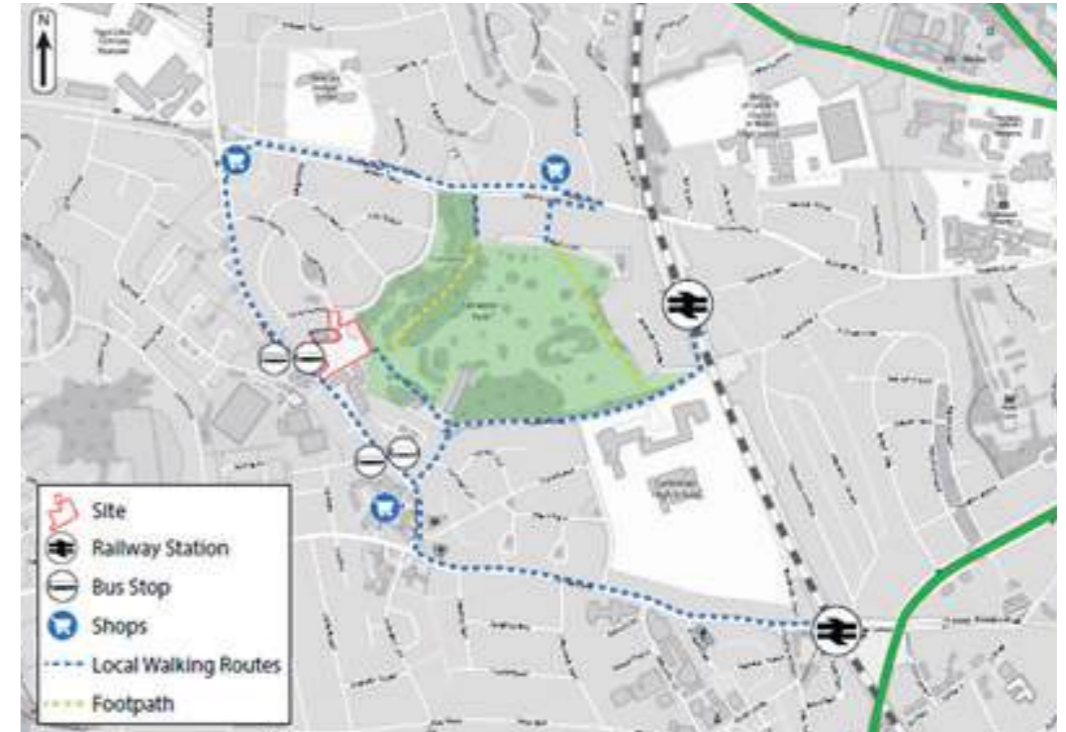
### Vehicle Access

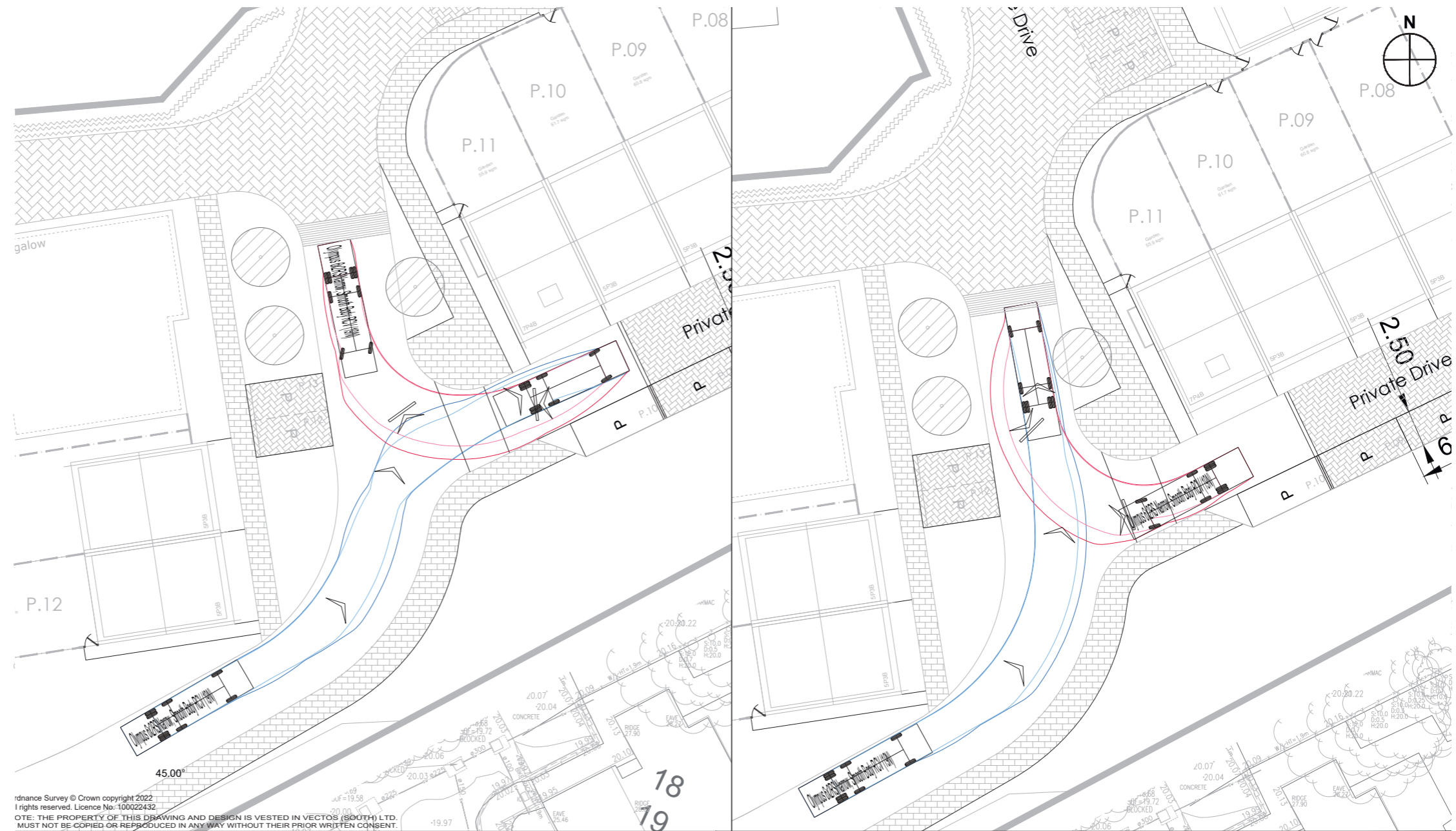
The access strategy for the development considers how safe and suitable access can be achieved by all users across a range of transport modes.

The site benefits from an existing vehicular access taken from Plas Mawr Road. The existing access in its current alignment would be retained to serve the proposed development. The access will be subject to new surfacing and white lining. A vehicle crossover is proposed which provides a raised footway crossing of the site access with Plas-Mawr Road.

### Delivery and Servicing Strategy

The site includes a mixture of highway designed to adoptable standard and areas of private drive. Refuse collection will take place from adopted highway, while delivery vehicles are able to turn around within the private drives as required.

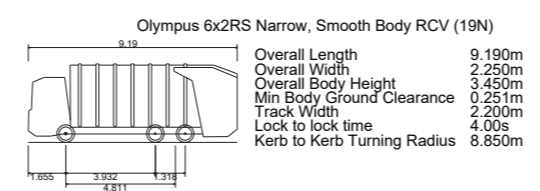




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DETAILS	DRAWN	CHECKED	DATE
New Masterplan	RJ	KR	25.04.23
New Masterplan	RJ	KR	25.04.23

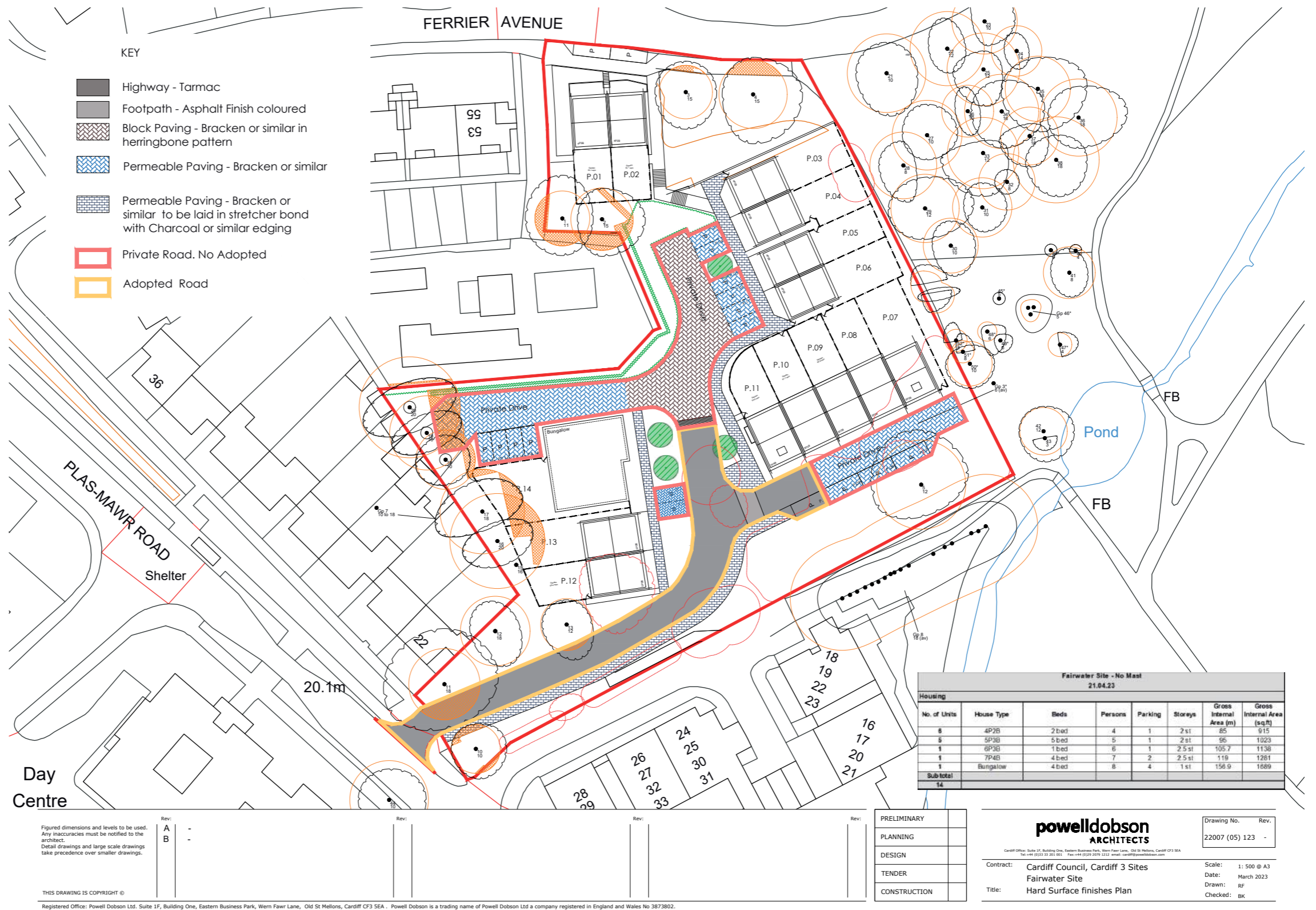
**Notes:**  
 1. This is not a construction drawing and is intended for illustrative purposes only.  
 2. White lining is indicative only.



**INFORMATION ONLY**

Cardiff Housing Sites: Fairwater		Cardiff Council	
Swept Path Analysis Olympus Refuse Vehicle Option B			
<small>Ground Floor, Helmont House, Churchill Way, Cardiff CF10 2HE          t: 02920 720 860 e: vectos@vectos.co.uk</small>		<small>DRAWING NUMBER: 226773_AT_C01 REVISION: B</small>	
<small>DRAWN:</small> KR	<small>CHECKED:</small> EW	<small>DATE:</small> 31.03.23	<small>SCALE:</small> 1:250 at A3

# 4.20 Proposed Adoption Strategy Sketch



## 4.1 Energy Strategy

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.

### 1.06 Initial Stage Draft SAP Iterations

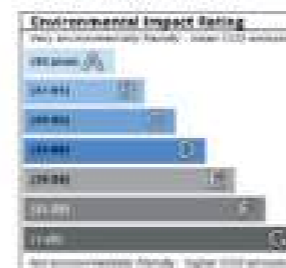
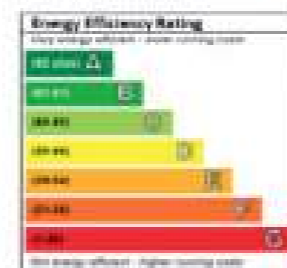
The following table shows the results of Draft SAP calculations carried out to illustrate the suitability of using differing Mechanical and Electrical Building Services technologies within each House Type. The results of the table have allowed the Design Team and Client to decide to progress with the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

#### Fairwater – 2B4P Semi Detached House

	Iteration 1 – Panel Heating	Iteration 2 – Individual GSHP	Iteration 3 – Individual ASHP	Iteration 4 – Storage Heating	Iteration 5 – Panel Heating	Iteration 6 – Storage Heating
<b>Building Fabric</b>	U-Value					
External Wall	0.13 W/m <sup>2</sup> K					
Roof	0.13 W/m <sup>2</sup> K					
Windows	0.8 W/m <sup>2</sup> K					
Doors	1.00 W/m <sup>2</sup> K					
<b>Air Permeability</b>	3 m <sup>3</sup> /hm <sup>3</sup>					
Window G-Value	0.5					
Window Frame Factor	0.7					
Thermal Bridging (Y-Value)	0.15 (Default)					
<b>M&amp;E Specification</b>						
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 (CO2) Rating
1 - Panel Heating	B 87	B 89
2 - Individual GSHP	A 96	A 97
3 - Individual ASHP	A 96	A 96
4 - Storage Heating	A 97	B 89
5 - Panel Heating	A 97	A 97
6 - Storage Heating	A 107	A 97

Total Emissions			
Iteration	Dwelling Emission Rate (DER) kg/m <sup>2</sup>	Target Emission Rate (TER) kg/m <sup>2</sup>	Pass Margin %
1 - Panel Heating	16.82	24.79	32.15
2 - Individual GSHP	6.44	24.79	74.02
3 - Individual ASHP	7.40	24.79	70.15
4 - Storage Heating	17.04	24.79	31.26
5 - Panel Heating	7.13	24.79	71.34
6 - Storage Heating	7.35	24.79	70.35

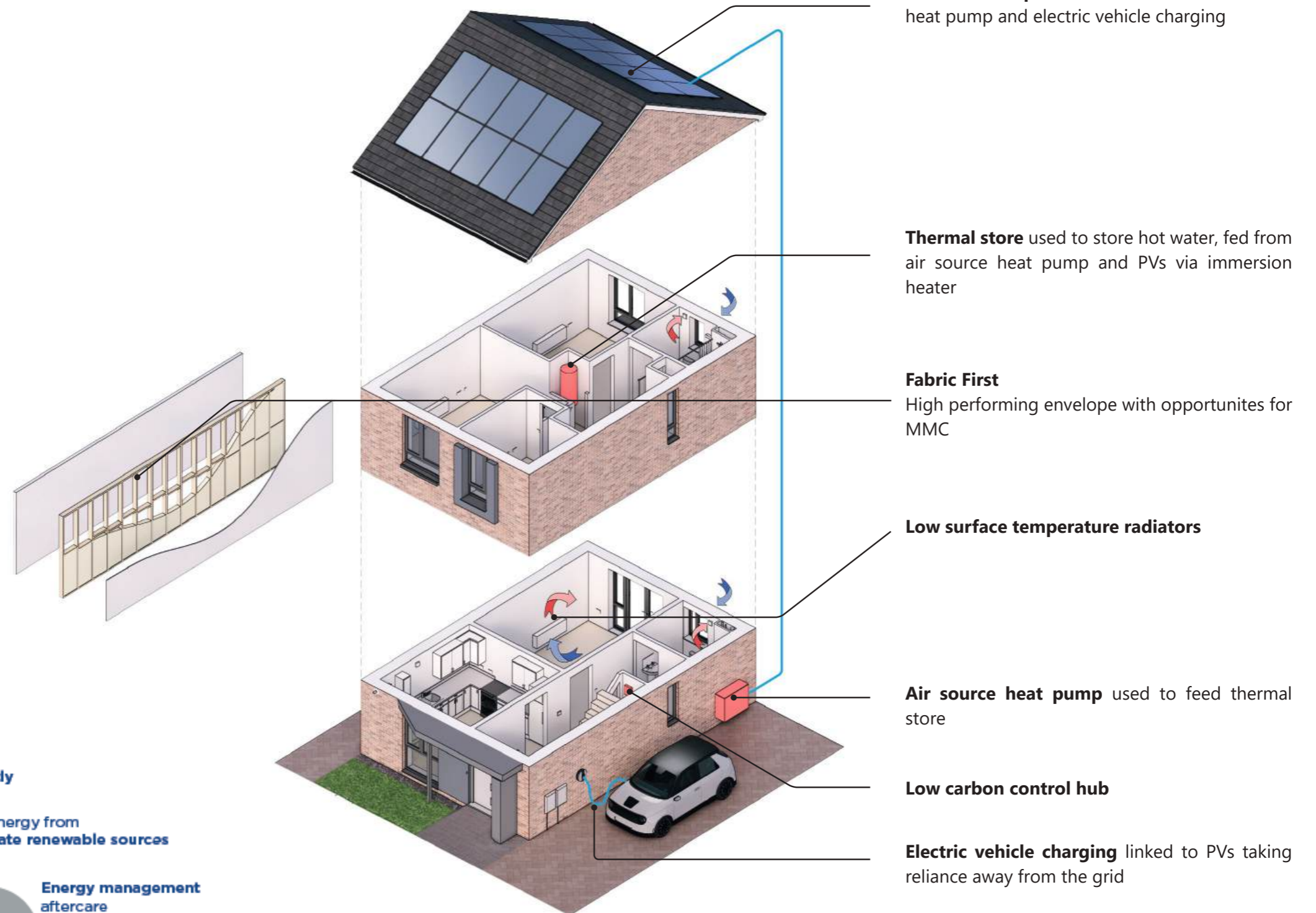




## 4.2 Sustainability and Low Carbon Technology

Building on our experience as a team on our work on the Cardiff Living Partnership Programme we have used this to inform our approach to the Carbon Agenda for this site. Our final proposals will be based on:

- Fabric efficiency meeting or exceeding proposed WG Energy Performance Standards 2025 to achieve EPC A.
- Renewables including air source heat pumps and PV Panels on roofs with energy export meters.
- Air source Heat pumps with MVHR for domestic hot water and ventilation.



Reduce the need for energy in the building's design

Use energy more efficiently in the building

Supply energy from appropriate renewable sources

Energy management aftercare

1

2

3

4



# 5.0 Conclusion

## 5.1 Summary

This Design and Access Statement supports a full detailed application for the development of the Former Fairwater Social and Athletic Club Site off of Plas Mawr Road, Fairwater.

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

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.

