



Fiddlers Ferry Allocation Site | Employment Area Design Code

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PREPARED FOR

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01 Introduction

1.0 INTRODUCTION

1.0.1 This Fiddlers Ferry (‘FF’) Employment Area Design Code is a requirement of the Fiddlers Ferry Development Framework (endorsed by WBC in September 2024), which establishes the principles for design codes for employment and residential development.

1.0.2 The FF Employment Area Design Code has been prepared to provide a benchmark for design quality and placemaking. It sets out specific, detailed design parameters for the physical development of the FF Employment Area, tailored to the local context.

1.0.3 The FF Employment Area Design Code has been prepared in consultation with stakeholders including Places Matter and is a material consideration in the determination of all planning applications relating to development within the FF Employment Area.

1.1 PLANNING POLICY CONTEXT

1.1.1 Policy MD3 (Fiddlers Ferry) of the adopted Warrington Local Plan 2021/22 to 2038/39 allocates land at Fiddlers Ferry (‘FF’) as a mixed-use development opportunity comprising approximately 101ha of employment land and a minimum of 860 new homes (‘the FF Allocation Site’).

1.1.2 This Design Code provides further detailed guidance to inform the redevelopment of the three employment land components of the FF Allocation Site (‘the FF Employment Area’), the boundary of which is defined by Warrington Local Plan Policy DEV4 (Economic Growth & Development). The FF Employment Areas are brownfield land comprising the former power island, coal pad and environs. A separate Design Code will be prepared in respect of the residential component of the FF Allocation Site (‘the FF Residential Area’).

1.1.3 The Fiddlers Ferry Development Framework (pages 155 and 158-159) sets out detailed requirements for the scope and content of the Employment Area Design Code, which have been applied in the preparation of this Design Code. The Design Code has also been prepared to align with policies contained within the adopted Warrington Local Plan and is consistent with a range of other national, local and site-specific policies, as set out within the below organogram.

1.1.4 Policy Organogram:

National Policy	- National Planning Policy Framework (December 2023) - Planning Practice Guidance – Design: process and tools (October 2019) - National Design Guide (January 2021) - National Model Design Code (October 2021)
Local Policy	- Warrington Local Plan 2022/23 to 2038/39 (December 2023) - Warrington Design Guide SPD (July 2024) - Design & Construction SPD (February 2016) - Parking Standards SPD (March 2015) - Environmental Protection SPD (July 2024) - Planning Obligations SPD (July 2024)
Site Specific Policy	- Fiddlers Ferry Development Framework (September 2024) - Fiddlers Ferry Employment Area Design Code (i.e. this document)



Fig. 1 - Aerial view of former Fiddlers Ferry Power Station site with ownership boundaries

1.2 Summary of Design Code Sections

1.2.1 The Fiddlers Ferry Development Framework establishes the following vision for the FF Allocation Site:

Fiddlers Ferry will be defined by a unique scale and combination of employment and residential development. This will establish substantial, sustainable economic, social and environmental assets that help to create new communities and bring together existing communities from across the wider Warrington and Widnes area. The future identity and 'sense of place' of Fiddlers Ferry can be defined through the distinctive development mix: one which creates bustling areas of commerce and productivity, as well as creating welcoming residential streets and green spaces. Fiddler's Ferry can become a place where vibrant, diverse and sustainable new business and residential communities converge: a distinctive and original working and living environment set within an extensive green space network in Warrington. This Design Code sets out design principles and codes which will enable this vision to be realised and to deliver high-quality development within the FF Employment Area.

(Fiddlers Ferry Development Framework, 2024, Page 28)

1.2.2 The closure of the former power station has left an exciting opportunity to build on the past legacy through new employment development. The old, coal polluting power station will be replaced by bold, modern, state of the art employment facilities that incorporate placemaking ideals along with sustainable credentials that are at the heart of the design. The buildings will focus on creating a sense of place and character that respects the site heritage and identity which contained the bold physical and visual aesthetic of the former power station.

1.2.3 The vision will be realised via the Design Code as it will endeavour to bring people together within the wider mixed-use re-development of the Fiddlers Ferry Allocation Site in a manner that is people friendly, connected and locally responsive.

1.2.4 The code sets out strategic placemaking principles which will be established within each phase of design as a response to local environmental context that will help maximise key opportunities, contribute towards the creation of inclusive environments and deliver a vision of a distinctive welcoming place and an environment that is people friendly and connected locally. Designs will integrate site specific responses to the local context and aim to respect the site heritage and identity.

1.2.5 This Design Code sets out design principles and codes which will enable the Development Framework vision to be realised and to deliver high-quality development within the FF Employment Area. It is based on the ten National Design Guide's characteristics throughout, and is set out in the following sections;

Chapter 2 - CONTEXT

1.2.6 An understanding of the site and how it relates to local context. This section also explores the heritage and culture that exists on site currently and how it influences new development. The context and analysis will determine what can be retained or used to influence the designs. Site assessments need to be undertaken to show constraints and opportunities on site which will also inform the design.

1.2.7 Due regard is to be paid to the former power station and incorporation of aspects of its former use within the new proposals, to ensure its history is not lost. The designs will endeavour to reflect this heritage within layouts, building materials and landscaping.

Chapter 3 - USES

1.2.8 This section explores the different employment uses that may come forward within the phases.

1.2.9 It also encourages active uses through frontages to be designed into the buildings using the right amount of glazing, floor to ceiling heights mixed with hard and soft landscaping to ensure visibility, encourage activity and people to congregate.

Chapter 4 - BUILT FORM / LAYOUT

1.2.10 Arrangements of buildings on each phase will create a sense of place, having regard to future phases and adjoining uses that will integrate movement, landscaping, SuDS, sustainability, energy reduction, and heritage with operational requirements.

1.2.11 The layouts will provide flexibility to cater for different building sizes and plot configurations. They will seek to respect the grid-like nature of the power station layout into the new layout designs. Design will be to a suitable scale within each phase having regard to existing context, height and density. Buildings that will adjoin the local centre and residential uses will integrate with sensitive boundaries and mitigation via design solutions, positioning, service yards located away from or well screened, reduced building heights and landscaping.

1.2.12 Building typologies are set out and, how they use the site and where they should be positioned in appropriate locations on the plot.

Chapter 5 - IDENTITY

1.2.13 The local character of the area will be explained, such as the established industrial area to the west and residences in the north along with established roadways in the north. These aspects combine with the site constraints and the heritage to inform the new layouts and designs.

1.2.14 A modern and contemporary set of buildings and

spaces will be designed in order to create a coherent sense of place whilst allowing opportunities for character variation in appearance, layout, landscaping, including landscaping boundary treatment, and materials. The three employment phases will all follow a similar design ethos and pallet of quality and robust materials, colours and quality detailing.

1.2.15 Each phase will function independently initially, then coherently as they are built and integrate with other elements of the site to create a coherent sense of place.

1.2.16 Legibility and wayfinding using well-proportioned street design and the network of walkways, cycle paths and roadways.

1.2.17 The design of buildings and materials and colours are all discussed in this chapter to ensure quality, contemporary and modern detailing is used throughout the designs.

Chapter 6 - MOVEMENT

1.2.18 The layouts will ensure that people friendly, connected streets are designed that intersect with building footprints, are accessible and easy to move around. Spaces should be created that are well defined and maximise levels of pedestrian and vehicle movements to help navigate people through the phases in an effective manner that will integrate and enhance spaces. Active travel corridors will be well-overlooked, well-lit and encourage walking, scooting and cycling. A detailed hierarchy of streets and highway design as set out in the Development Framework is replicated in the Movement chapter. Design Sustainable public transport and

pedestrian / cycle routes including traffic free infrastructure and links to public rights of way is set out. Key street elevation points to create positive active frontages with detailing of highway and back of pavement boundary treatments is considered. Parking areas and building servicing will be integrated into the designs from the outset.

Chapter 7 - NATURE & OPEN SPACE

1.2.19 Development will enhance the natural environment as well as the built environment. Buildings will integrate with high quality, attractive landscape design making a positive contribution to place making and enhanced biodiversity to benefit amenity areas for occupants. A well maintained and welcoming environment will be designed via the enhancement of BNG and green infrastructure. Quality amenity spaces within the design will incorporate SuDS, focal points, wayfinding and a sense of place and identity with a mixture of hard and soft landscaping. Car park areas and large hard surfaces will be broken down via visual relief and landscape features.

1.2.20 The site-wide drainage strategy incorporating a main attenuation pond with connecting swales and drains from all phases will produce exemplary SuDS that also create amenity value, integrating it into the landscape design.

1.2.21 Shared accessible amenity and meeting space, along with its scale and how it integrates with the new road network and buildings is established. How spaces are placed within the layouts is key to producing well designed active spaces. Their size and location and how they are enclosed are all to be considered.



Fig. 2 - Example of arrival, plot layout and facade design in keeping with the Design Code.

Chapter 8 - RESOURCES

1.2.22 Sustainability will be integrated into all aspects of the design from the outset and allow for future adaption to meet improving standards.

Designs will;

- Incorporate measures to reduce energy consumption and improve energy efficiency, as well as accommodating renewable and low carbon energy generation technologies.
- Incorporate passive design measures, including layouts/designs which minimise overheating, maximise the use of natural light and incorporate landscaping to reduce overheating and runoff.
- Target BREEAM “Excellent” with a minimum of “Very Good” to be achieved for each employment phase.
- Allocate main roof spaces for renewable energy generation and to maximise natural daylight.
- Maximise opportunities for green roofs on flat roofs above office and hub office spaces along with ancillary buildings.
- Reuse materials in the development and look to maximise opportunities to reuse materials in landform landscaping, amenity areas and reflect the site’s heritage.

Chapter 9 - SAFETY, SECURITY & CRIME

1.2.23 Measures are to be put in place for designing in safety and security for occupiers and visitors. These can be via passive measures such as locations of offices, active frontages and avoiding dark spaces or using security technology such as gatehouses and CCTV.

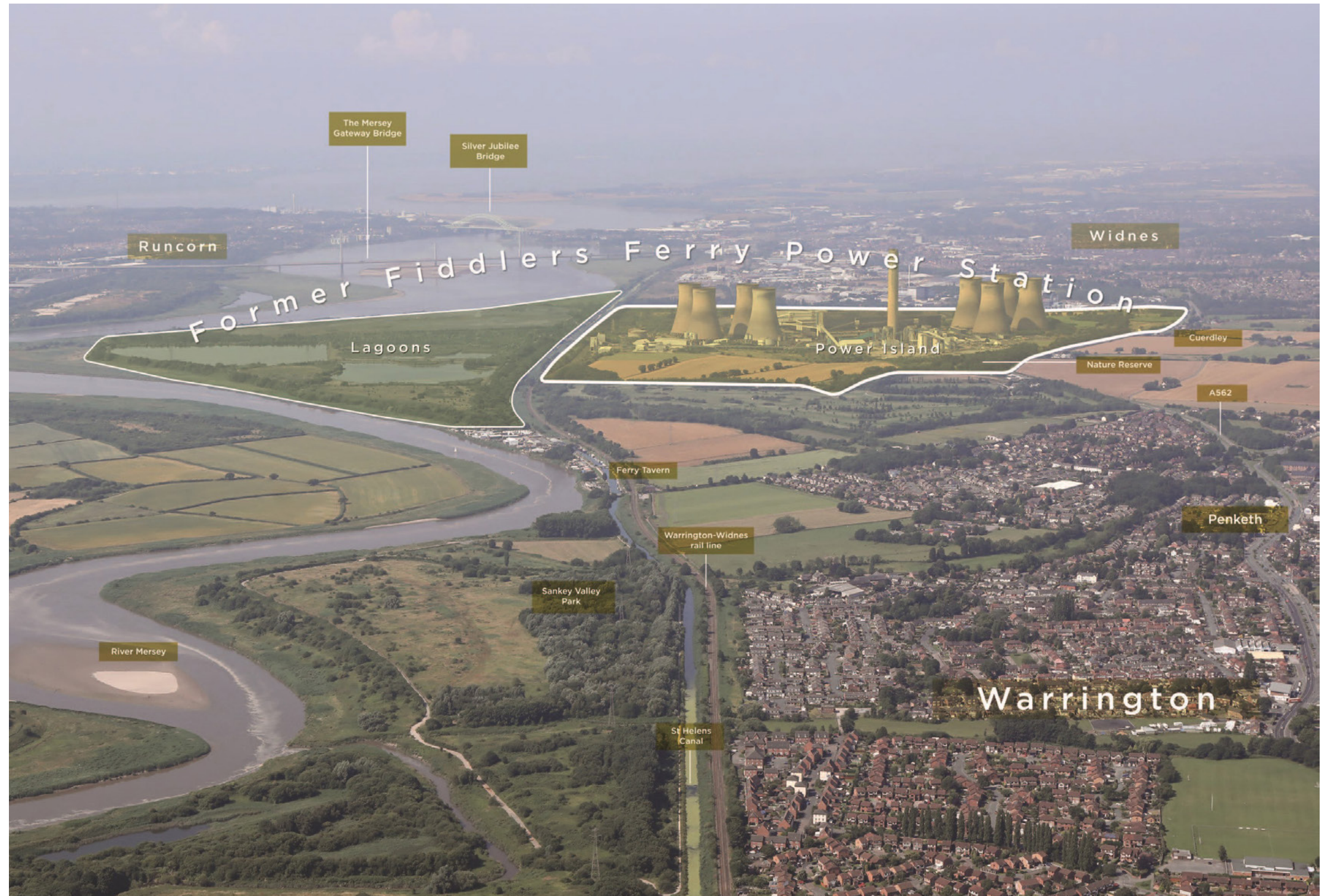


Fig. 3 - Fiddlers Ferry site and surroundings

02 Context

2.0 CONTEXT

2.0.1 The Fiddlers Ferry Development Framework establishes the following requirements for this Design Code:

The Design Code will confirm the range of employment uses, including industrial and distribution uses and low carbon energy projects, in accordance with the allocation of the site under Local Plan Policy MD3 (Fiddlers Ferry). Development will also comprise ancillary infrastructure, including access roads, footpaths/cycleways, parking provision, drainage infrastructure (including SuDS), utilities infrastructure, amenity space, landscaping and other associated ancillary infrastructure. (Page 158, Fiddlers Ferry Development Framework, 2024)

2.1 CHARACTER TYPES

2.1.1 Each employment phase has its own set of characteristics and relationship to its surroundings. Some areas are located closer to the existing industry and roads ,others closer to new residential areas and the landscape buffer running north-south that will be a clear separation between the employment and residential / amenity areas (see Phasing Plan, Fig 8). These will inform the height scale and density of the phases, with the higher buildings and densities appropriate to areas closer to the established industry and within the centre of the plots whilst low density

and reduced heights more appropriate next to the landscape buffer, neighbouring residential areas and at the edges of the plots. These different characteristics and relationships will need to be understood to influence the siting and design of new development.

2.2 SITE CONTEXT & ASSESSMENTS

2.2.1 The former Fiddlers Ferry Power station site comprises of approximately 101 hectares of employment land, as set out in Policy MD3 of the Warrington Local Plan. The Warrington Economic Development Needs Assessment (Aug 2021) sets out 370,000 sqm / 4m sqft of employment space to be provided within the new phases of the site.

2.2.2 Retained structures on the wider site include the National Grid 275kV sub station, located in the centre of the site, overhead pylons, an ash processing plant in the southeast of the employment area and rail sidings along the southern boundary. The existing lagoons in the south will also be future recreation areas.

2.2.3 A site context study will inform each employment phase to understand the features that exist including; existing buildings and their grain, street scene and roofscape, topography, boundary features, local amenities, water features, landscape features, views out and into the

plot. The designs of the plots need to respect these features and respond positively to them. Once these features have been established, a site opportunity and constraint plan can be built up to inform the layouts.

2.2.4 Site Assessments will identify features such as access points, contamination and other ground conditions, existing utilities and aspect, as each employment phase will have different characteristics. Phase 1 is the coal storage yard adjacent to an existing Gorsey Point industrial area to the west and separated from the remainder of the site by the Vyrnwy Aqueduct. Phases 2 and 3 sit in the centre of the former power station adjoining the large and tall National Grid sub station and will extend to the future local centre and housing areas to the east which will require a suitable design response along the boundary. In accordance with the Development Framework, the design and size of the landscape buffer will be informed by noise and air quality technical assessment and in turn will influence the development proposals for phase 2 and 3 employment or residential phase 1 whichever application comes forward first.

2.2.5 Figure 7, the Spatial Masterplan, developed within the Fiddlers Ferry Development Framework, shows the whole FF Allocation Site and its proposed different uses. The FF Employment Area is shaded purple and sits on the west

side of the FF Allocation Site adjacent to an existing industrial area. The FF Residential Area, which includes new homes, a local centre, primary school, public open space and other amenity areas, is located to the east.

2.2.6 Figure 8, FF Employment Area Phasing Plan, shows the Employment Area in more detail. It indicates how each of the proposed development parcels sit alongside existing infrastructure and surrounding townscape and what order they will be developed. Main access points, new and existing, from Widnes Road in the north are indicated along with retained roads and structures.



Fig. 5 - Gorsey Point - Small scale industrial units at Bennett's Lane



Fig. 4 - Fiddlers Ferry site and wider context
Fiddlers Ferry Allocation Site | Employment Area Design Code



Fig. 6 - Gorsey Point - Larger industrial units within the Fiddlers Ferry local context along Henry Street. Fiddlers Ferry Power station in the background.

The Spatial Masterplan (Development Framework 2024)

2.2.7 The Spatial Masterplan shown here, (Fig. 7) and the Employment Phasing Plan (Fig 8), along with the Site Context & Assessment studies will identify constraints and opportunities for each employment phase and are the basis for future designs for the employment areas.

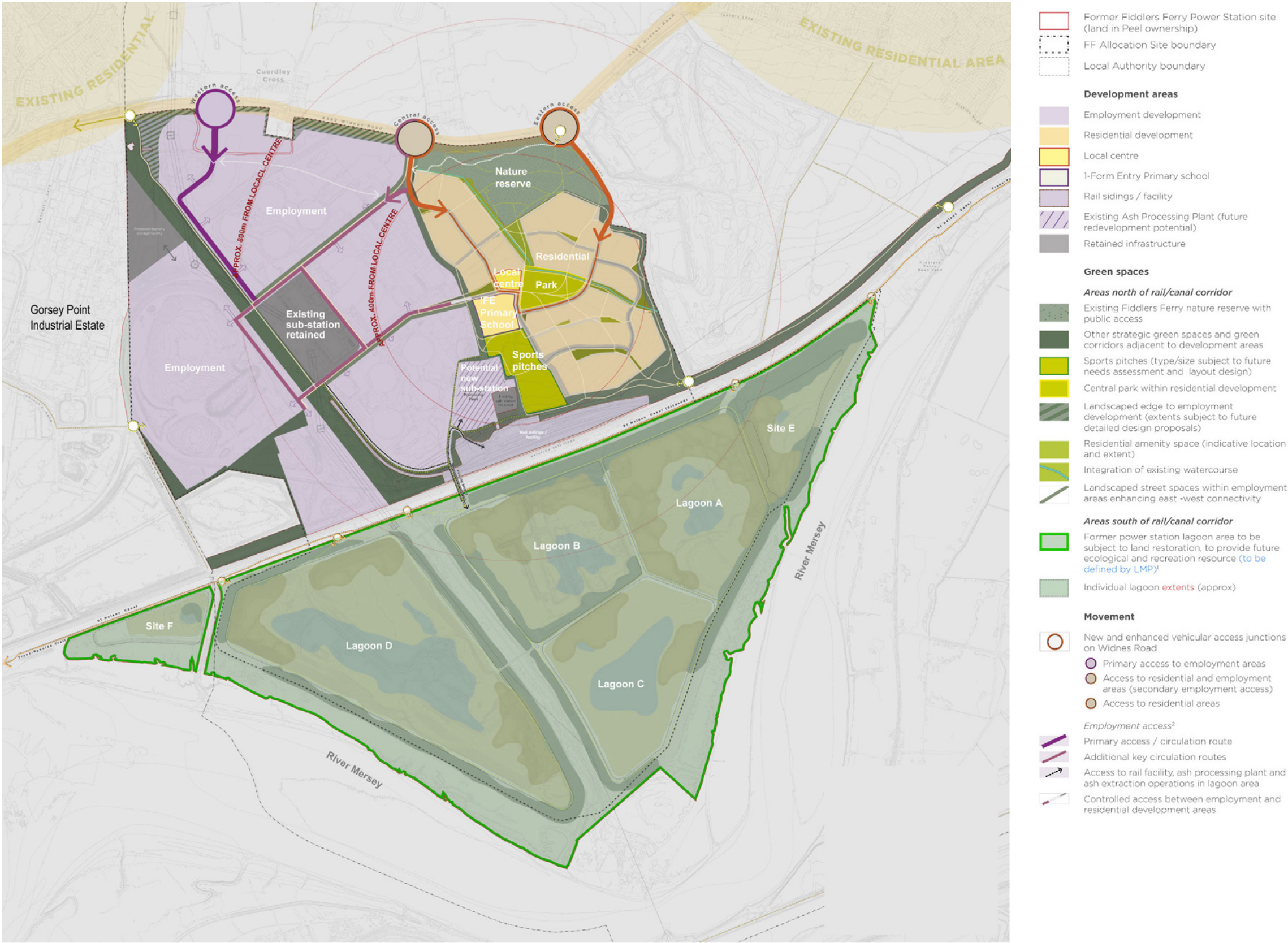


Fig. 7 - Spatial Masterplan

Employment Area Phasing Plan
(Development Framework 2024)

2.2.8 This plan sets out the boundaries for each employment phase and shows how they sit in relation to the residential areas and access points.



- | | | |
|--|--------------------|---|
| Former Fiddlers Ferry Power Station site | Employment Phase 1 | Strategic green infrastructure north of canal/rail corridor |
| FF Allocation site boundary | Employment Phase 2 | FF Lagoon Area |
| Local Authority boundary | Employment Phase 3 | Multi-modal access points from Widnes Road |
| | | Existing bridge |

Fig. 8 - Fiddlers Ferry Employment Area Phasing Plan

2.3 HISTORIC ASSESSMENT & HERITAGE ASSETS

2.3.1 The Fiddlers Ferry Development Framework establishes the following requirements for this Design Code: Development must begin with an understanding of the existing context, including our rich built form, heritage and wider social and economic ecosystems. This context must form the basis for visioning new developments, understanding what is already here, and how it can be celebrated. Proposals must be specific, and reference the distinct character of Warrington's places. Successful contextual responses will instil civic pride, and further enhance the identity of the borough. (Warrington Design Guide SPD)

CULTURAL HERITAGE

2.3.2 Due regard will be given to the heritage of the Fiddlers Ferry and its former use as a power station. All the structures, apart from the National Grid substation and rail sidings are due to be demolished to make way for new development which will respect the site heritage and identity.

2.3.3 A Heritage Assessment will be undertaken to explore existing heritage features on each employment phase. Historic maps and images will show how the area evolved, buildings took shape and relate to each other. The findings of this assessment will inform the design, layout and landscaping of new development as discussed in the following section on page 13 and the associated precedent images.



Fig. 9 - Chimney



Fig. 11 - Cooling towers



Fig. 14 - Filled cooling tower pond



Fig. 12 - Boiler House



Fig. 15 - Turbine hall

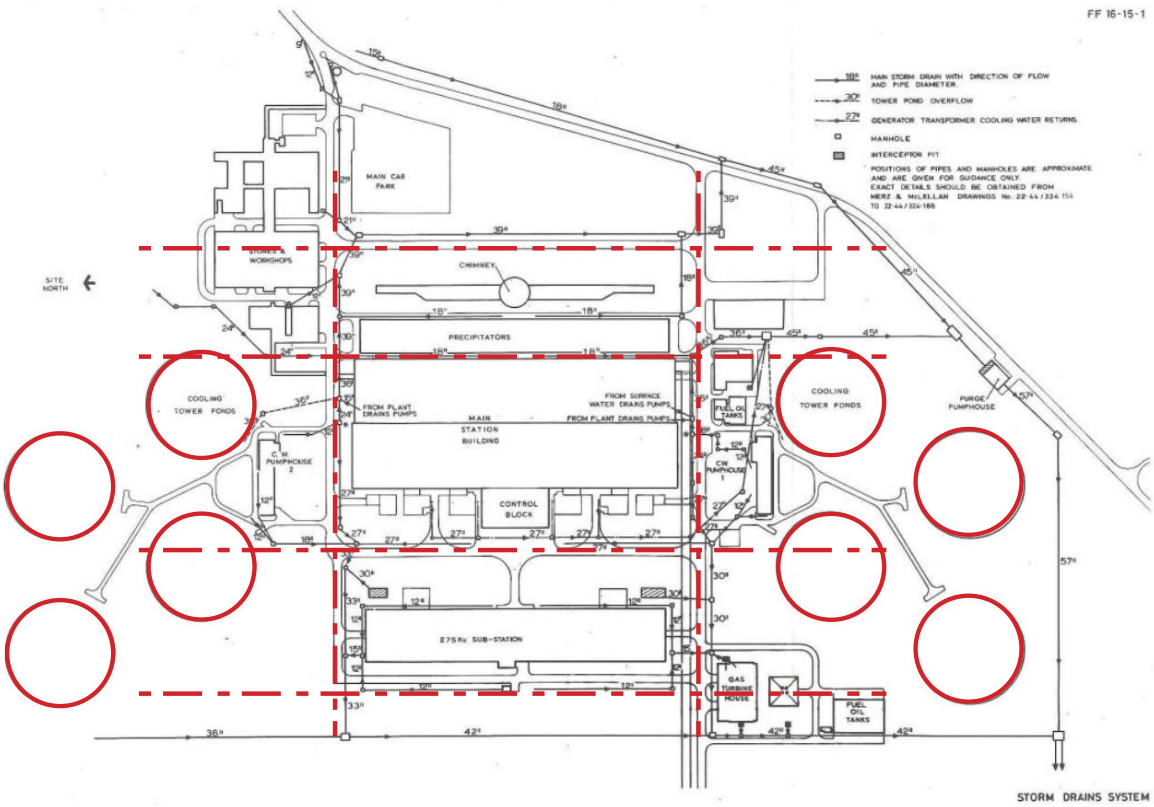


Fig. 10 - Grid plan of existing layout. The rectangular grid that was part of the existing layout offers opportunities to be replicated with the new layouts. The Phase specific historic assessment will inform the detailed development proposals that come forward for each phase.



Fig. 13 - Historic aerial view of the power station



Fig. 16 - Gas turbines

NEW DEVELOPMENT

2.3.4 New development is an opportunity to regenerate the site through modern, efficient and contemporary employment buildings that align with market demand and respect the site's heritage and identity. New development will respect the unique nature of the Fiddlers Ferry area of Warrington, with its existing characteristics including energy and employment uses and the bold physical and visual aesthetic of the former power station. By doing this it will add to the borough's civic pride and enhance its identity.

2.3.5 The continued use of the site for major employment has sub-regional significance and will help reflect the 'socio-economic heritage' of the site. Heritage can be recognised and interpreted through design on a strategic and local level.

2.3.6 Larger employment buildings will be arranged to seek to reflect perpendicular grid morphology of the power station, including some of the proposed road network sharing alignments with existing site roads. This will integrate the aqueduct and the retention of the large National Grid substation.

2.3.7 The employment buildings will have a bold physical and visual presence and aesthetic, to continue the characteristics of the former power station. Feature cladding on buildings can use colours or materials like concrete or steel to replicate the heritage of the former power station. Phase 1 as a former coal yard could feature the black colours of the coal within its materials. Phases 2 & 3 where the cooling towers sat could recreate the shapes of the towers in the landscaping or the concrete within buildings.

2.3.8 Landscape and public realm design will integrate forms and materials that reference industrial features, giving key external areas a distinctive industrial aesthetic that work well within the overall landscape and help people to appreciate the site's past. Opportunities for the cooling tower shapes to be replicated e.g. within paving or car parks and the hard and soft landscape design, footways, facades and boundary treatments will be included to contribute to referencing the heroic scale of the power station structures. The railway lines of the former power station could be replicated within the landscaping designs or within sculpture pieces.

2.3.9 Development should make references to the pre-industrial history of the site, for example by using historical place names, street names etc. in the future development.

2.3.10 The heritage of the Fiddlers Ferry site offers opportunities for public artwork, sculpture and interpretation media to acknowledge the site's historical past in all employment phases.



Fig. 17 - Public realm design with distinctive industrial aesthetic



Fig. 18 - Site heritage features retained in the landscape design



Fig. 19 - Hard landscape pattern that can replicate heritage shapes such as railway tracks or concrete elements of the former power station.



Fig. 20 - Example of landscape features in a nod to the heritage can be incorporated within the buildings or in the hard landscaping



Fig. 21 - Didcot Quarter, Chetwoods Architects - designs similar to this can reflect the steel from the former power station either within the landscaping or as building features.



Fig. 22 - Railway heritage reflected in hard landscape features



Fig. 23 - Sheffield - Similar sculpture at Fiddlers Ferry can reflect steel from the former power station.



Fig. 24 - Nestle site, Hayes - coffee bean seating. Bespoke seating designs reflecting the power station in steel and concrete can be incorporated using relevant themes.

2.3.11 Suitable, relevant fencing, gates and lighting columns/fixtures will be installed at key landscape nodes that recognise the past use of the site. Sites in Hillingdon and Hayes in west London and Sheffield have all taken elements from a site's past use and current features and incorporated these into seating, sculptures and gates / fencing to retain the history of the former uses.



Fig. 25- Landscaping with wayfinding

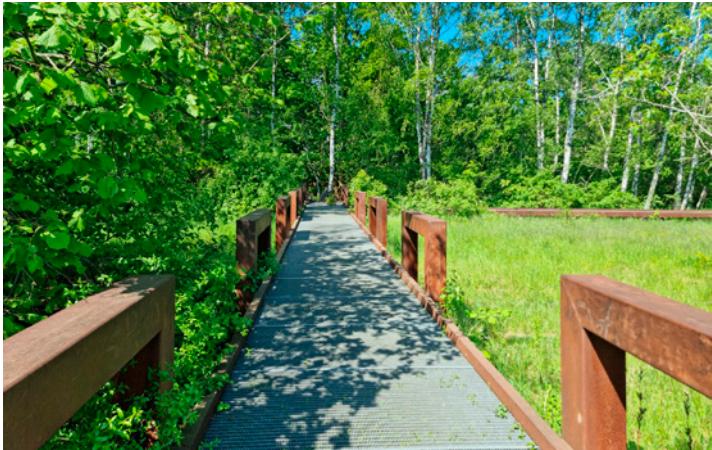


Fig. 26 - Landscape elements reflecting past use in material choices



Fig. 27 - Historic power station and landscape setting



Fig. 28 - Hillingdon brick heritage - Using materials from the site's past within the new hard landscaping. Opportunities to use similar materials at Fiddlers Ferry, for example concrete and steel from the power station within the hard landscaping as a feature.



Fig. 29 - View of existing phase 1 employment area looking from the south - Dec 2022



Fig. 30 - Historic view of the power station

SUMMARY OF CODES FOR CONTEXT

1. A site analysis, context review and heritage assessment will be prepared for each phase of development, which will inform the layout and detailed design of that phase.
2. Identify constraints and opportunities of each employment phase to inform the design process.
3. Reflect site heritage within the new designs in the building materials, designs, landscape features, public artwork and interpretation media.

03 Uses

3.0 USES

3.1 MIX OF EMPLOYMENT USES

3.1.1 Within the FF Employment Area, there will be a mix of employment uses delivered, comprising a range of industrial, storage and logistics operations, with ancillary offices using low carbon designs, as well as low carbon energy uses. This area will also include a range of amenity and landscape spaces to make it a healthy place to work, and help connect the employment uses to the adjacent local centre and residential areas which form part of the wider Fiddlers Ferry Allocation Site.



Fig. 33 - Pedestrian route along the canal support wayfinding and natural surveillance



Fig. 31 - Example of B2 industrial unit



Fig. 34 - Example of B8 industrial unit



Fig. 32 - A mix of uses located around a shared open space

3.2 ACTIVE FRONTAGES

3.2.1 Active frontages are a crucial placemaking principle and will be incorporated with the design of each phase wherever possible, particularly in fronting key routes. Building facades and the arrangement of uses will enhance security by allowing natural surveillance, bring economic vibrancy by being more attractive to the workers and visitors, and allow the interaction of people to aid wellbeing. Active frontages should include:

- Large areas of glazing or translucent materials, as well as entrances, doors and windows that create active visual engagement with external areas.
- High quality hard and soft landscaping, as well as public art.
- Clearly defined pedestrian and cycle movement routes, supported by lighting and wayfinding, to guide users to main entrances and reflect desire lines.

3.2.2 New roadways will link each building, and the offices will be positioned off these access roads to enable an active frontage and surveillance. The approach to parking for cars and cycles set out in Section 6 of this Design Code will also support active frontage design.

3.2.3 Building orientation will have regard to key routes and the following considerations:

- Desire lines
- Location of entrances and doorways
- Areas of public realm and shared spaces
- Overlooking and natural surveillance
- Lighting



Fig. 35 - Active frontages



Fig. 36 - Active frontages Chiswick Park

SUMMARY OF CODES FOR USES

1. Orientate the layouts of buildings to create active frontages in key locations, with careful siting of entrances, doors and windows to provide active visual engagement with external areas.
2. Incorporate façade treatments that comprise glazing or translucent materials, as well as landscaping and high quality movement routes, to create active frontages.

04 Built Form / Layout

4.0 BUILT FORM / LAYOUT

4.0.1 A key outcome in the design of each employment phase is to create a sense of place through developing a common architectural language and orientating buildings to provide legible way-finding, visual permeability through the site and to engage and create activity along the public realm.

4.0.2 The arrival into the site from the two locations off Widnes Road, will be celebrated and welcoming with high quality landscaping along verges, and appropriate signage. The layout will allow connectivity across the site from east to west for pedestrians and cyclists with permeability throughout. Links will be created to all areas connecting to the local centre, amenity areas, Johnson's Lane and Station Road connection, and surrounding PRow including the Trans-Pennine Trail as shown on the Movement Framework Plan (Fig 85).

4.0.3 A network of vehicle, pedestrian and cycle routes should be designed crossing through the site that offer attractive and safe places to navigate.

4.0.4 Buildings should be regular shape and the floor areas open, clear of structure, incorporate placemaking, street scene design requirements and be balanced with the need for operational efficiency and flexibility of internal operations.

4.0.5 Layouts should ensure that views are maintained across the site with the aqueduct being integrated into the landscape layout.

4.0.6 Offices will front the access roads to create a continuous active frontage whilst providing surveillance to the public realm.

4.0.7 Landscape buffers, including the landscape buffer along the eastern boundary of the employment area identified within the Fiddlers Ferry Spatial Masterplan (Figure 7) and Employment Area Phasing Plan (Figure 8), will be used to separate the built form from the other uses and provide wildlife corridors (see Chapter 7).

4.0.8 Car parking and service yards will be located behind the building line to reduce their visual presence and conceal operational activities and noise as set out in the Warrington Design Guide SPD.



Fig. 37 - Masterplan example establishing a building line
Fiddlers Ferry Allocation Site | Employment Area Design Code

4.0.9 The buildings will integrate with the sustainable drainage solutions and amenity areas in a continuous form to create a welcoming and active environment. See details in the SuDS section of Chapter 7.

4.0.10 Gatehouses may be required for buildings needing added security. The positioning and design of these will be considered at the outset and be integrated with the main buildings in a coherent way making sure that they are on the building line and not blocking key views. Vehicle tracking will be used to ensure safe and efficient access is provided within their designated location.

4.1 DENSITY & BLOCKS

4.1.1 The larger buildings will produce a coarser grain plan and be located centrally and to the west on the former coal yard of phase 1 and the centre of phases 2 & 3. Smaller units will produce a finer grain and will be used in more sensitive locations such as the Widnes Road frontage and the adjoining local centre and residential uses beyond the landscape buffer, see Fig. 39. Service yards should be 50m deep for large units (in excess of 100,000sq ft) or appropriately sized to match the smaller unit sizes. Proportions of units will follow industrial design principles similar to Fig. 48.

4.1.2 Spaces between buildings will be considered and integrated with landscape design in the first instance as an integral part of the design process. It will also encompass amenity and parking. See chapter 7 for details.

4.1.3 Plot ratios are measured as the amount of building area as a percentage of the plot area. Fiddlers Ferry will provide suitable densities to best respond to local character, which will be considered at planning application stage. Industrial buildings tend to be larger volume single storey buildings, but the ancillary office content can vary according to tenant requirements, see Fig. 39. The buildings will be positioned around the site to meet constraints and follow the street network to allow the movement of people and vehicles. This network will also help define the position of buildings and blocks.

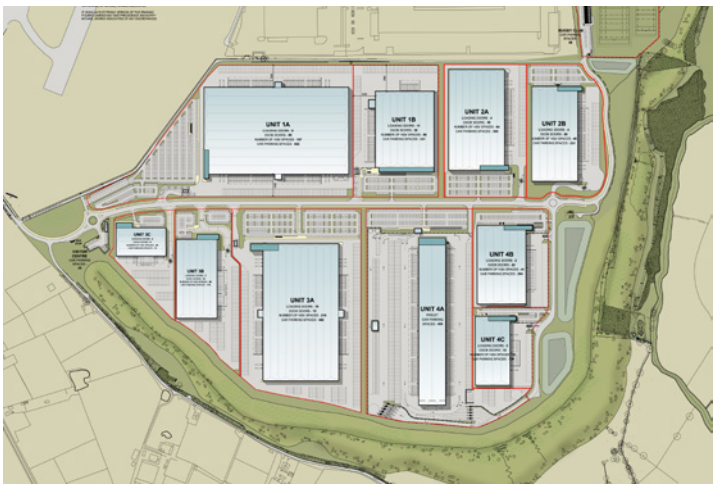


Fig. 38 - Masterplan example showing fine and coarse grain units with landscaped buffers



Fig. 39 - Fine and coarse grain plan



Fig. 40 - Terraced units, Rainbow Industrial Estate, London



Fig. 41 - Panattoni Park, based on a coarse grain layout



Fig. 42 - Prominent site entrance



Fig. 43 - Building with offices protruding

4.2 TYPES & FORMS

4.2.1 The employment, urban structure principles that will be incorporated into the future designs include;

- New high profile main employment gateway junction in the north west from Widnes Road will be a prominent arrival point for most employment traffic. In addition, the existing access to the A562, will be developed to reflect its key access point.
- Use classes of the employment buildings will meet those set out in the site allocation along with occupier demand including;

4.2.2 **Use Class B2 General Industrial** - This includes manufacturing and industrial processes, generally with a higher level of parking provision. The siting of B2 uses will be informed by proximity to sensitive receptors, seeking to control potential environmental impacts on residential amenity. The Spatial Masterplan (Figure 7) accommodates a green corridor/buffer between the eastern boundary of the employment area and adjacent residential area (including

the proposed school), the design and size of which will be informed by Noise and Air Quality technical assessments which consider the employment uses proposed.

4.2.3 **Use Class B8 Storage and Distribution** - These uses generally have larger volumes with larger service areas but less parking provision.

4.2.4 These uses will also include a proportion of ancillary office space, providing administration functions supporting the main employment use.

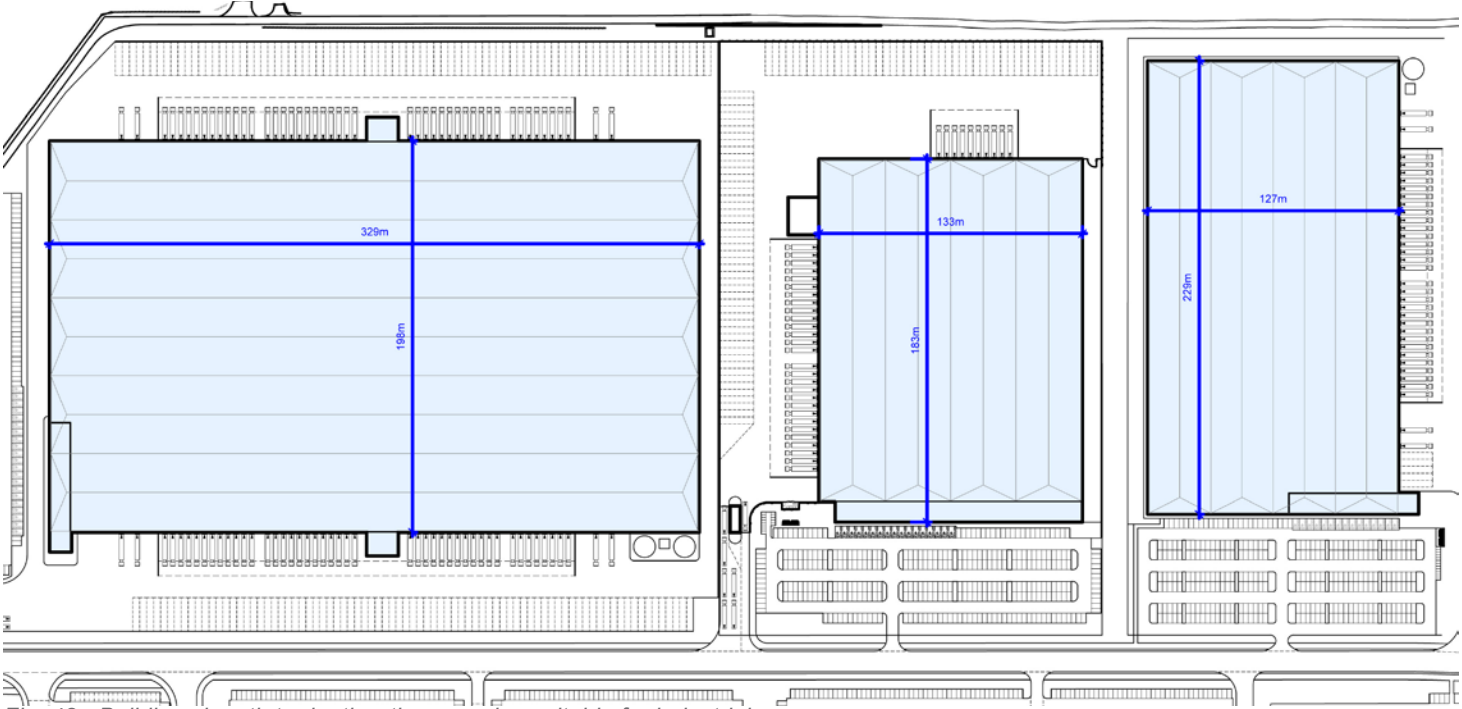


Fig. 44 - B2 general industrial and office unit



Fig. 46 - Example of B2 industrial unit



Fig. 49 - Example of B8 industrial units



Fig. 51 - Network of vehicle, pedestrian and cycle routes



Fig. 45 - B2 unit entrance



Fig. 47 - Example of B8 industrial unit



Fig. 50 - Racking inside a B8 unit. Large volumes of space needed for storage means taller building heights.



Fig. 52 - Easy to navigate routes

4.3 BUILDING LINE

4.3.1 The layout and building line of each phase will have regard to the findings of the phase specific site analysis and heritage assessment, as well as other key influences such as movement routes. Each phase will be set out to address the local context, in a logical way, with buildings arranged in an efficient manner and in accordance with the densities set out in Section 4.1 of this Design Code. Building line to be considered relevant to each phase and opportunities in terms of contribution to place making relevant to the employment allocation and site influences.

4.3.2 Visual permeability should be established with lines of sight allowed to pass through the development to and from key views and nodes.

4.4 HEIGHT

4.4.1 Building heights will be determined at planning application stage but will generally range from 9-37m and will not exceed the height of the retained National Grid sub-station (c.37m). Taller buildings should be set back from the Widnes Road, local centre and residential boundaries.

4.4.2 Buildings will be of a scale and size which relates to the surrounding context of the established employment area to the west and are appropriate for their function. Different uses will demand different clear internal heights. Logistic and warehouse buildings will need maximum clear height for storage and operational efficiency and industrial units will need to have internal height to cater for specific functions, processes and occupier demands. It is envisaged that the employment buildings central and to the west will be a maximum height to 37m, external ridge, the same height as the existing high National Grid sub-station, that will be retained. Office areas to larger buildings will be regular floor to floor heights 4.0-4.5m and a maximum of four storeys.

Reception areas could have double height spaces. Similar roof shapes will be used throughout each phase to give the plots a definitive language and coherent sense of place.

4.4.3 Building heights adjacent to the more sensitive areas adjoining Widnes Road, local centre and residential uses will scale down in height to 9-22m on the adjoining boundary / elevation to give a graded profile to reduce visual impact and sit comfortably with the differing uses – precise heights will be determined at planning application stage. Opportunities will be taken to provide finer grain buildings within these proximities with active building frontages that overlook key routes and spaces. The resultant arrangement of units will create a varied roof profile along its entire length with stepping in height to mediate change and retain the character of the street scene.



Fig. 53 - Efficiently placed units with set building line

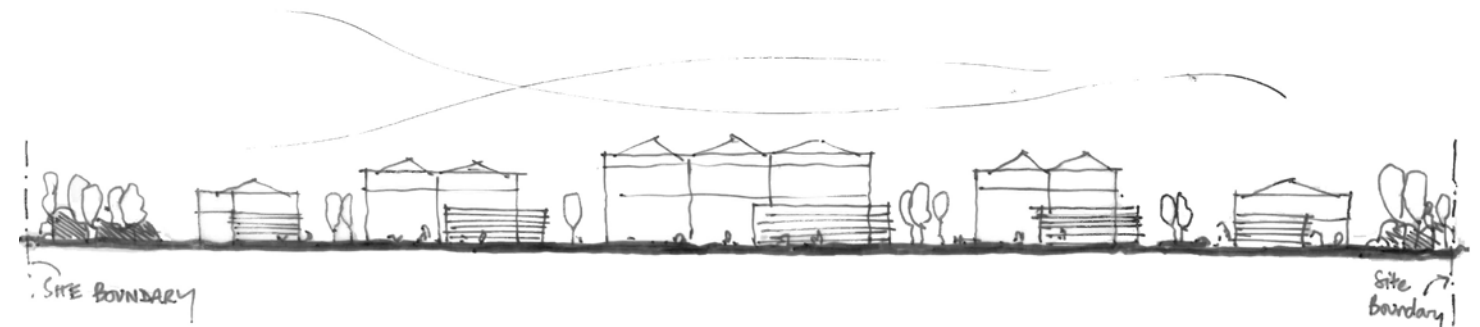


Fig. 54 - Illustrative section of buildings reducing in size at perimeter

SUMMARY OF CODES FOR BUILT FORM / LAYOUT

1. Establish a suitable plot density having regard to the plot and building size and responding to the local character.
2. Create building lines adjacent to road and footpath networks that contribute to a sense of place whilst maintaining visual permeability across the site.
3. Car parks and Service yards to be located behind building lines.
4. Reduce heights of buildings around the sensitive boundaries to Widnes Road, the local centre and residential areas and allow landscape buffers between buildings and the boundaries.
5. Position larger units, up to 37m high, in the west and centre of phase 1 and the centre of phases 2 & 3.

05 Identity

5.0 IDENTITY, APPEARANCE & MATERIALS

5.1 SITE CHARACTER

5.1.1 Identity of new design is a multifaceted concept that encompasses how a building or space reflects its cultural, historical, and local contextual essence. It involves creating structures that not only fulfil their functional roles but also resonate with the identity of their users and surroundings.

5.1.2 Power stations have a strong sense of place and

there are a variety of ways this can be explored in their redevelopment, as discussed in Section 2.3 of this Design Code. Each employment phase has different characteristics so will likely contain differing styles of architecture within them. For example, Phase 1 is adjacent to the Gorsey Point industrial estate and could take reference from elements of that development within its design. Phases 2 & 3 are

adjacent to more sensitive receptors, as well as the existing retained sub-station so should take reference from these in their design or materials. The site context and heritage assessment undertaken for each phase of development will inform how this is incorporated into the design and layout.

5.1.3 The overall design objective is to provide functional,

modern buildings which sit comfortably in the site within its context, whilst conveying an architectural language appropriate to the aspirations of modern employment uses and encompass low carbon materials. The aesthetic style will encompass the overall visual approach of the design, including elements like colour schemes, shapes, and textures.

LOCAL CHARACTER



Fig. 55 - Gorsey Point



Fig. 56 - Gorsey Point



Fig. 57 - View down Johnson's Lane, Google Maps

POWER STATION ARCHITECTURE



Fig. 58 - Fine grain grid facade



Fig. 59 - Clear building structure - bottom, middle, top



Fig. 60 - Obscured transparency and light

TRANSLATION / PRECEDENTS



Fig. 61 - Olympic Energy Centre, London



Fig. 62 - Industrial unit with offices, Reading

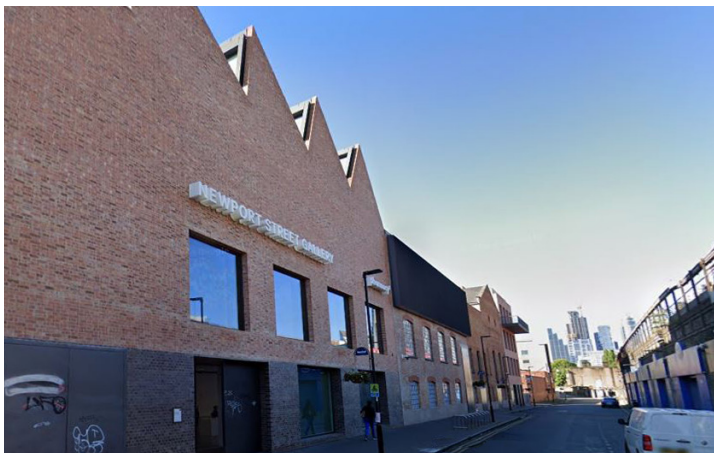


Fig. 63 - Reflecting local vernacular - Newport Street Gallery, London, Google Streetview.

NEW DEVELOPMENTS



Fig. 64 - Integrated shading elements



Fig. 65 - Transparency and structure



Fig. 66 - Reflecting local vernacular and use of sustainable materials

5.2 DESIGN OF BUILDING

5.3 ELEVATIONS

5.3.1 The Warrington Design Guide SPD states that;

- *Material choices should show a clear rationale and contextual analysis. Large expanses of blank, single material elevations must be avoided.*
- *Elevations should show clear consideration of proportion and order.*

5.3.2 Building designs should have prominence and quality to create an immediate sense of place, identity, and interest. They should contain interesting features that reflect the unique identity of the place, and the site's heritage.

5.3.3 Buildings should incorporate contemporary designs, innovative building methods and contemporary crisp detailing at junctions where materials transition along the facade, with a focus on clean building lines. This detailing should be combined with low carbon and sustainable materials throughout. Office elements should be designed to create an active frontage around the entrances, using large areas of glazing allowing views into the office activities. Offices will be designed to be more distinctive to the 'operational' areas and have more dynamic architectural forms and use of materials and detailing, such as glazing, cladding / rainscreen panels, brise soleil fins and well-crafted junction and material transition detailing.

5.3.4 Office elevations should seek to be distinctive and relate to the human scale of the public realm, whilst minimising the visual impact of large operational elements and service yards behind. Offices attached to a storage building should use smaller profiles and features to scale down the facade design. This will help determine the uses of different elements of the building and from the large operational volumes. Where this is not appropriate, the office uses will have a design that contrasts with the main operational building elements.

5.3.5 Buildings should create prominence at corners with potential for double height office entrances and glazing wrapping around corners where possible.

5.3.6 Expanses of flat roof provide opportunities for photovoltaic panels for renewable energy and offices and ancillary buildings with flat roofs will allow green roofs to improve biodiversity and reduce the extents of hard surfacing on site.

5.3.7 Larger buildings must consider how to reduce their perceived mass, through elevational design and changes in height. Depending on the sizes of buildings, they should provide vertical and horizontal panels and banding of cladding colours/profiles to break down the scale of operational volumes with a coherent appearance across employment units. Where buildings or terraces border the perimeter of a plot, buildings need to be designed to mitigate any blank featureless facades when the site is viewed from the outside.



Fig. 67 - Distinctive building entrances



Fig. 70 - Design features



Fig. 68 - Buildings should create prominence at corners with potential for double height office entrance. Junctions between different materials should be detailed in a considered and contemporary manner.



Fig. 71 - Horizontal banding



Fig. 72 - Contemporary detailing



Fig. 69 - Large expanses of cladding to warehouse elevations should be broken down with a mixture of different colours and cladding profiles.



Fig. 73 - External view of double height reception space

5.4 MATERIALS & COLOUR

5.4.1 Warrington Design Guide SPD states that;

- *Natural tones and gradients can often work well to mitigate the visual impact against the skyline or landscape in longer range views.*
- *The application and appropriateness of bolder colours must be carefully considered as they are likely to be more impactful.*

5.4.2 Colours and materials affect mood, perception, and usability of a building. The choice of these elements within the design can impact the effectiveness and how it is perceived by different audiences. External cladding materials will be coherent and common palette of colours used for each employment phase. Building elevations will seek to create a modern contemporary appearance, by using appropriate materials and colours for the location and building typologies whilst at the same time encompassing the heritage and contextual elements as set out in Section 2 of this Design Code. Materials will also be robust and will not deteriorate with time.

5.4.3 Materials will come from low carbon sources, responsibly sourced and aim to use innovative technologies that will add to the scheme's sustainability.

5.3.4 Materials detailing and proportions of office elevations should seek to serve a number of purposes; for example; providing solar shading to glazed areas, providing elevational layering, texture and contrast or breaking up elevations along the access roads.

5.4.5 The main employment buildings / units will incorporate a range of façade materials. A restricted palette of neutral complementary colours, utilising horizontal colour banding or bay detailing, will be adopted which will help to reduce massing and provide a lasting and unifying design quality. Office and operational elements will be treated distinctly, while still utilising a unifying colour palette.

5.4.6 Feature cladding will be used on elevations to promote the prominence of the buildings and boost their modern identity.

5.5 BINS & RECYCLING

5.5.1 The approach to waste storage and collection must not be detrimental to the street scene or amenity spaces. Waste will be both from the main employment operations and from the associated office uses.

5.5.2 All buildings will have a dedicated area for waste management / storage, including recycling provision. The following hierarchy will be applied to the siting of waste management / storage areas:

- Internal waste management/storage is preferred in the first instance and is required for waste streams arising

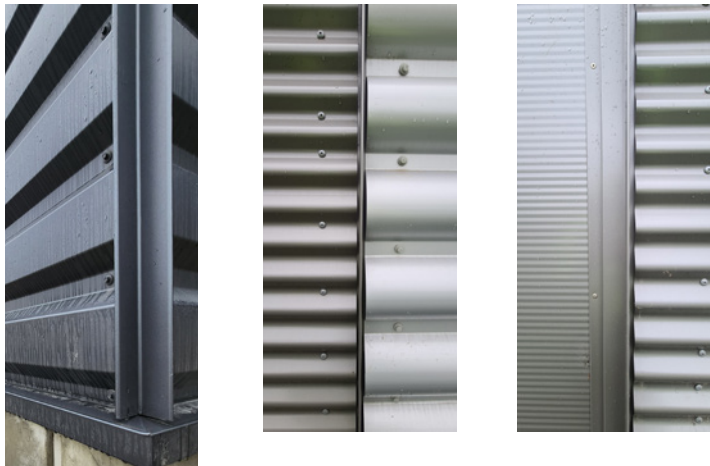


Fig. 74 - Contemporary cladding junctions



Fig. 75 - Reference materials to local vernacular



Fig. 76 - Break up large areas with patterns



Fig. 77 - Bin enclosure in service yard

from associated office uses.

- If the waste stream is deemed to be a fire hazard then it must be located externally to the building – this relates only to operational waste arising from the main employment uses.

5.5.3 Where internal waste management / storage areas are proposed, the following principles must be applied in their design and siting:

- Be situated in a secure and well-ventilated area within the building to reduce odours.
- Be located close to an exit to enable efficient waste collection/disposal arrangements.

5.5.4 Where external waste management/storage areas are proposed, the following principles must be applied in their design and siting:

- Be located behind the building line
- Be located within the service yard serving the building, situated close to an exit door and allowing for access for refuse trucks to enable efficient waste collection/disposal arrangements.
- Be screened or enclosed in a material that is in keeping



Fig. 78 - Defined entrance areas



Fig. 79 - Elevational layering



Fig. 80 - Combined plant and bin area enclosure



Fig. 81 - Low carbon and sustainable materials



Fig. 82 - Turnmill Building, London. Photo by Seb Doe on Unsplash



Fig. 83 - 3-dimensional elevations create vibrancy

with the main building.

- Be located and designed to mitigate visual impact, balancing screening, building line and prominence in the street scene.
- Incorporate a green roof

5.5.5 Waste compactors are large machines that must be located externally. If one is required by for operational waste, it will be sited close to the building/unit it serves, but away

from the public domain and entrance to the service yard.

5.6 LEGIBILITY

5.6.1 The proposed layouts should avoid complex routes and allow simple navigation around the development in the form of roads and pathways. Wayfinding information and clear signage combined with public art opportunities will be included in the designs at application stage. Meeting nodes and landmarks will also be included within the landscaped areas.

5.6.2 Front facing offices also aid legibility and wayfinding and will be incorporated to the main roads and public areas

5.7 BUILDING ELEMENTS

The following images show how the operational demands of the industrial units inform the design considerations.

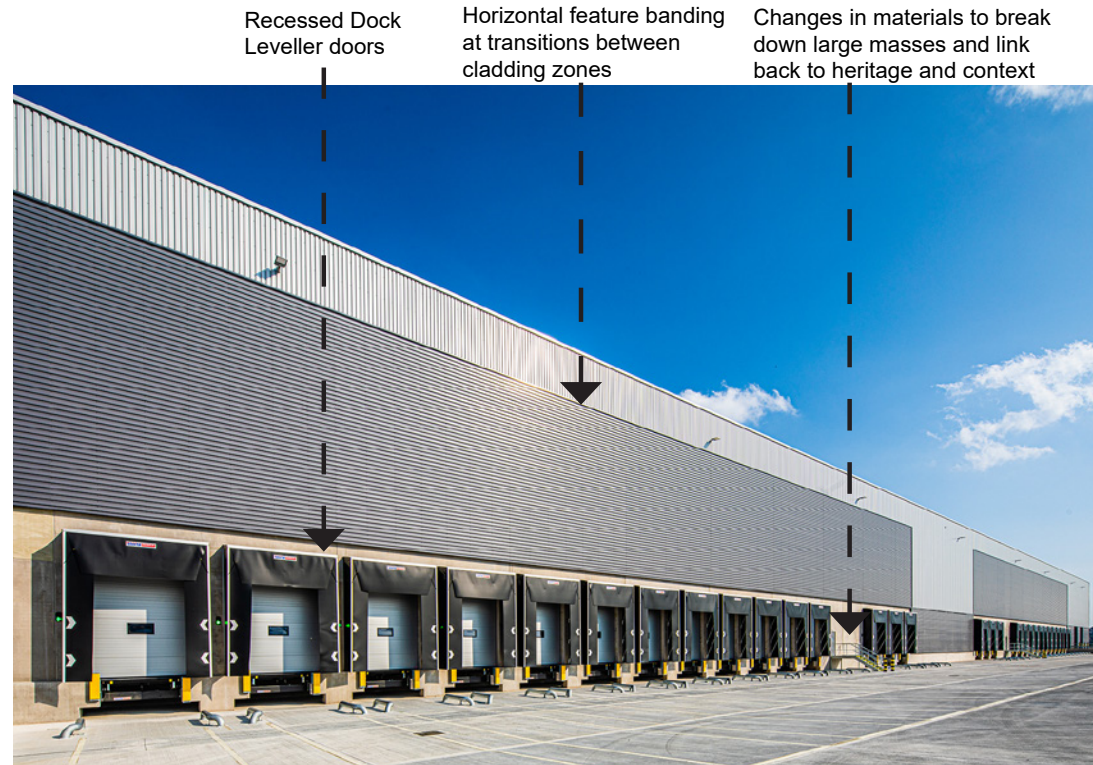
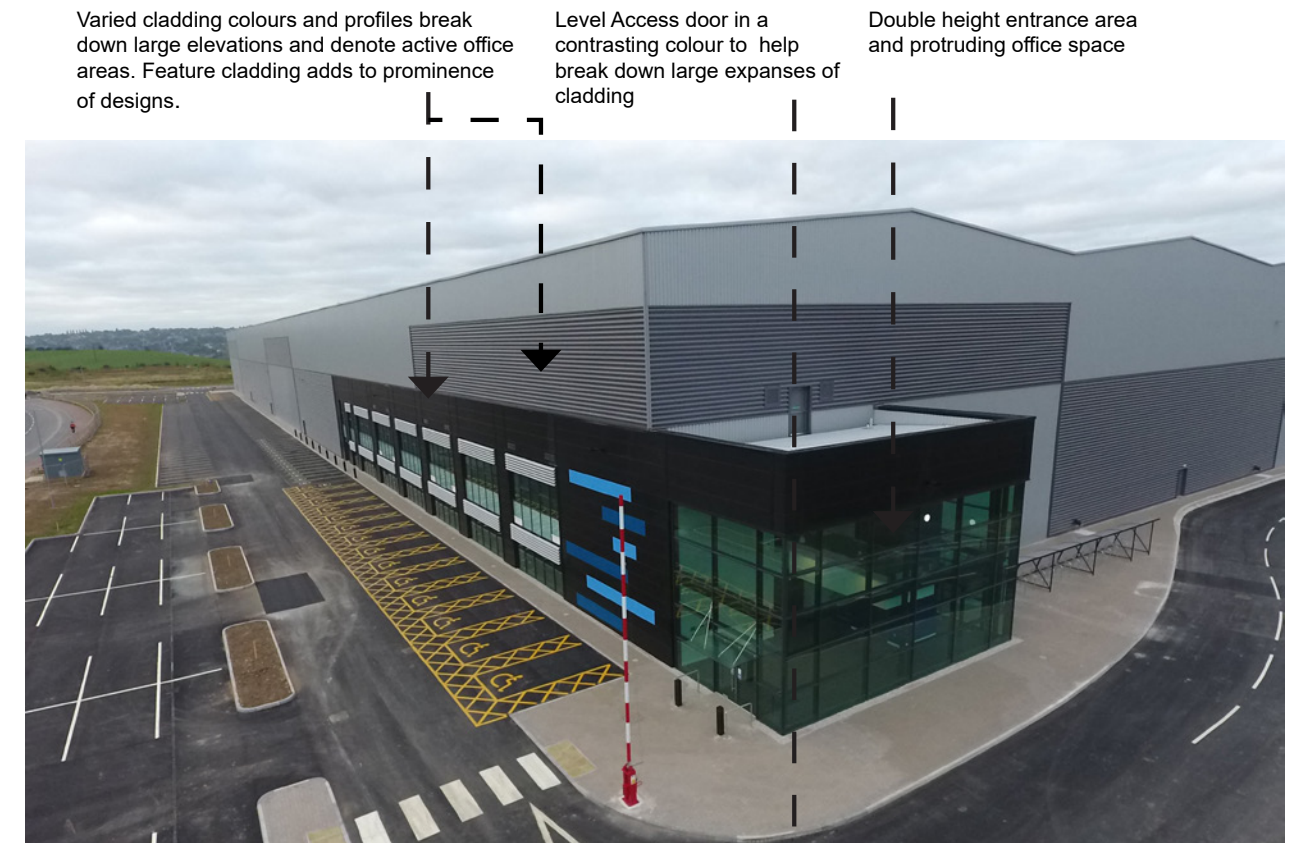


Fig. 84 - Materials and cladding

SUMMARY OF CODES FOR IDENTITY

1. Use innovative designs and precise detailing.
2. Use low carbon materials.
3. Design simple, easy to navigate, routes inside and around the buildings.
4. Use large areas of glass at entrances and create atrium spaces.
5. Varied use of cladding or facade materials to break down large areas.
6. Use feature cladding to add to building language.
7. Waste management/storage must accord with the hierarchy established in this Design Code, prioritising internal provision in the first instance. Internal provision must be provided for ancillary office waste streams.
8. Where external waste management/storage provision is proposed, including waste compactors, it must comply with the design principles established in this Design Code, including being located and designed to mitigate its visual impact.
9. Locate plant behind building lines, use materials similar to building language or appropriate screening materials.



06 Movement

6.0 MOVEMENT

6.1 STREET NETWORK

6.1.1 The spatial masterplan within the Development Framework has been developed from the site constraints and sets out a well-connected and legible movement network formed of existing and new accessible, efficient, safe and welcoming street spaces that will facilitate sustainable and active travel. This will combine with commodious routes for pedestrians and cyclists through the development, providing permeability of the spaces. This masterplan will form the basis for designing the layout of roads and pedestrian / cycleways for each employment phase going forward.

6.1.2 Key connections in and around the wider site in figure 87 show how the site can deliver a network linking to the amenity areas, the Vyrnwy aqueduct corridor, the north west link and the SuDS ponds to new green corridors forming clear and permeable connections.

6.1.3 The movement framework plan shown below highlights key routes for the movement of all forms of vehicles, pedestrians and cyclists through the wider site that will inform the layout of the employment areas. The design

will promote pedestrians and cyclists in the first instance, creating a clear and permeable network, and by giving a choice of routes through the site. All areas of public spaces will be provided with active, well-lit and secure spaces for all users. It will provide clear boundaries for delineating spaces. There will be efficient vehicular movement, via primary and additional circulation routes, that will meet the requirements of modern employment developments, and all phases and layouts are to meet Warrington standards for design and adoption. The future routes between the residential and amenity areas with the employment areas will be suitable for cars, cycles, pedestrians, along with some routes for buses. Routes for heavy vehicles will be separated where practical.

6.1.4 Equestrian routes will be considered and avoid the main access routes and where appropriate integrated into the site.

6.1.5 The scheme retains the rail sidings and the future employment scheme should preserve the opportunity to provide a rail connection to the proposed employment units

in close proximity within phase 3.

6.1.6 Key footpath and cycle connections shown in the image below and within the green links image in the Development Framework will be incorporated into each detail design stage and link into the wider cycle network linking Warrington to Widnes along Widnes Road in the north, the Trans Pennine Trail and the restored ash lagoons to the south, Johnson's Lane safeguarded route to the west, and Station Road to the east. A North-West link will be provided from Widnes Road into the site, see fig.88 below. The restored ash lagoons will be a future destination for access following phased restoration and ash extract and will have benefits with and links to the Trans Pennine Trail, creating a link via the existing bridge providing access to the Fiddlers Ferry Lagoon Area, opening this up for future public access, and an additional connection to the Trans Pennine Trail. Initially accessed via the existing bridge will be managed by Peel NRE (via the Lagoon Management Plan) in order to maintain public safety whilst ash extraction operations and restoration works are ongoing. Opportunities for opening up the bridge

for unrestricted public access will be provided as part of the restoration strategy for the FF Lagoon Area.

6.1.7 Active travel routes and pedestrian / cycle routes will be provided within each employment phase with the exact route to be explored at detail design stage but will include the North West link, the Johnson's Lane safeguarding link and ash lagoons to the residential areas including the Station Road link. These will in turn link to the wider road network via Widnes Road and other connections. See proposed footpath & cycle connections plan below.

6.2 PUBLIC TRANSPORT

6.2.1 Bus connections providing additional sustainable methods of transport will be facilitated through the diversion of existing bus services into the site and by enhancements to existing bus services and / or new services. Buses will access the site from Widnes Road via any of the three proposed new junctions with bus stops being strategically prominent, covered, safely located and contain timetable information.

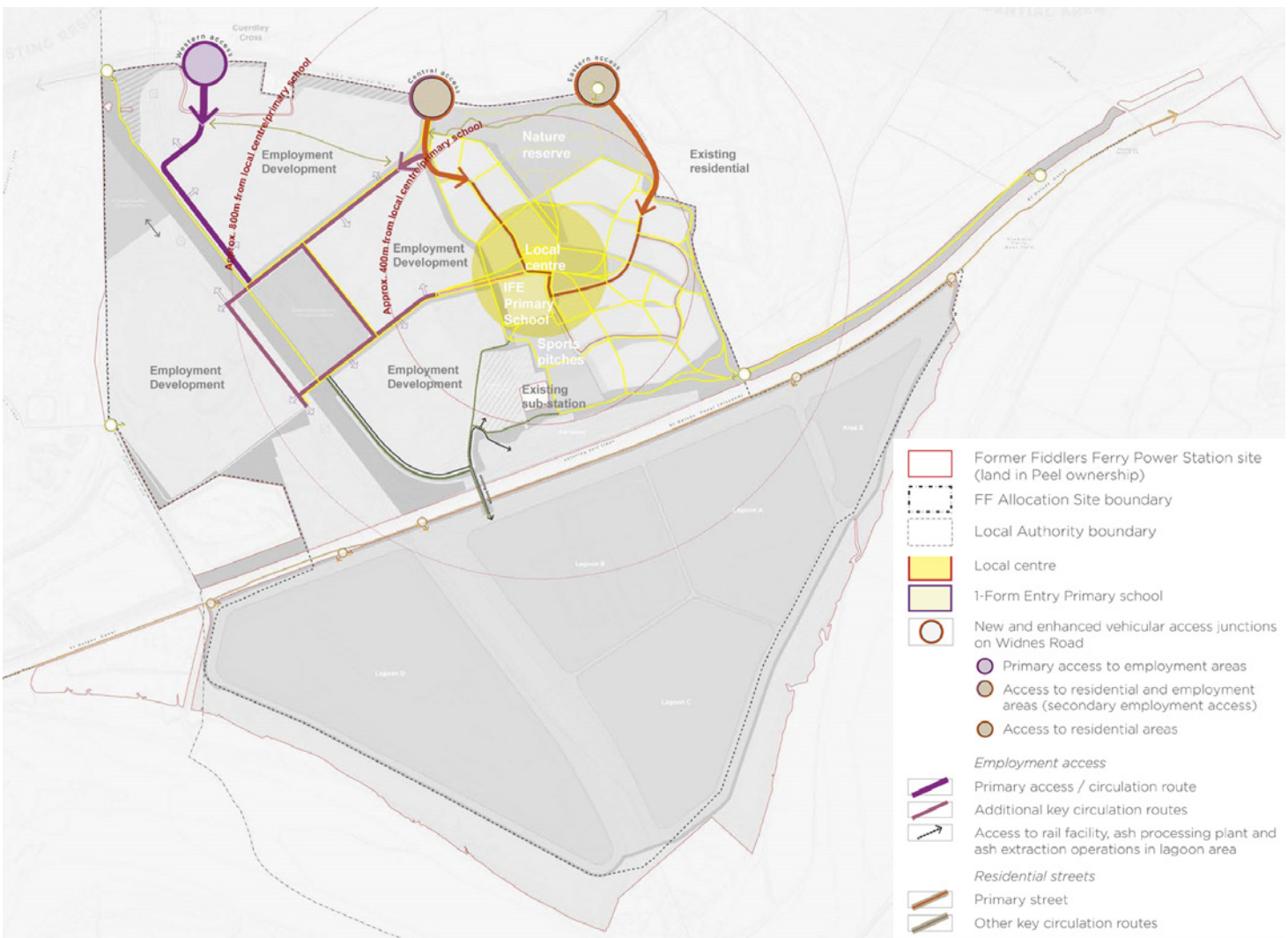


Fig. 85 - Movement framework diagram

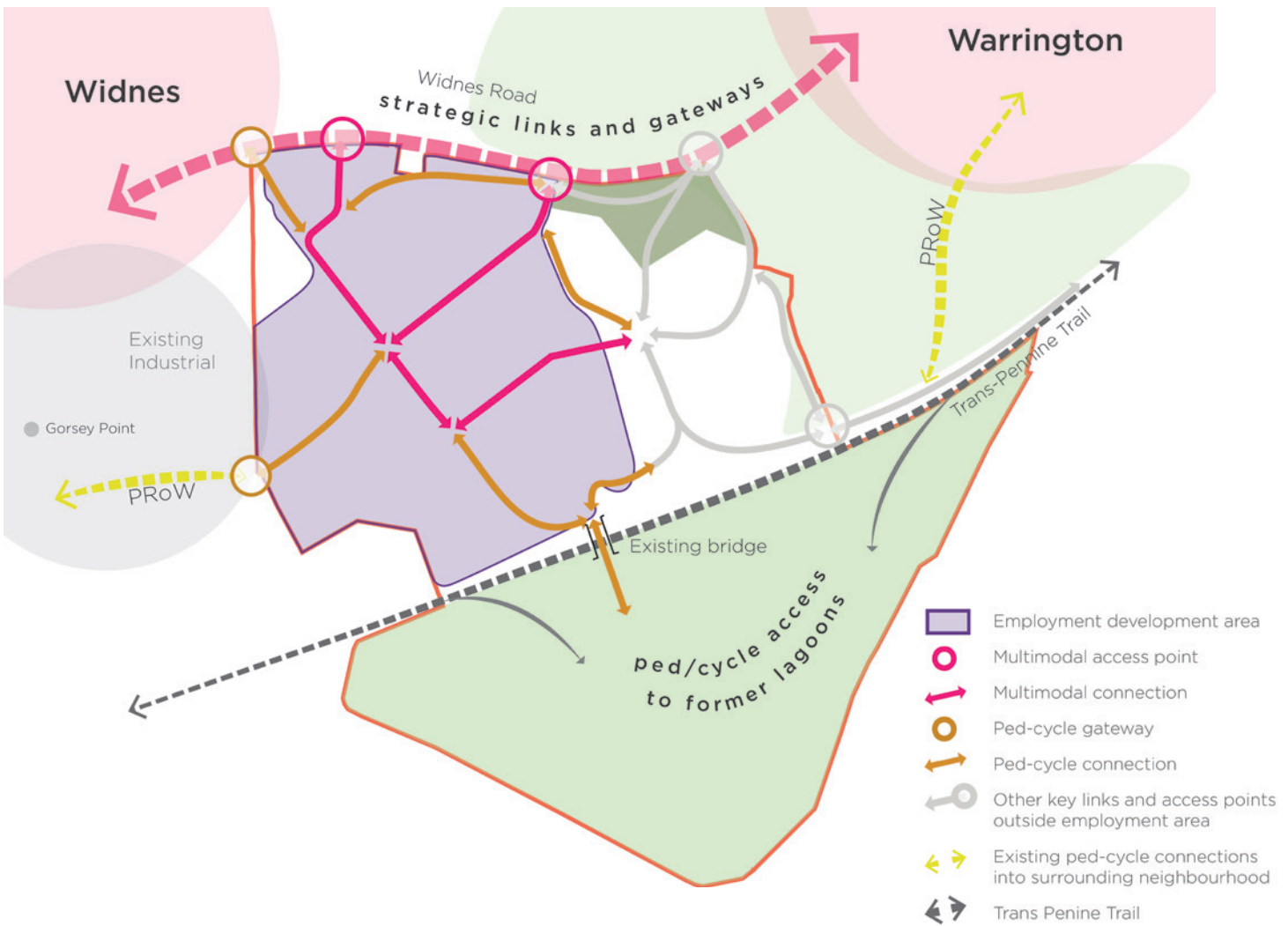


Fig. 86 - Development Framework - Strategic Placemaking Principles Plan also showing site context

Measures to promote bus travel should be explored in line with the Umbrella Framework Travel Plan.

6.3 STREET HIERARCHY

6.3.1 For Employment Phase 1, initial access onto the site will be provided via the existing and improved junction from Widnes Road, the Central Access. This access will be further upgraded and extended to support future phases of employment/residential development. A new high profile main gateway junction in the north west from Widnes Road will be developed for all Employment Phases, called the Western Access. The Western Access will become the E1 primary access, and the Central Access will become the E2 secondary access for employment uses. (See Fig. 88) These access roads, along with additional circulation routes, all linking together, and to the buildings, should be created within each employment phase. These roads should include pedestrian and cycle routes and provide routes through towards the residential and amenity areas and create the permeability throughout the site.

6.3.2 The main access roads would lead to an internal network of estate roads and linear spaces to service each of the new buildings and their individual car parks and service yards.

6.3.3 These road types will provide a legibility and continuity for users both within and between the employment and adjacent uses.

6.3.4 See proposed plans below figure 87 and 90 & 91, from the Development Framework that will form the basis of the street designs.

E1 - PRIMARY ACCESS ROUTE

6.3.5 Characteristics of different street types are shown within the images below along with sizes and features of each road type. These dimensions and designs should be followed in each employment phase.

6.3.6 The Primary Access Route E1 is the proposed new main employment route (Western Access) into the site from Widnes Road. The Central access is an existing route into the site, see fig. 88. Route E1 will be the primary route for all commercial traffic entering and leaving the site and designed to provide efficient circulation around the site. The character of this scenario includes the main carriageway of 7.3m wide to cater for all types of vehicles, bound by landscaped verges or swales either side with a footway and segregated cycleway on one side and a footway on the other. Another verge should be set beyond these areas. Any buildings located alongside this access will be set far apart to allow for these provisions.



Fig. 87 - E1 Example Primary Access Route section – Widnes Road towards Phase 1 - taken from Development Framework page 117



Fig. 88 - Key locator diagram taken from the Development Framework page 116

Potential role and character	Highway features (indicative)
E1 - Primary access to Widnes Road	
- Main route for all commercial traffic entering and leaving the site. - Western vehicular access designed to provide efficient, flowing circulation attractive to all vehicles.	- Carriageway: 7.3m - Segregated cycleway: 1 x 3.2m - Footways: 2 x 2.0m - Verge to carriageway, including tree planting
E2 - Secondary access: north, towards Widnes Road (improved existing spine road)	
- Secondary means of access to Widnes Road, providing resilience in the site network. - Providing access to plots and directing commercial traffic to/from primary access (above). 'Secondary' perception achieved through passive design: alignment and forward views influencing user behaviour and route choice.	- Carriageway: 7.3m. - Segregated cycleway: 1 x 3.2m. - Footways: 2 x 2.0m. - Verge to edge of carriageway - Potential for landscape strip to back of footway, and/or SuDS features where feasible as part of wider drainage strategy.
E3 - Secondary access: south, towards proposed Local Centre	
- Providing access to plots and directing commercial traffic to/from primary access (above). - Provides a people-friendly route that connects pedestrians and cyclists through to Local Centre, encouraging active travel to retail and community facilities in that location.	- Carriageway: 7.3m. - Shared ped/cycle route: 1 x 3m. - Footways: 1 x 2.0m. - Verge to back of footway and/or SuDS features where feasible as part of wider drainage strategy.

Fig. 89 - Illustrative road use and specification taken from the Development Framework page 116

E2 - SECONDARY ACCESS 1

6.3.7 Secondary access roads will include the existing improved spine road (from the Central Access) as well as providing a secondary means of access to the primary access and Widnes Road beyond. They should provide access to building plots and serve to direct commercial vehicles to and from the primary access.

6.3.8 The character of this scenario is similar to the primary access with a main carriageway of 7.3m wide to cater for all types of vehicles, bound by landscaped verges or swales either side with a footway and segregated cycleway on one side and a footway on the other. Another verge will be set beyond these areas. This configuration provides a safe and pleasant route into the plots and encourages active travel along the spine road.

6.3.9 This is the existing improved spine road that was part of the power station layout and will form a secondary access. It will provide access to employment phases and direct commercial traffic to and from the primary access. Secondary perception is achieved through passive design alignment and forward views influencing user behaviour and route choice.

E3 - SECONDARY ACCESS 2

6.3.10 This is another secondary access route providing access to phases and directing commercial traffic to and from the primary access. It should provide a people friendly route that connects pedestrians and cyclists through to the Local Centre encouraging active travel to community facilities. In this scenario buildings may be set closer together.

6.3.11 This road types' character should be designed with landscaping set in between for safety, interest and biodiversity benefits. Road widths will be standard 7.3m wide to cater for all vehicle sizes. Cycle / pedestrian routes combined will be 3m wide. Pedestrian routes will be a minimum of 2m wide. Crossing points will be located at regular intervals in safe locations.

6.3.12 Materials for the roads should be tarmac or a similar material. The shared footways/cycleways should also have a tarmac finish and possibly be coloured to help distinguish them from other routes for safety reasons.

6.3.13 Verges will be sized as appropriate and include swales as part of the drainage strategy to capture rainwater that is part of the SuDS design and woven into the highway network. Both options enhance the biodiversity, wellbeing and amenity benefits of a scheme.

6.3.14 Street hierarchy must align with the design of active street frontages and face the building entrances where possible. Efficient design and access into buildings combined with safety and placemaking approaches will be incorporated.

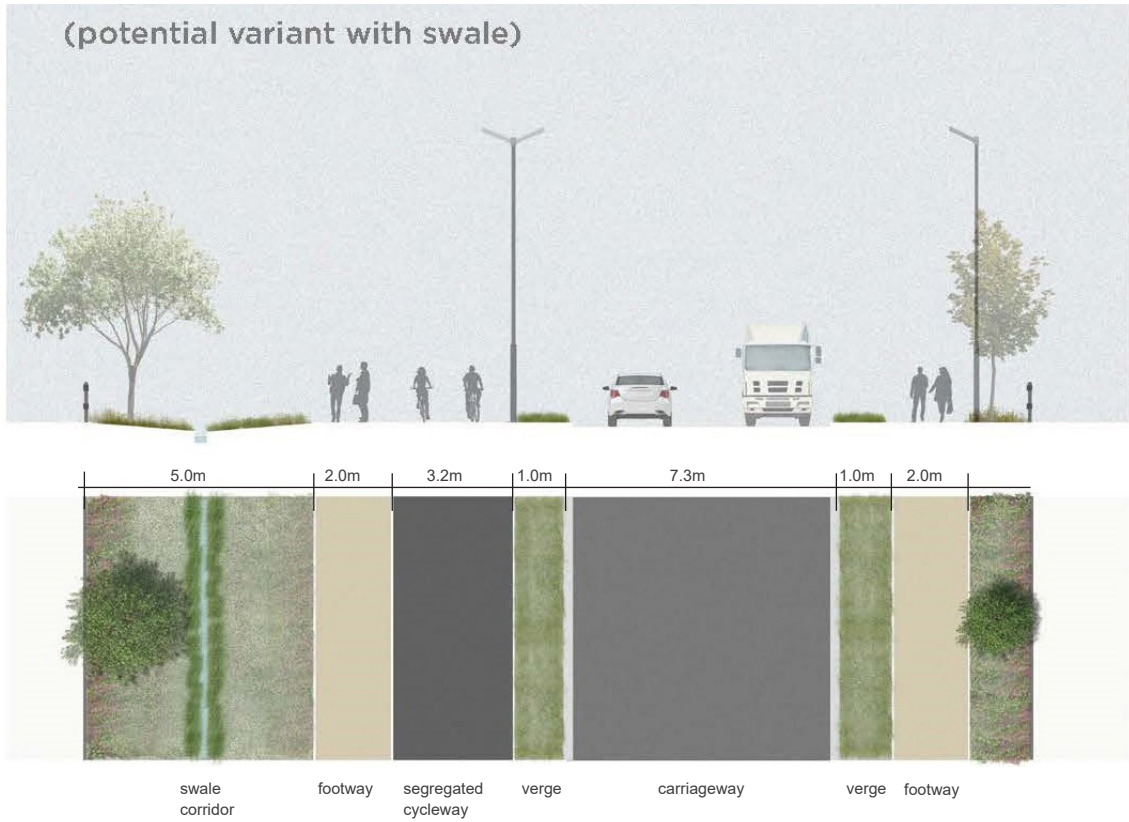
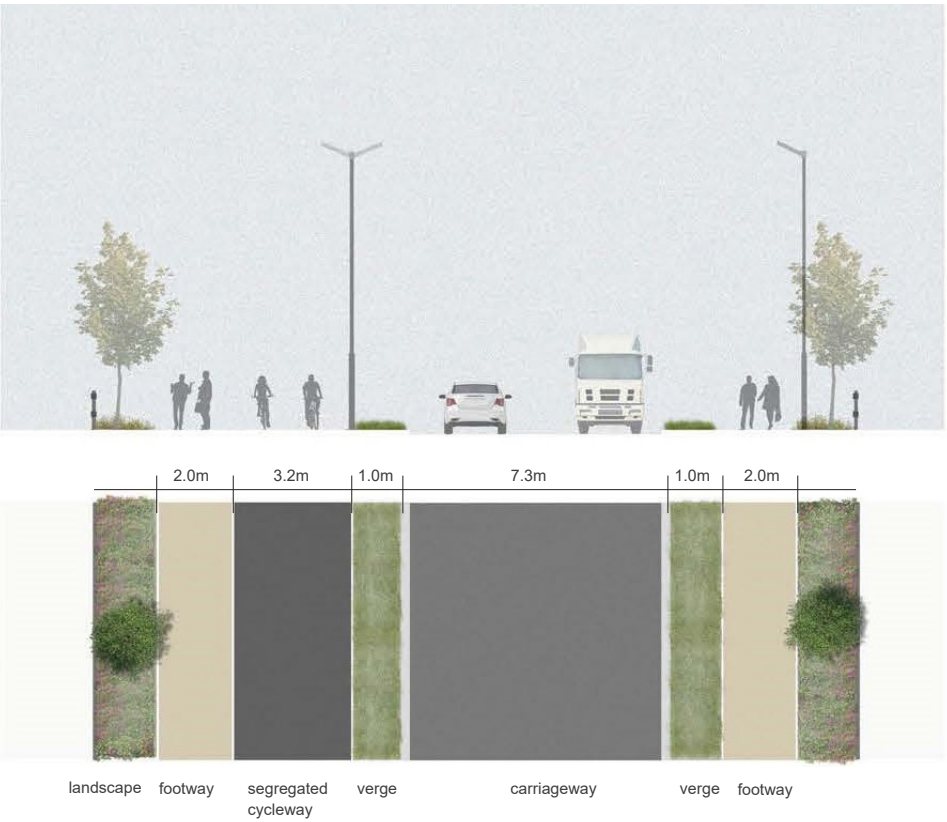


Fig. 90 - E2 Example Secondary Access Route section – north towards Widnes Road taken from the Development Framework page 117

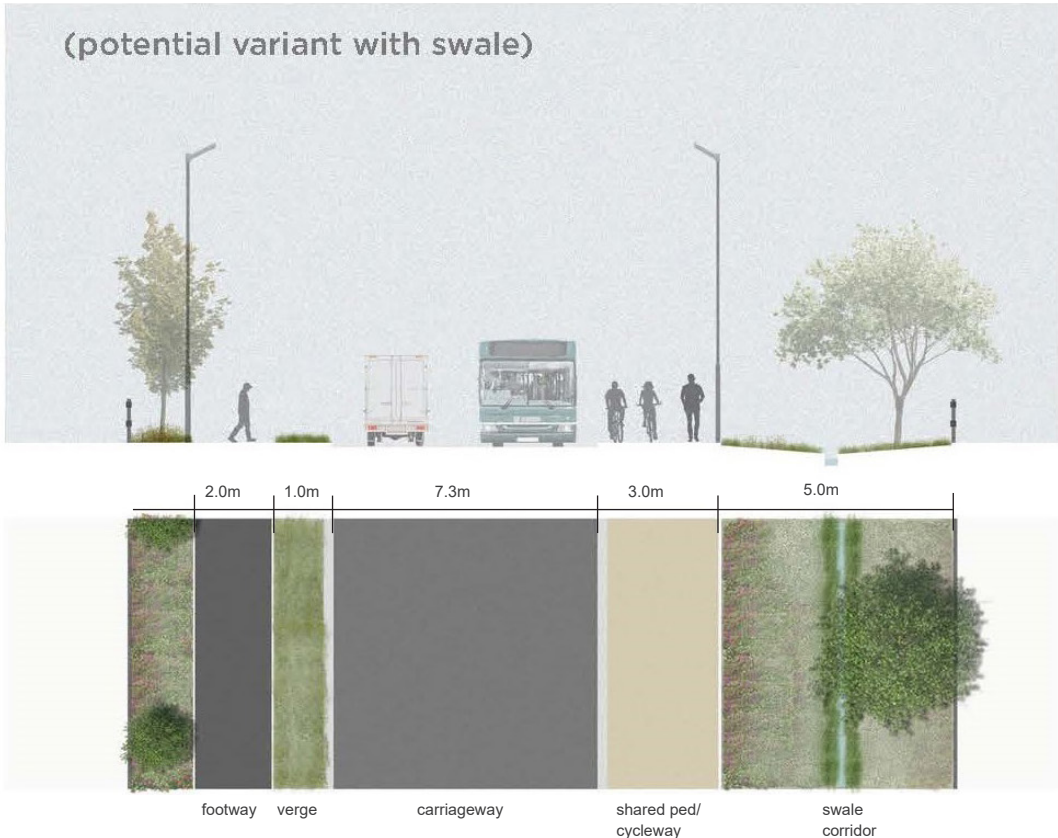


Fig. 91- E3 Example Secondary Access Route section – south towards local centre taken from the Development Framework page 117

6.4 WALKING, CYCLING & CYCLE PARKING

ACTIVE TRAVEL

6.4.1 In order to reduce the need to travel by car and provide health and social benefits for the site's users, a network of high-quality pedestrian and cycle routes will be provided linked to the new and existing road layouts and the enhanced footways and cycleways that are being provided into the site, including a commodious East - West route for pedestrians and cyclists through Employment Phase 2, see Fig. 95 adjacent. These links will afford permeability through the site linking all areas and connecting to the local centre, nature reserve, and amenity areas, including SuDS Pond, Johnson's Lane and Station Road connection, and surrounding PRow including the Trans-Pennine Trail. Any footway/cycleway links will be well defined, either shared or with physical segregation and sign posted with lighting for safety where appropriate.

6.4.2 To further encourage sustainable travel to and from the site the following will be provided;

- Cycling will be encouraged through convenient, safe and secure shelters, supported by storage and changing facilities where required.
- Long stay cycle parking should be provided internally and will meet the requirements of WBC Design Guidance
- Short stay and visitor cycle parking utilising external cycle shelters will be in close proximity to building entrances
- Cycle shelters will provide the opportunity for green roofs, be integrated into the landscape with secure, robust, high-quality and contextual materials to avoid impacting the street scene.
- Cycle parking numbers will be provided in line with WBC guidance.
- Measures to encourage cycling and walking to and within the development should be considered in the designs via signage and adequate surveillance of all active travel areas, in addition to the measures contained within the Umbrella Framework Travel Plan.



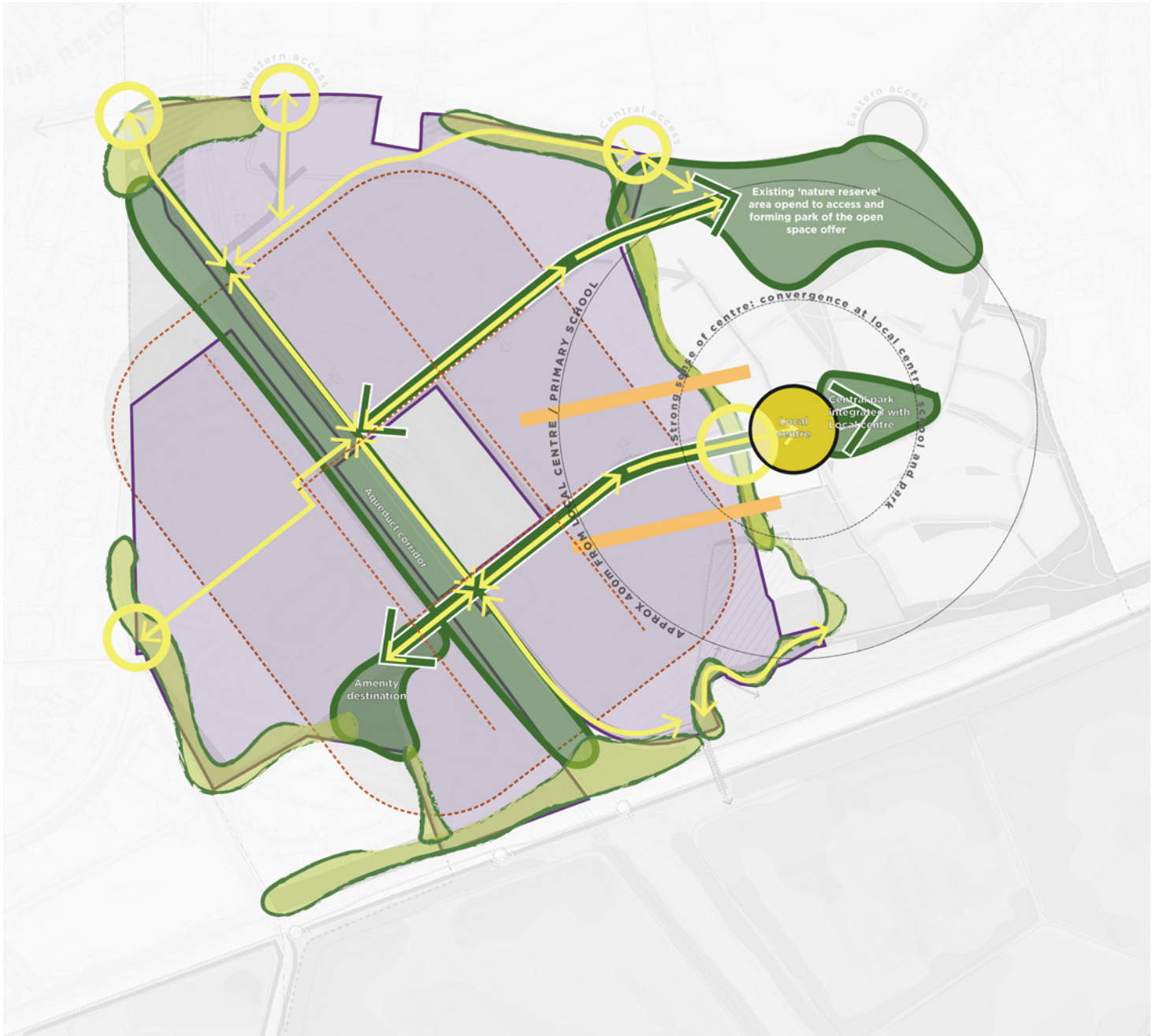
Fig. 92 - Clearly defined cycle paths



Fig. 93 - Secure cycle parking



Fig. 94 - Internal cycle storage



- Employment development area
- Key ped-cycle gateways
- Key ped-cycle desire line
- Urban grain geometry aligned to former power station layout and aqueduct corridor
- Change of grain at transition to Local Centre
- Key green spaces to be integrated and connected
- Key green links
- Semi-natural edges

Fig. 95 - Key pedestrian and cycling desire lines from the Development Framework

6.7 SERVICE AREAS

6.7.1 Service areas will be located inward facing within the development to limit noise and visual impact across the phase and beyond. Any adverse visual and acoustic impacts will be identified in the planning process and mitigation measures put in place at that point, e.g., acoustic fencing or screening. Access roads will extend into the service yards beyond the office areas.

6.7.2 The depths of the yard areas will be 50m deep for large units (in excess of 100,000sq ft) or take into account smaller building size, use class, amount of delivery doors, parking requirements and sufficient manoeuvring to access the doors and enter and exit the yard area.

6.7.3 Service yards will be secured by 2.4m high paladin fences and visual amenity will be considered including any necessary mitigation to ensure suitable boundary treatment especially when fully visible to streets and public areas. Service yards will provide spaces for level access and loading docks. On the largest units, where proposed, the service areas will also allow enough space for HGV parking and on-site vehicle manoeuvring. Small and mid-sized units will have appropriately sized yards which will allow for a range of operational vehicles.

6.7.4 Emergency, refuse and servicing vehicles should all be given adequate access around the buildings for HGV manoeuvres and parking. Fire trucks will have suitable access to prescribed areas of the unit dependant on its size and height. Tracking software should be used to ensure that these vehicles can get to all areas that they require.

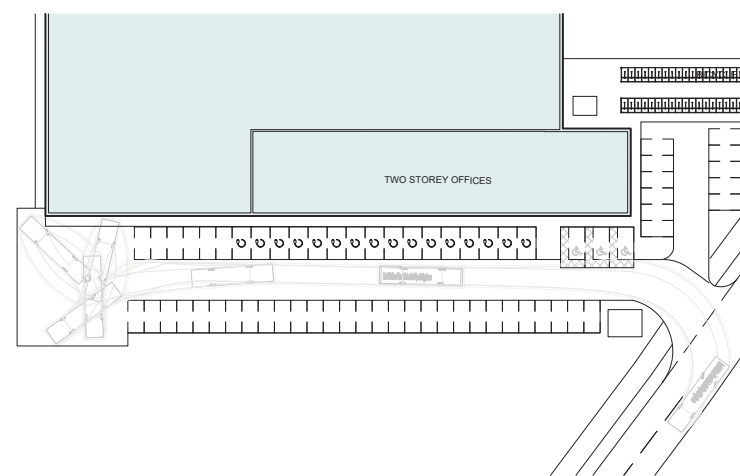


Fig. 104 - Emergency vehicle tracking

6.8 ELECTRIC VEHICLE CHARGING POINTS

6.8.1 An electric vehicle charging strategy will be implemented providing active and passive electric car charging spaces across the development. All car park areas will contain passive and active EVCPs for use by employees and visitors. Service yards may also include HGV and/or van electric charging spaces where occupiers require. Amounts of charging points and specifications will be based on the Warrington's Electric Vehicle Strategy & WBC's transport policy document Installation of Electric Vehicle Charge Points standards or increased developer requirements.

6.9 PLANT & UTILITIES

6.9.1 Plant equipment and roof guarding is to be considered from the outset and integrated into the design.

6.9.2 Any roof top plant should be set back from the façades and screened by louvred panels or parapets. Ground positioned plant areas should be well screened from the public realm screened to avoid a negative impact. Any enclosures should be in keeping with the materials and colours of the buildings and complement the designs.

6.9.3 External MEP plant equipment should be located to be screened by buildings away from the street scene within service yards away from manoeuvring vehicles. If service yards are not provided, plant equipment should be housed in clad structures or fencing to reduce visual and noise impacts.



Fig. 105 - Service yard screening



Fig. 106 - Service yard



Fig. 107 - Plant screening



Fig. 108 - Electric vehicle charging points

SUMMARY OF CODES FOR MOVEMENT

1. Provide sustainable methods of transport via bus connections, cycle and pedestrian routes.
2. Streets will be designed in line with the prescribed hierarchy.
3. Provide a network of high-quality pedestrian and cycle routes and create permeability throughout the site.
4. At junctions maintain a pedestrian / cycle priority approach.
5. Prioritise accessible, cycle, car share parking closest to the main entrance.
6. Car parking to include landscaping to provide breaks and be located behind building line.
7. Sufficiently sized service yards to be located behind the building line to reduce their visual prominence.

07 Nature & Open Spaces

7.0 NATURE & OPEN SPACES

7.1 INTRODUCTION

7.1.1 The Nature and Open Spaces section of the design code has been developed in line with the principles of the Development Framework for site wide green and blue infrastructure and has the following key aims:

- Develop a well maintained and welcoming environment with positive landscape and visual amenity
- Enhance biodiversity and wildlife habitat opportunities across the site
- Creation of well-designed, inviting multi-functional spaces
- Develop a well connected network of open spaces
- Promote active travel and recreation
- Integrate retained landscape features with new ones
- Maximise tree cover
- Mitigate flood risk with SuDS solutions integrated into open spaces offering recreation and wildlife habitat opportunities
- Soften the appearance of large scale built form with carefully designed and located soft landscaping.

7.1.2 The Nature & Open Spaces Key Plan opposite, provides an overview of the overriding landscape principles discussed within this chapter.

7.2 NETWORK OF SPACES

7.2.1 Due to the vast scale of the development site, there is opportunity to develop a range of landscape spaces which will vary greatly in character and use.

7.2.2 Spaces will include linear movement corridors associated with transport links, utilities and drainage features, surface water attenuation zones, strategic landscape buffer planting areas, informal 'in-between spaces' linking development areas, car and bike parking zones, building threshold areas and public open spaces for recreation and landscape amenity purposes.

7.2.3 Care should be taken as the site layout develops to ensure spaces are well connected within the site and across the surrounding landscape, in order to provide wildlife habitat linkages and promote the enhancement of local landscape character as well as facilitating active travel.

7.3 OPEN SPACE PROVISION

7.3.1 Primary open spaces within each phase will include amenity landscape areas designed as destination points for passive and active recreation by employees working at Fiddlers Ferry.

7.3.2 Secondary public spaces will be more linear in nature, consisting of active travel routes threading the network of landscape areas together across the site, providing permeability and a range of circular, short to medium distance walking and cycling routes across the site.

7.3.3 Although there will be no control over access to Open Spaces within the site, employment land will remain private and will be managed privately. Open spaces will therefore act as 'shared amenity areas' designed for site users rather than for access by the general public.



Fig. 109- Indicative Nature & Open Spaces Key Plan

7.4 OPEN SPACE DESIGN



Fig. 110 - Destination Spaces providing seating and soft landscaping.

LANDSCAPE 'DESTINATION' SPACES

7.4.1 Each phase of the development should have an associated 'primary open space' as an inviting destination for recreation and relaxation and provide an external meeting place for employees. Destination Spaces will be integrated within, and well connected to the site wide network of pedestrian and cycle links, maximising recreational amenity value.

7.4.2 The site wide drainage strategy that supports the development framework establishes that Phase 1 will provide this primary open space through development of an approximately 1.55 hectare 'SuDS Amenity Space' to the south of the site. This will comprise informal circular footpath routes around a large SuDS attenuation basin with gentle contours and not overly engineered in appearance, placed within a naturalistic landscape setting, defined by native planting. Mixed woodland will make up the boundary to the west, scrub planting to the south and east, with mixed hedgerows and trees to the north. Specimen trees will be dispersed throughout this landscape, set within an open species rich grassland meadow area. Hard landscaping materials will consist of self-binding gravel footpaths, robust hardwood seating and picnic tables.

7.4.3 Landscape proposals for Phase 2 should come forward with planning applications and could include a 'Gateway' open space to the north, in close proximity to the access road. This will create a strong sense of arrival into the site and include seating areas, walking routes and historic interpretation depicted through artwork / hard landscaping. Soft landscaping will be more formal in character. The



Fig. 111 - SuDS infrastructure integrated within formal open space
Fiddlers Ferry Allocation Site | Employment Area Design Code



Fig. 112 - Rest areas within Landscape Destination Spaces

'Gateway' will be carefully integrated with proposed strategic green infrastructure fronting onto Widnes Road.

7.4.4 Landscape proposals for Phase 3 will come forward with planning applications and could include a 'Threshold' open space to the east of the employment site at the threshold with the proposed residential land. The space will include seating areas, footpath links, and will be informal in landscape character. Set within an adjacent strategic green infrastructure buffer of native planting separating employment and residential land uses, the 'Threshold Destination Space' would offer a visual buffer between employment and residential zones. The 'Threshold' would provide positive visual amenity subject to detailed design and technical assessment of noise and air quality.

7.4.5 Pedestrian and cycle access to the existing Nature Reserve adjacent to Widnes Road in the north east of the site will be enhanced as part of Phase 2 and 3 of the development and this area should also be enhanced as a destination space.

7.4.6 Landscape Destination Spaces should provide areas for rest, relaxation and passive recreation. As a minimum the following will be provided:

- External areas to meet and eat, comprising picnic tables
- Seating opportunities
- Walking / cycling routes connected to the wider network of landscape Corridors.
- Interpretation of site history through landscape design.
- Well designed soft landscaping to complement surrounding landscape character.



Fig. 113 - Indicative Landscape Destination Spaces

LANDSCAPE 'CORRIDORS'

7.4.7 Landscape corridors running broadly north to south and east to west will permeate the site creating a connected network of green infrastructure and forming an essential wildlife, amenity and recreation function.

7.4.8 Landscape corridors will form multi-functional spaces which vary in character and comprise either transport routes or strategic green corridors around plot boundaries and the Vyrnwy Aqueduct as illustrated in as outlined in Fig 117.

7.4.9 The 'Linear Amenity Area' developed as part of Phase 1 employment proposals lies between the Vyrnwy Aqueduct corridor and the new spine road, and will provide conveyance of surface water in a linear SuDS swale, informal walking routes, seating opportunities and native planting providing wildlife habitat opportunities.

7.4.10 Landscape Corridors by their nature are linear in form and should be inviting to use, seeking to encourage users to exercise through walking, running and cycling across the wider linked network of accessible open spaces. As a minimum the following will be provided:

- Where the primary function of spaces is recreation, resting places shall be provided at regular intervals with seating.
- Footpath widths varying between 2m - 3.5m as appropriate to their context, likely use and proximity to buildings.
- Shared cycle / footways a minimum of 3m wide.



Fig. 114 - Formal and consist character within transport corridors

Transport Corridors

7.4.11 Will be defined by formality and consistency with evenly spaced street trees, clipped hedging, mown verges and street lighting. Pedestrian and cycle routes should be surfaced in tarmac or block paving.

Green Corridors

7.4.12 Should be more informal in character, comprising a mix of native trees, shrub planting species and species rich grassland meadows. Path surfacing will vary in formality depending on use. Key pedestrian and cycle routes will comprise formal smooth sealed surfaces including asphalt or resin bound gravel. Additional routes will comprise more informal surfaces including self binding gravel, mown grass or similar to create a variety of landscape character areas and maximise sense of place.



Fig. 115 - Informal, relaxed character to Green Corridors with steel rails depicting former railway route.



Fig. 116 - Indicative Transport Corridors

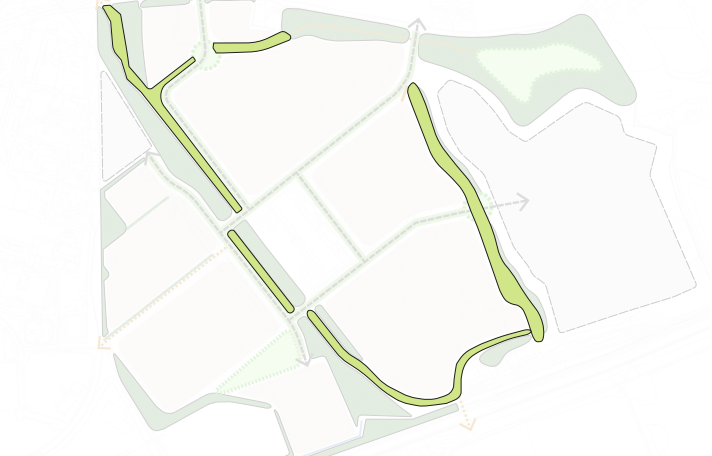


Fig. 117 - Indicative Green Corridors

STRATEGIC GREEN INFRASTRUCTURE



Fig. 118 - Green infrastructure should contribute to wildlife habitat

7.4.13 Strategic green infrastructure should be implemented to soften the hard edges of employment development, help to filter views into the site from surrounding residential and recreational receptors, maximising potential for wildlife habitat and enhancing local landscape character and contributing to Biodiversity Net Gain (BNG).

7.4.14 Strategic green infrastructure will comprise native planting including woodland belts, tree and scrub planting buffers, species rich grassland, wildflower meadow areas and wetland landscapes associated to SuDS drainage features and around existing water courses.



Fig. 119- Green infrastructure should contribute to wildlife habitat



Fig.120 - Indicative Strategic Green Infrastructure
Fiddlers Ferry Allocation Site | Employment Area Design Code



Fig. 121 - Timber knee rail for low-key boundary demarcation

Boundaries

7.4.15 Accessible open spaces should appear open and avoid the need for gated access wherever possible.

7.4.16 Primarily boundaries of open spaces should be defined by soft landscaping, supported by low level timber knee rail fencing to demarcate their extents.



Fig. 122 - Planting to be placed adjacent to security fence lines

7.4.17 2.4m high paladin security fencing should only be installed as required along private boundaries where public access is prohibited for safety reasons e.g. within service yards. In this instance, shrub mixes or hedging should be planted adjacent to fence lines to soften their appearance.

Access

7.4.18 Access to the site's network of open spaces (Landscape Destination Spaces or Landscape Corridors) across all phases of the development should be achievable within 400 metres or the equivalent of a 5 minute walk (or less) from employment units for all employees and visitors to Fiddlers Ferry



Fig. 123 - Access priority given to pedestrians and cyclists

7.4.19 Footpaths within open spaces should be designed to ensure levels are smooth and accessible for all, avoiding the need for stepped access.

Entrances

7.4.20 Access points to open spaces should be low key, comprising hard surfaced footpaths connected to the network of on plot footways and cycleways and positioned aligning with desire lines to and from building entrances, minimising walking time to access open spaces.

7.4.21 Flowering specimen trees, or pockets of shrub planting may be used to demarcate entrance points from surrounding routes.

Surveillance

7.4.22 Site lines within open spaces should be wide and open, providing long distance views across Landscape Corridors and Destination Spaces.



Fig. 124 - Footway / cycleways following historic railway route



Fig. 125 - Long distance site lines maintained

7.4.23 Accessible open spaces and built form should be positioned to maximise opportunities for overlooking and natural surveillance from surrounding buildings, roads, and footways / cycleways.

7.4.24 Orientation of office buildings and building entrances should be aligned to maximise overlooking of accessible open spaces and pedestrian and cycle routes.

Lighting

7.4.25 Transport corridors should be well lit in accordance with a site wide lighting strategy for each development phase.

7.4.26 Lighting installations should be contemporary in style and coordinated across all phases of development, with a matt finish to light columns and bollards and avoiding galvanized finishes. Key gateways, arrival areas and pedestrian / cycle routes will be well lit including all Transport Corridors, to enhanced orientation and safety.



Fig. 126 - Contemporary Light Columns



Fig. 127 - Indicative formal planting should define transport corridors

Soft Landscaping

7.4.27 Proposed planting within Destination Spaces and Green Corridors will be predominantly native with occasional ornamental specimens integrated to provide seasonal interest and sense of place.

7.4.28 Planting along Transport Corridors will be more ornamental in character, comprising street trees of heavy standard scale (or larger) and clipped hedges providing increasing formality and consistency of form to the streetscape. Trees should be carefully selected and positioned to create distinctive character within different areas of the site to assist with wayfinding and may include the species outlined within the Trees sub-section of the code.



Fig. 128- Informal native landscape character to Green Corridors



Fig. 129 - Naturalistic areas of Strategic Green Infrastructure
Fiddlers Ferry Allocation Site | Employment Area Design Code



Fig. 130 - Hardwood / Steel Seating

Site Furniture

7.4.29 Street furniture should be robust, low maintenance seating, picnic tables, litter bins and signage made from hardwood and steel.

7.4.30 Opportunities to highlight the site's rich history should be subtly drawn out through materiality, interpretative features and hard landscaping.



Fig. 131 - Areas for rest and relaxation within destination spaces



Fig. 132 - Hardwood / Steel Seating



Fig. 133 - Chunky Hardwood / Steel Picnic tables



Fig. 134 - Uncovered timber / steel cycle stands for potential use as short stay parking or within Destination Open Spaces



Fig. 135 - Potential for informal outdoor exercise equipment



Fig. 136 - Potential Art Features / Site Interpretation



Fig. 137 - Site interpretation / artwork to develop sense of place



Fig. 138 - Heritage interpretation using viewpoints and materiality



Fig. 139 - Potential Historic Interpretation using paving materials

PEDESTRIAN ACCESS TO BUILDINGS



Fig. 140 - Car parking softened with hedging and trees

7.4.31 Care should be taken in designing pedestrian access to building entrances to minimise the number of road crossings from the site boundary to buildings.

7.4.32 People friendly access routes should be developed which are clearly distinguishable through use of surfacing materials and ornamental planting beds.

7.4.33 Building thresholds must be clearly delineated from surrounding footways through the use of block paving in a contrasting colour / texture.



Fig. 141 - Car parking softened with hedging and trees

CAR PARKING



Fig. 142 - Car parking softened with hedging and trees

7.4.34 Hard surfacing in car parking areas should be broken up by soft landscaping where possible. Where large banks of parking bays are required these should be divided by landscape 'breaks' comprising robust shrub planting and street trees. Where space permits back to back parking bays should be divided by linear soft landscape beds containing tall shrubs or hedging and trees.

7.4.35 Tree cover within car parks should be maximised to assist with water infiltration and soften the appearance of hard surfacing when viewed from above.

7.4.36 Each phase of employment development should provide a minimum of 1 heavy standard scale tree or larger, per 5 car parking bays. Trees should be distributed evenly across car parking areas to soften views.



Fig. 143 - Hedges and evenly spaced trees to define boundaries



Fig. 144 - Traffic free pedestrian routes which minimize road crossings



Fig. 145 - Tree planting should be carefully positioned to soften build development

SUDS & FLOOD RISK



Fig. 146 - SuDS attenuation for visual amenity and wildlife benefits

7.5.1 Sustainable Drainage Systems (SuDS) present an opportunity to connect people to water as well as providing a more sustainable approach to water management. SuDS must be considered at the outset and integrated into design proposals. (Warrington Design Guide SPD, pg 31)

SITE WIDE DRAINAGE STRATEGY

7.5.2 The Warrington Design Guide SPD states that the Council expects SuDS to be used on all sites, based on the Council's technical guidance for SuDS design and latest information from CIRIA. The guide states (inter alia) that when designing SuDS features at all scales, that natural SuDS are preferred, and that spaces around SuDS features should be seen as an opportunity to encourage interaction with water.

7.5.3 At Fiddlers Ferry, SuDS features can be implemented within employment development areas, integrated within green spaces, highways corridors and development plots which contribute to wider benefits including climate resilience, ecological mitigation / Biodiversity Net Gain, positive visual amenity and recreation.

7.5.4 Fiddlers Ferry drainage strategy- The Fiddlers Ferry, Warrington – Development Framework, Drainage Strategy (Arcadis, September 2023) (the 'drainage strategy') underpins the Fiddlers Ferry Development Framework and establishes a robust basis for SuDS opportunities within the employment development area. The drainage strategy demonstrates the potential for surface water to be conveyed towards a large attenuation pond serving the employment area using a network of drainage features. The drainage strategy has informed the landscape strategy that sits within the Development Framework.

7.5.5 Although ground infiltration is normally the preferred method for dealing with surface water runoff as outlined in the CIRIA SuDS Manual, the drainage strategy finds that this is not considered feasible on the site due to ground conditions.



Fig. 147 - Diverse planting creates visually rich linear SuDS feature

Key principles for SuDS in the employment development area

7.5.6 The following principles form the foundation to the future design of SuDS features;

- Surface water runoff arising from the development will be managed, treated and attenuated on site, for all storm events up to and including the 1 in 100-year rainfall events, including a 45% allowance for climate change.
- Drainage systems will be designed so that flooding from the drainage system does not occur on any part of the site for a 1 in 30-year rainfall event; or during a 1 in 100 year + Climate Change rainfall event.
- Surface water drainage systems will aim to mimic a greenfield situation as closely as practicably possible, following best practice and providing a betterment of current land use which is discharging freely without restriction.
- SuDS features will be designed to create opportunities for people to connect with water. Larger features such as attenuation ponds should be seen as assets which add character and distinctiveness, with landscape proposals enabling recreation and amenity.
- Where landscaped spaces associated with SuDS features will perform a recreation function, siting and design should aim to maximise natural surveillance from buildings, roads and/or pedestrian / cycle routes.
- Pollution control measures are to be introduced to minimise the risk of contamination or pollution entering the receiving water body from surface water runoff from the development.
- Outlet and inlet headwalls to SuDS features will be carefully landscaped to avoid appearing intrusive and unsightly. Effort shall also be made to ensure that landform wraps around the edges of the headwalls so they avoid protruding awkwardly above surrounding topography.



Fig. 148 - Positive visual amenity from overlooking buildings



Fig. 149 - Amenity spaces integrated with SuDS conveyance



Fig. 150 - SuDS Swale Landscape Corridor example

STRATEGIC SuDS FEATURES



Fig. 151 - Integrating SuDS and landscaping to create visually interesting spaces

7.5.7 At a strategic, site-wide scale, SuDS features will be accommodated within key infrastructure corridors and open spaces between development plots. These will be complemented by on-plot features (see section 7.5.9).

7.5.8 Key infrastructure corridors will host primary, secondary and tertiary features as follows;

Primary

7.5.9 The primary SuDS feature will be a large attenuation pond, sized to accommodate surface water runoff from all development within the employment development area.

7.5.10 Runoff will be stored in the attenuation pond and discharged at greenfield runoff rates via an outfall to the south. (Fig 152)

7.5.11 This primary feature will be designed and delivered through Phase 1 development.

Secondary

7.5.12 The secondary SuDS feature will be a large, linear open swale that is located to convey surface water from all development areas towards the primary SuDS feature (attenuation pond).

7.5.13 Surface water runoff for all employment development will discharge into the swale and outfall into the primary SuDS feature.

7.5.14 This secondary feature will be designed and delivered through Phase 1 development.

Tertiary

7.5.15 The primary and secondary features must be supplemented by smaller, localised SuDS within the employment development area that discharge into the secondary and/or primary features.

7.5.16 These tertiary features will include linear swales and/or rain gardens within highways infrastructure corridors, with a particular opportunity for these to extend east-west through the employment development area.

7.5.17 Tertiary features will enhance the environmental character, distinctiveness and legibility of key movement routes.

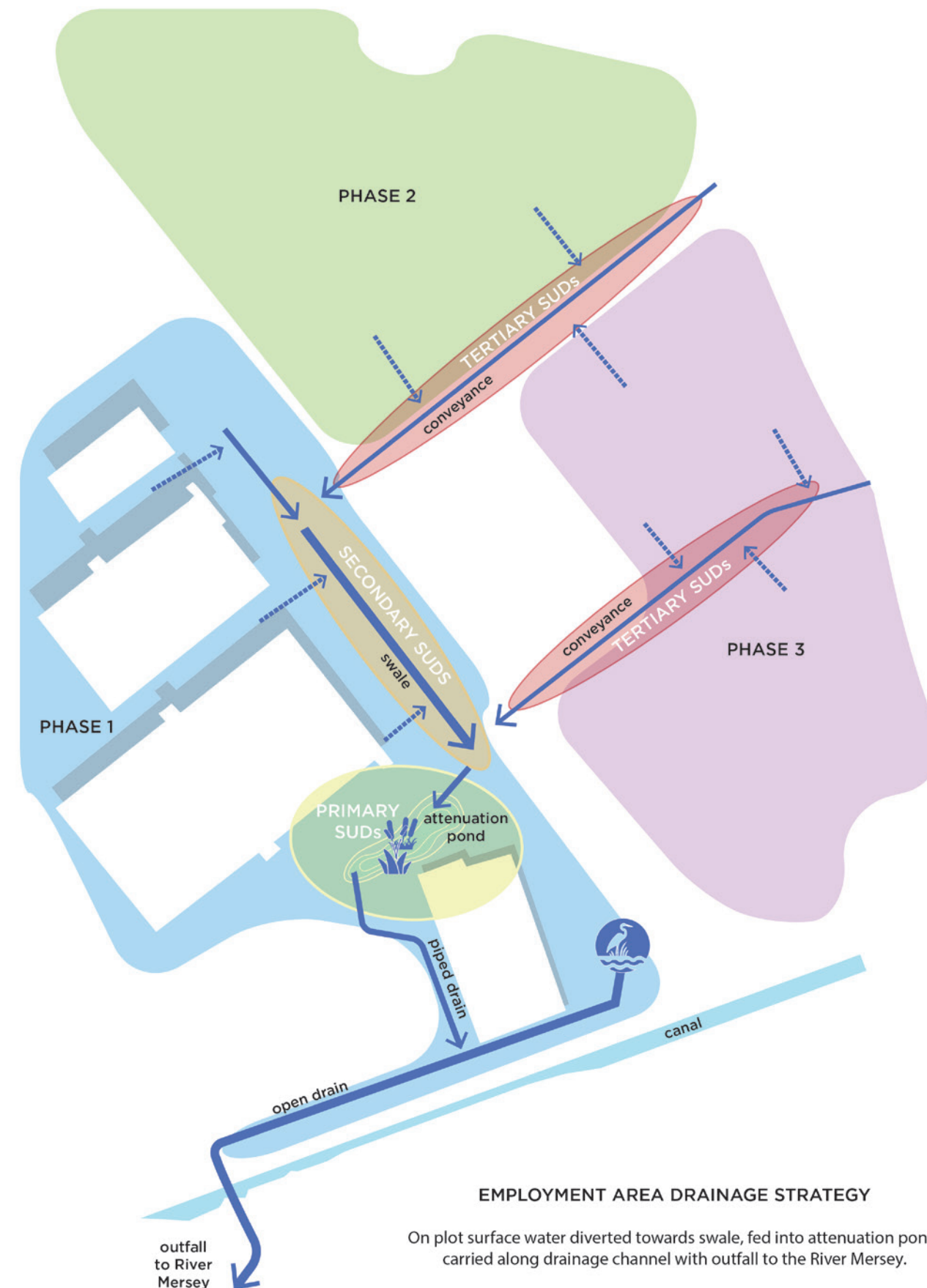


Fig. 152 - Employment Area Drainage Strategy



Fig. 153 - Pond edges planted to limit access to waters edge

INTEGRATED DESIGN OF SuDS LANDSCAPE

7.5.18 SuDS features will form an integrated part of a wider multi-functional landscape network. They will make a positive contribution to the environmental and visual quality of employment development, enhancing ecological value of green spaces, and contributing to informal recreation / amenity.

7.5.19 To achieve this, design proposals for soft landscape will include a range of native tree, shrub, grassland and marginal plant species mixes that enhance the setting and habitat created by SuDS features. Planting mixes that are appropriate to each SuDS feature will be developed by the project Landscape Architects in a way that;

- Creates overall coherence and coordination with the wider employment area landscape network
- Ensures that wildlife habitats can be created and/or enhanced and that this contributes to Biodiversity Net Gain within each phase of the development.

7.5.20 A landscape management plan will be developed for proposed SuDS features to ensure that all planting is well-maintained and continues to thrive. Any vigorous planting species will be carefully managed and prevented from dominating the SuDS feature at the expense of smaller planting species. This will help to maintain an interesting variety of species and protect visual amenity in the long term.

7.5.21 Specific landscape design characteristics associated with each strategic SuDS feature will be as follows;



Fig. 154 - Example primary SuDS feature - Pond

Primary SuDS feature

7.5.22 Set within a landscaped amenity area containing a mix of native woodland, scrub planting areas and meadow grassland that provide environments both for wildlife and people;

- Integrate with a network of recreational footpath routes – surfaced with self-binding gravel or similar
- Paths to link a series of seating areas overlooking the water – hardwood furniture
- Access path to the perimeter of the feature to cater for maintenance vehicles, to facilitate undertaking of management operations.
- Pond designed with varying gradients to banksides to create interesting and varied landform, within the limits of safe access and maintenance - gradients no steeper than 1:3 deemed acceptable.
- A mix of native marginal and aquatic planting of varying scales will be integrated along the water level of SuDS basins to contribute to biodiversity net gain, wildlife habitat opportunities and visual amenity value.

7.5.23 Species may include but not be limited to;

- Water Plantain
- Lesser Pond Sedge
- False Fox Sedge
- Yellow Flag Iris
- Reed Canary Grass
- Common Reed
- Branched Bur-reed

7.5.24 Wet grassland / wildflower seed mixes will be incorporated to banksides with an ability to withstand seasonal inundation and dryer periods offering further BNG contributions. A meadow Mixture for Wetlands comprising approx 20% wildflower and 80% grasses (or similar) would be appropriate for pond embankments.



Fig. 155 - Example secondary SuDS infrastructure - Swale

Secondary SuDS Infrastructure (open swale)

7.5.25 Set within a linear landscaped amenity area containing a mix of native woodland, scrub planting areas and meadow grassland that provide environments both for wildlife and people within a high profile location. The feature will integrate;

- Combined footpaths and cycling routes, and crossing points to maximise site permeability and avoid physical division – surfaced with self-binding gravel or similar.
- Landscaped outlet and inlet headwalls, using taller marginal planting species and carefully placed natural stone boulders to soften their appearance.
- Occasional hardwood seating along footpath routes that overlook the swale to provide passive recreational benefits and activate the space through footfall and natural surveillance.
- Water tolerant native marginal planting and wet grassland / wildflower seed mixes, with an ability to withstand seasonal inundation and dryer periods providing positive visual amenity and variety in addition to BNG contributions.

7.5.26 Marginal species may include but not be limited to;

- Water Plantain
- Marsh Marigold
- Lesser Pond Sedge
- False Fox Sedge
- Yellow Flag Iris
- Greater Spearwort
- Branched Bur-reed

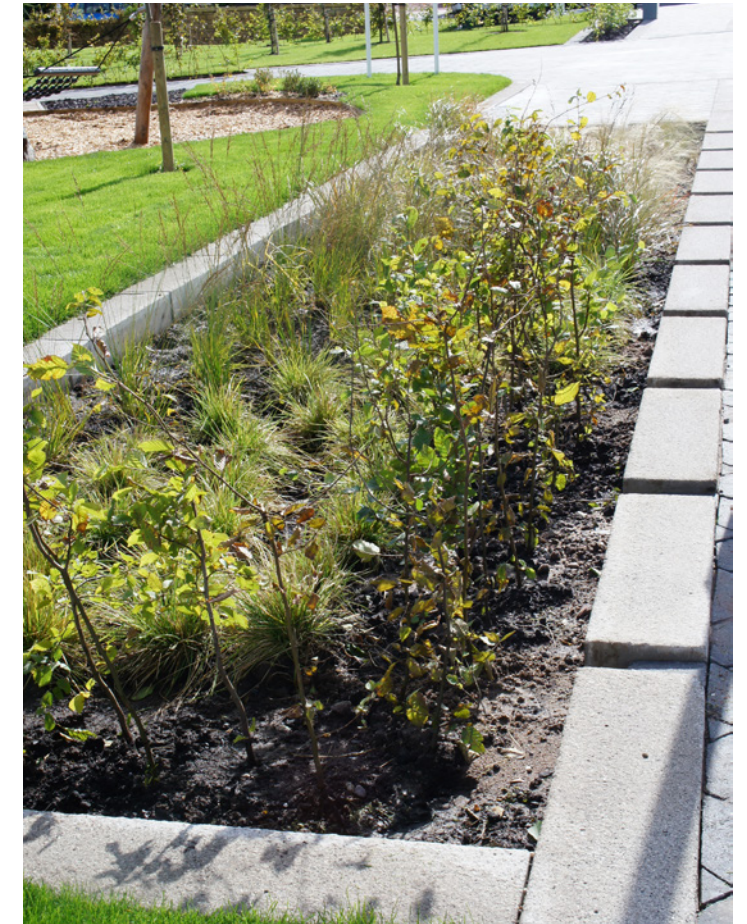


Fig. 156 - Example tertiary SuDS feature - Rain Gardens

Tertiary SuDS infrastructure

7.5.27 Linear channels running alongside key streets within the employment development area collecting, transporting and storing surface water runoff, and where feasible encourage flow of water towards the primary and secondary SuDS features. .

7.5.28 There is particular opportunity for linear features along key streets that are orientated east-west through the employment development area comprising broad, shallow swale features or rain gardens integrating vegetation, potentially helping to control flow rate, facilitating sedimentation, filtration and evaporation.

7.5.29 Tertiary SuDS features will consist of swales, rain gardens and/or rills. Detailed characteristics will be developed through detailed design proposals in coordination with highways design, but will integrate;

- A more 'urban' character to the west (in closer proximity to the proposed residential development areas / local centre) - regular / formal tree planting and use of hard landscape retaining features.
- A more informal or semi-naturalistic character to the east (in closer proximity to the Vyrnwy Aqueduct corridor) - scattered tree planting and use of longer species rich grassland / wildflower and marginal planting especially at the base of slopes.

7.5.30 Tertiary SuDS features could also integrate lightweight bridges, culverts or boardwalks to allow pedestrian access across swales especially where this is coordinated with key routes, plot access or pedestrian crossings.

ON PLOT SuDS

7.5.31 Each phase of employment development will be required to identify opportunities to manage runoff via on plot SuDS features that are suitable and feasible, with a preference in favour of surface water SuDS features where ground conditions make this possible.

7.5.32 Drainage solutions on-plot will include permeable paving, and if surface level drainage is unachievable, cellular storage systems to capture, provide filtration treatment, attenuate and convey runoff will be considered. Tree pits and raingardens can be implemented where practical to provide additional treatment and attenuation of the surface water runoff.

7.5.33 SuDS features will be used for drainage of surface water even on contaminated land. However, the design of the drainage system will be site-specific and dependent upon the contaminants in each location. To prevent any contaminants from the ground entering the surface water drainage system and ultimately the receiving watercourse, impermeable liners for the SuDS features and a watertight sealed drainage systems will be implemented site wide.

7.5.34 The design of the drainage system will also take into account the impact of rainfall falling on any part of the site and also any estimated surface runoff flowing onto the site from adjacent areas.

7.5.35 Development within each phase will collect runoff from building plots and hard surfacing and discharge these at the calculated greenfield (QBAR) runoff rate which are referred to in the site wide drainage strategy report. These restricted rates will provide betterment than the current arrangement with the brownfield areas of the development also being restricted to the equivalent greenfield runoff rate. The quality of the surface water discharged will be improved by implementing a Sustainable Drainage System (SuDS) treatment train to ensure that an exemplar SuDS arrangement is proposed for the site, which will include source control measures in the form of swales, bioretention features or filter drains adjacent to the access roads and permeable paving, tree pits and raingardens will be implemented wherever possible within on-plot developments.

7.5.36 Figures 154 – 158 show typical examples of SuDS features to be accommodated on plot.

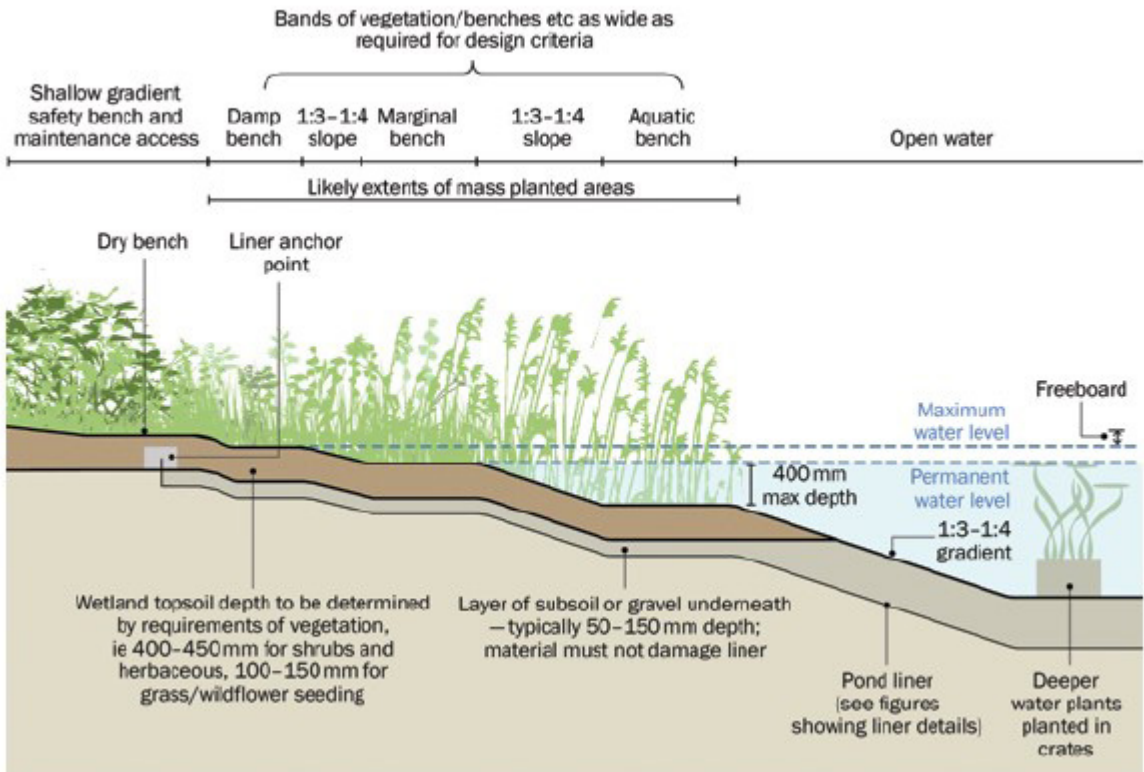


Fig. 157 - Typical SuDS Retention Pond CIRIA C753 The SuDS Manual

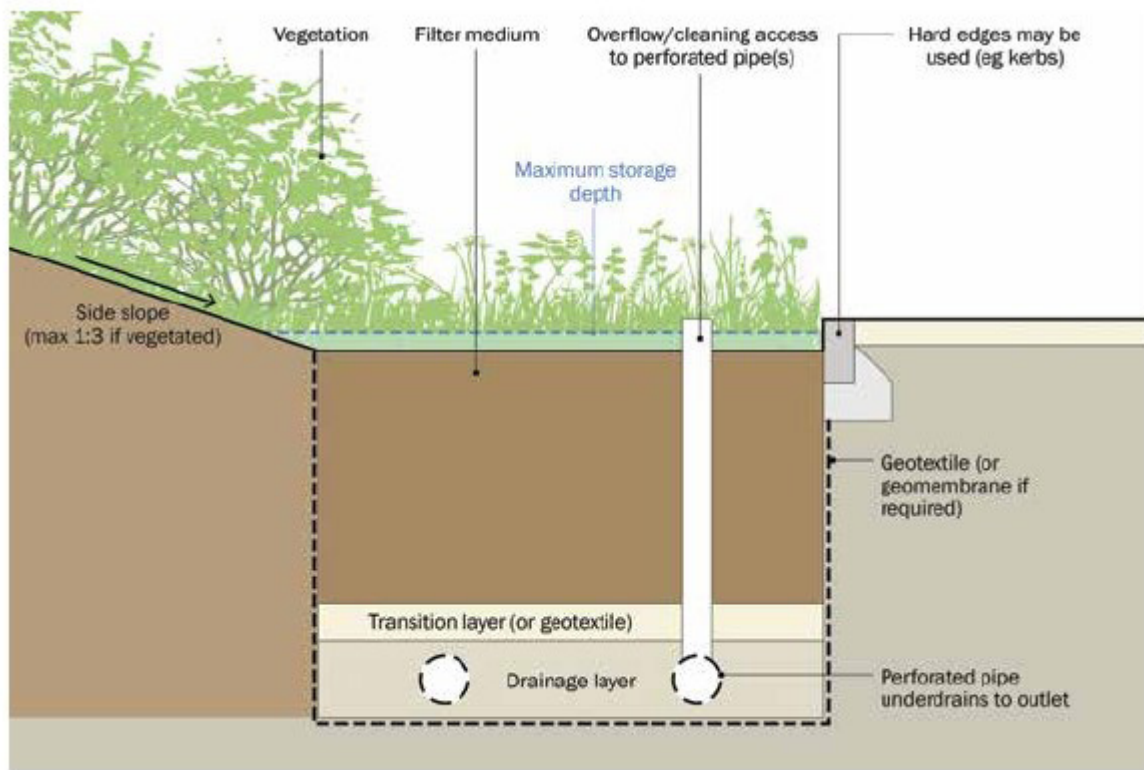


Fig. 158 - Typical Raingarden CIRIA C753 The SuDS Manual



Fig. 159 - Marsh Marigold



Fig. 160 - Reed Canary Grass



Fig. 161 - Water Plantain

7.6 BIODIVERSITY & PLANTING



Fig. 162 - Habitat rich boundary planting

BIODIVERSITY NET GAIN (BNG)

7.6.1 Whilst BNG is not a requirement of the design code, a baseline ecological assessment will be undertaken prior to commencing each phase of development to assess current habitat on the site using the statutory Biodiversity Metric. The assessment will assess the size, condition, strategic significance and type of habitats currently on the site and will be measured (in biodiversity units) using the metric.

7.6.2 Habitat types assessed should be aligned to the metric including, grassland, hedgerows, lakes, woodland and watercourses.

7.6.3 The ecology consultants will then make recommendations on existing habitat areas which are recommended for retention due to their condition or strategic significance, and the type of mitigation and ecological enhancements which would be most appropriate to ensure all phases of the scheme provide a minimum of 10% Biodiversity Net Gain post development.

7.6.4 The ecological consultants should assess development proposals throughout the project work stages to ensure ecological mitigation and BNG scores are maximised.

7.6.5 Strategic green infrastructure proposals throughout the site will contribute to BNG and comprise native woodland belts, street trees, tree and scrub planting buffers, hedgerows, species rich grassland, wildflower meadow areas and wetland landscapes associated to SuDS and planting associated to existing water courses.

MIXED SPECIES NATIVE HEDGING

7.6.6 Mixed native hedgerows have a naturalistic and informal character and should be implemented in peripheral locations including, adjacent to security fencing around service yards, and along site boundaries. Suitable species for mixed hedgerows may include the following:

Acer campestre
Cornus sanguinea
Corylus avellana
Crateagus monogyna
Ilex aquifolium
Malus sylvestris
Prunus spinosa
Sambucus nigra
Viburnum opulus



Fig. 163 - Native hedging

SINGLE SPECIES NATIVE HEDGING

7.6.7 Proposed single species native hedging should be implemented to provide a more formal and consistent edge to development parcels and should be integrated along transport corridors or car park boundaries. Species could include the following:

Carpinus betulus
Fagus sylvatica



Fig. 164 - Single species hedging for formality

WATER TOLERANT PLANTING

7.6.8 As outlined within the Water and Drainage chapter, a mix of water tolerant planting, marginals and aquatic plants should be integrated within the design of all surface water SuDS features.

7.6.9 Existing watercourses should also be assessed by the Ecologist for potential habitat enhancement opportunities. This may include management of existing vegetation, including removal of debris and introduction of a more diverse palette of plant species to help improve water quality and habitat potential.



Fig. 165 - Species rich grassland to maximise BNG

SPECIES RICH GRASSLAND

7.6.10 A range of native grassland and wildflower seed mixes should be integrated throughout the development to provide a rich source of pollen and nectar for bees and insects throughout the summer and habitat for birds, while contributing to creating a positive visual amenity and naturalistic feel to the development.

7.6.11 Species mix selection should be appropriate to their location based on soil type, light levels and proposed land use.



Fig. 166 - Ornamental planting to define entrances

ORNAMENTAL PLANTING AREAS

7.6.12 Non-native ornamental shrub and herbaceous planting should be focussed around building entrances and car parking areas.

7.6.13 Although non-native planting has reduced contributions towards the BNG metric, a presumption in favour of species providing nectar and pollen sources for bees, butterflies and insects should be emphasised to support local wildlife. These areas would also help to create a welcoming approach to buildings for staff and visitors.



Fig. 167 - Evenly spaced street trees along transport corridors

TREES

7.6.14 Planting along Transport Corridors will comprise street trees of heavy standard scale (or larger) and clipped hedges providing increasing formality and consistency of form to the streetscape. Trees should be carefully selected and positioned to create distinctive character within different areas of the site to assist with wayfinding.

7.6.15 Species may include native cultivars including:

Acer campestre 'Streetwise'
Carpinus betulus 'Frans Fontaine'
Pyrus calleryana 'Chanticleer'
Prunus avium 'Plena'
Sorbus aucuparia 'Sheerwater Seedling'
Tilia cordata 'Greenspire'

7.6.16 Individual tree planting within Destination Spaces and Green Corridors should be predominantly native and may include the following trees:

Acer campestre
Alnus glutinosa
Betula pendula
Betula pubescens
Carpinus betulus
Malus sylvestris
Pinus sylvestris
Populus tremula
Prunus avium
Quercus robur
Sorbus aria
Sorbus aucuparia
Tilia cordata

NATIVE WOODLAND

7.6.17 Native woodland mixes planted as part of strategic green infrastructure throughout the site should include at least five tree species per block to provide visual interest and avoid a monoculture with reduced wildlife potential. Mixes should include both tree and understory shrub planting to create diversity and contribute to visual screening.

7.6.18 Native woodland should include a small proportion of evergreen trees and shrubs to provide year round foliage and shelter e.g. Pinus sylvestris or Holly.

7.7 LANDSCAPE MAINTENANCE

7.7.1 A site specific landscape maintenance and management report will be prepared to encourage healthy establishment of all planting and the longevity and success of hard landscaping to ensure the long-term success of the scheme.

7.7.2 The management plan should cover maintenance operations for all public realm, amenity areas, opens spaces, hard and soft landscaping and street furniture.

7.7.3 The landscape management plan will be used by organisations who, at any time, will have responsibility for the establishment, ongoing maintenance and upkeep of the green and blue infrastructure throughout the site and will cover all hard and soft landscaping areas.

7.7.4 Landscape management operations will be established as part of planing applications for each phase.



Fig. 168 - Trees to be carefully placed to provide seasonal interest



Fig. 169 - Naturalistic Green Corridors



Fig. 170 - Low key seating opportunities along green corridor



Fig. 171 - Block Paving and Ornamental Planting to building approach



Fig. 172 - Resting places and picnic areas within landscape spaces

SUMMARY OF CODES FOR NATURE AND OPEN SPACE

1. Design proposals will help to develop sense of place, drawing on the site's rich history through materials selection, interpretation features and hard landscaping design.
2. Transport corridors will be characterised by formality, with mown grass verges, clipped hedges and avenues of tree streets.
3. Green corridors will comprise native planting and informal landscape character
4. Resting places in the form of seating will be provided at regular intervals within Green Corridors.
5. Destination Spaces will provide picnic areas, seating opportunities, walking routes and complementary planting to develop inviting and welcoming spaces.
6. Planting will be implemented adjacent to 2.4m high security fencing to soften its appearance.
7. Accessible open spaces will not be gated.
8. Access to open spaces will be achievable within 400metres (or a 5 minute walk) from building entrances.
9. Entrances to open spaces will be aligned to pedestrian desire lines.
10. Site lines within open spaces will be open and long distance.
11. The interrelationship between open spaces and buildings will maximise surveillance and opportunities for overlooking.
12. Site furniture throughout all phases of the project will be consistent, low carbon, robust, made from hardwood and steel.
13. Each phase of development should provide a minimum of 1 heavy standard scale tree or larger per 5 car parking bays.
14. Strategic green infrastructure will comprise native planting.
15. SuDS solutions will be developed in conjunction with landscape proposals to create multi-functional open spaces.
16. A Landscape Management and Maintenance Report will be prepared for all phases of development covering all areas of hard and soft landscaping throughout the site.

08 Resources

8.0 RESOURCES

8.0.1 Well-designed developments that are energy efficient, meet modern standards of design and encompass many uses help to mitigate impacts on climate change. The designs will meet climate change requirements and exceed Building Regulations where possible. References are made to sustainability requirements throughout the code are summarised below.

8.1 ENERGY HIERARCHY

8.1.1 Designs will follow energy hierarchy set out in each energy strategy that accompanies each application. This will be based on a fabric first approach.

8.2 ENERGY EFFICIENCY

SUSTAINABILITY

8.2.1 Development within each employment phase will address Warrington Local Plan Policy ENV 7 for renewable & low carbon energy. 'Development within the allocation site should be designed to mitigate the impacts of climate change; be as energy efficient as possible and seek to meet a proportion of its energy needs from renewable or low carbon sources in accordance with Policy ENV7.'

8.2.2 The RIBA Climate Challenge 2030 guidance (or any updates hereafter) will be considered within the sustainability elements of the employment phases. These relate to Operational Energy, Embodied Carbon, Water Use and Health & Wellbeing.

Development in each phase will:

8.2.3 Incorporate green spaces and integrate with SuDS as well as achieving the 10% BNG.

8.2.4 Requirement for BREEAM assessment, with a target BREEAM 'Excellent' and achieve a minimum of BREEAM 'Very Good',

8.2.5 All buildings will to be designed and constructed to minimize embodied carbon emissions and use low embodied carbon products. A Life Cycle Assessment should be undertaken to ensure this occurs.

8.2.6 All buildings will ensure that at least 10% of their energy needs can be met via renewable or low carbon energy sources PVs/ ASHPs/ LEDs (in accordance with Policy ENV7) and should seek to exceed this target where possible.

8.2.7 Explore the latest innovative sustainable technologies, design approaches and materials available at the time of each planning application which can be embedded into the

design, having regard to the latest industry standards.

8.2.8 The main roof spaces will be prioritised for the provision of renewable energy generation, including Solar Photovoltaic (PV) Panels, rooflights to provide natural daylight to the internal spaces below

8.2.9 The Development Framework (paragraph 7.75) sets out the requirement to maximise opportunities for green roofs. Opportunities to deliver green roofs on flat roofs to offices, office hubs, ancillary structures (waste management/ storage areas, cycle stores and bus shelters) and any other ancillary buildings will be prioritised.

8.2.10 Target 40% reduction in water consumption via the use of water saving products and rain harvesting initiatives.

8.2.11 Provision of active & passive EV charging points in the car park of each building based on the LA standards.

ENERGY

8.2.12 The Development Framework (Page 143) sets out opportunities for specific sustainability measures relating to the design of plots and buildings, as proposed in the Sustainability Strategy Statement that accompanies the Development Framework. These propose that all phases of development:

- *Aim to exceed the building regulations, applying the 'fabric first' approach, reducing u-values and air permeability to ensure an optimum fabric efficiency and reduced energy demand.*
- *Include an all-electric building services strategy including LED lighting and PIR (passive infrared) control.*
- *Incorporate low and zero carbon energy generation on site in the form of air source heat pumps (ASHPs) and solar PV to meet at least 10% regulated energy demand.*
- *Quantify embodied carbon by undertaking a Life Cycle Assessment (LCA) and reducing emissions where possible by implementing material efficiency measures and specifying and procuring natural, lower carbon materials.*
- *Adapt to Climate Change by reducing overheating through the cooling hierarchy with particular focus on mitigation through passive design (e.g. building orientation and façade design)*
- *Target a 40% reduction in water consumption compared with the baseline*



Fig. 173 - Utilisation of rooflights to maximise natural daylight



Fig. 174 - Roof spaces to provide renewable energy generation

8.2.13 The following principles will also be applied:

- Minimise buildings energy consumption and carbon dioxide emissions by following the energy hierarchy: Be lean: use less energy through passive and active measures in building designs. Be clean: supply energy



Fig. 175 - EV charging points to all buildings

efficiently by selecting the most energy-efficient heating and cooling infrastructure. Be green: use renewable energy and technologies across the development.

- Look to increase building envelope thermal performance U values and air permeability to give an exemplar fabric efficiency and exceed Building Regulation targets where possible.
- Encourage passive design by considering the orientation of the buildings. Substantially glazed office elevations should avoid southern outlooks where possible to limit overheating. Passive measures such as openable windows to the offices should also be incorporated to allow cross ventilation. The depths of the office will need to be small enough to allow for this.
- Design led solutions, such as brise soleil, high level canopy, or shading facades that provide shading to glazed areas can be used to east, south and west elevations to mitigate heat gain while also enhancing the overall look of the elevation.



Fig. 176 - External solar shading to mitigate heat gain



Fig. 177 - Integrated low carbon/passive design measures

- Omission of gas in favour of electricity including generation from the PVs. This will reduce emissions.
- Buildings will utilise between 12 - 15% roof lights to maximise natural daylight penetration but limit solar gain.
- Design features to limit water consumption will be incorporated. This can be via rainwater harvesting tanks below permeable paving within car park areas or specifying flow restricting taps throughout. Installing leak detectors and meters to measure usage. Target BREEAM Excellent with Very Good as a minimum standard including a Life Cycle Assessment (LCA) of building's materials to be undertaken. Cradle to grave carbon levels of materials to be considered. Aspire to aim towards net carbon zero in new developments as set out in the RIBA Climate Challenge.

8.3 WASTE MANAGEMENT

8.3.1 In accordance with Warrington Local Plan Policy ENV1 (Waste Management), the design of the FF Employment Area will seek to achieve a reduction in the amount of waste produced during construction, design (using recycled materials) and operational stages, and aiming to treat waste at as high a level of the waste hierarchy as practicable.

8.3.2 Suitable provision for waste management will be incorporated at detailed design stage with limits to waste and

recycling during construction, and recycled materials where possible from demolition phases.

8.4 NEIGHBOURHOOD ENERGY

8.4.1 The Development Framework page 159 states that;

Development will, where feasible, incorporate on-site energy generation, in accordance with Local Plan Policy ENV7 and Policy MD3 Part 35.

8.4.2 Local Plan Policy ENV7 (Part 5) requires that development of the Fiddlers Ferry Allocation Site should seek to reduce carbon emissions and maximise opportunities for the use of decentralised energy systems that would use or generate renewable or other forms of low carbon energy. Decentralised energy systems (also known as micro-grids) are defined as networks of local renewable or low carbon electricity generation, distribution, and storage. The Fiddlers Ferry Allocation Site is therefore required to establish, or connect to an existing, decentralised energy network, unless this is shown not to be feasible or viable, in which case Policy ENV7 requires development to:

- make provision to enable future connectivity in terms of site layout, heating design and site-wide infrastructure design; and
- ensure that at least 10% of their energy needs can be

met from renewable and/or other low carbon energy sources.

8.4.3 The feasibility of the opportunities for the establishment of, or connection to an existing, decentralised energy system is linked to the scale of development and needs to be considered at planning application stage for the first employment phase. Matters for consideration will include assessment of whether a decentralised energy network can be established for the employment allocation and the potential siting of this. If an opportunity is established through feasibility evidence, then means of connection and provision of pipework to the edge of each phase of development to enable connection to the site wide decentralised energy system and details of the proposed route of the distribution network shall be secured by condition as part of any application in order to accord with the requirements of Local Plan Policy ENV7.



Fig. 180 - Green wall



Fig. 178- Mitigate heat gain through shading elements



Fig. 179 - Offices built in modular construction, Blumer Lehmann

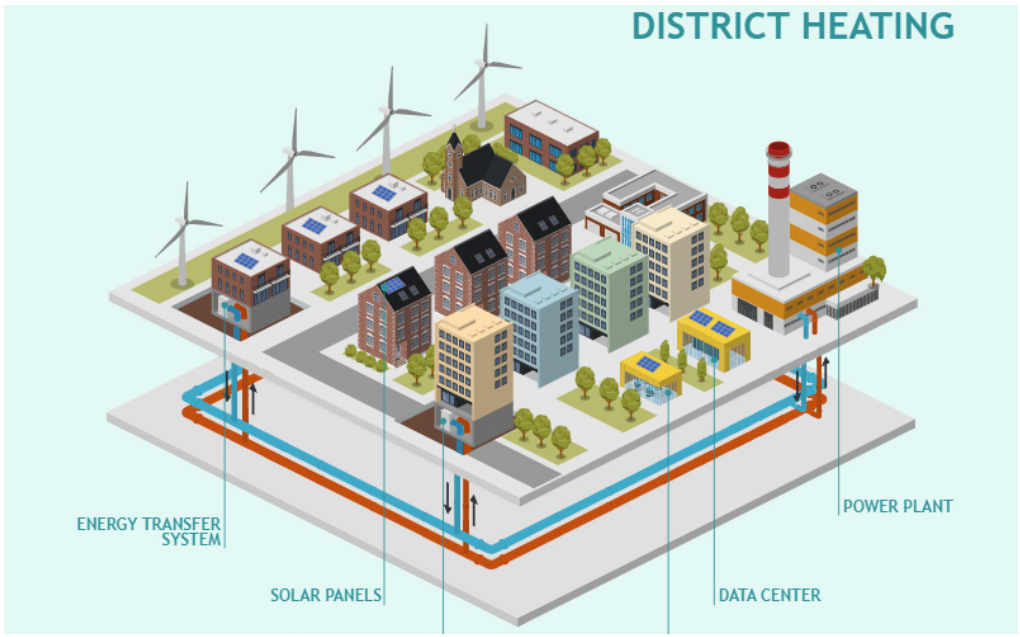


Fig. 181 - Principles of district heating

8.5 MODERN METHODS OF CONSTRUCTION

8.6.1 New, and where possible innovative methods of construction and low carbon material use will be explored in the first instance.

8.6.1 Waste reduction within the construction process and recycling of waste materials will be quantified and targets set.

8.6.2 Whole life carbon and water use targets will be set for each Employment phase.



Fig. 182 - Bus shelter with green roof



Fig. 183 - Opportunity for green roofs on flat area of roof

SUMMARY OF CODES FOR RESOURCES

1. Minimise building energy consumption via passive design measures.
2. Use low carbon materials throughout and seek to use recycled materials from the demolition phase where possible.
3. Explore innovative modern methods of construction in the first instance.
4. Maximise opportunities to incorporate Green Roofs on flat areas of office roof, hub offices and ancillary buildings.
5. Follow the energy hierarchy as set out in the Fiddlers Ferry Development Framework and associated Sustainability Strategy Statement.
6. Ensure that design of buildings contain adequate provision for waste management, including recycling.
7. The feasibility of a decentralised energy network should be explored and evidenced pursuant to a planning condition related to the first phase of employment development. If this is shown not to be feasible or viable, 10% of the energy needs from the development should be met from renewable or low carbon energy sources

09 Safety, Security & Crime Prevention

9.0 SAFETY, SECURITY & CRIME PREVENTION

9.0.1 The layout of the development will ensure the safety of future occupiers. This relates not only to ensuring that the layout of the development does not create an environment conducive to crime but also to how occupiers and visitors to the estate can move freely without risk of injury. This should be achieved by way of inclusive design interventions that continuously give passive and active surveillance around the developments.

9.1 SECURE BY DESIGN

9.1.1 “Safer Places – The Planning System and Crime Prevention” focuses on seven attributes of design that are particularly relevant to crime prevention. The proposed development will respond to the document, and the attributes of crime prevention as set out below:

9.1.2 Secure by Design principles will be incorporated into all aspects of the design. The buildings may be subject to a Secure by Design accreditation and early consultation is expected with the Local Authority’s Designing out Crime Officer (DOCO) will take place.

Access and Movement

9.1.3 The development should be laid out to permit open access points which are clearly visible and open to surveillance from a distance. It should permit convenient movement without compromising security or safety.

Lighting

9.1.4 The lighting strategy should be considered in all areas and have a coherent approach to lighting design in terms of types, materials, styles and fixtures. Lux level limits should be set in areas necessary to protect ecology and/or ensure residential amenity.

9.1.5 Cycle / footways that link areas should be adequately lit and signposted to promote their use and give users assurance when using them.

Building Protection

9.1.6 The development is to be designed in order to remove opportunities for crime. Robust materials and locking devices

should be specified for the buildings that can withstand forced entry. Metal sheet cladding on a steel frame could be incorporated into the designs. Where glazing is incorporated, toughened laminated sections will be considered around the service yard and car parking where necessary.

Ownership

9.1.7 The site will be managed enabling a consistent approach to safety and security. The units should be designed to ensure a sense of ownership by the occupier through the use of quality fencing, lighting and building materials and ensure areas are well maintained.

Stewardship, Management & Maintenance

9.1.8 The site will have a security, maintenance and landscape management team who will have a constant presence on site. The team will ensure that the buildings are kept in a good state of repair, free from litter and guard against unwanted trespassing. Gatehouses, usually for larger industrial units that require 24-hour access and surveillance will add another layer of security to the buildings and area.

9.1.9 Surveillance CCTV for units should be considered as a further layer of protection subject to occupiers requirements.



Fig. 184 - Offices overlooking car park



Fig. 186 - Well lit cycle routes



Fig. 188 - CCTV



Fig. 190 - Lighting design to enhance natural surveillance



Fig. 185 - Natural open surveillance



Fig. 187 - Security access



Fig. 189 - Gatehouse



Fig. 191 - Carefully placed windows ensuring surveillance

9.2 BOUNDARY TREATMENT & SECURITY

9.2.1 Safe and convenient access for all users of the site will be provided. Boundary treatment will be in the form of 2.4m high paladin fencing around service yards and parking areas and landscaping. Shrub mixes and hedges should be planted alongside fencing to soften their appearance. Knee high post and rail fences will also be used to paths and cycleways and to limit access to landscape and amenity areas. The use of certain plant species can assist with security by deterring access through certain areas.

9.2.2 Sensitive uses may need acoustic fencing and / or dense landscape treatment. Less sensitive areas can apply a more open landscaped approach.

9.2.3 Car parking will be enclosed with lower, knee rail type fencing or landscape features to delineate plot boundaries. Fencing can also enclose landscaped areas and direct pedestrians towards entrance routes into the buildings.

9.2.4 Natural surveillance and appropriate lighting will be a key factor in the overall design of the site. Offices, where possible should overlook car parking, cycle stores and the public realm.

9.2.5 Where a design response cannot provide adequate noise mitigation, buffers may be required. These could include acoustic fencing, dense landscaping, landscaped bunds and wider green buffers.



Fig. 192 - Paladin fencing



Fig. 194 - Acoustic barrier



Fig. 193 - Perimeter landscaping



Fig. 195 - Landscape bund

SUMMARY OF CODES FOR SAFETY, SECURITY & CRIME PREVENTION

1. Design safe, well-lit and easy to navigate routes should be designed into each phase.
2. Passive surveillances should be designed into all areas.
3. Ensure a management team looks after the development
4. Buildings to use robust materials for security and impact resistance.
5. Active spaces in prominent areas will help to reduce the risk of crime.
6. Build in a maintenance regime to keep the development in pristine condition to help deter crime.
7. Use appropriate fencing for different areas. Soften fencing with adjacent planting.

10 Conclusion

10.0 CONCLUSION

This Employment Area Design Code has been provided in accordance with the requirements of Local Plan Policy DC6 (Quality of Place) and the Warrington Design Guide SPD. The FF Employment Area Design Code has been prepared to provide specific, detailed design parameters for the physical development of the employment site tailored to the local context and heritage.

The detailed planning applications for each phase of development will demonstrate how the proposals respond to Design Code to provide good quality design and placemaking.

