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Barry Waterfront

**Environmental Statement
Chapter E**

Landscape and Visual

August 2009

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1.0 Introduction

- 1.1 Through both desk study and fieldwork, this assessment gathers together available information regarding the development site and its wider relationship with the landscape/townscape to enable a thorough understanding of setting and context and the extent of visibility of the development site within the wider landscape. This information provides a baseline of existing conditions against which the impact of the proposed development can be assessed.
- 1.2 When considering landscape as a potential opportunity or constraint, factors to be considered fall into two broad categories:
- Physical aspects and attributes of the land within the proposed development site boundaries
 - The wider characteristics of the landscape surrounding the proposed development site.
- 1.3 Both require the consideration of aspects such as topography, land-use, built form, open space, landscape and townscape age and heritage, building and streetscape materials and finishes, townscape/landscape condition, quality, visibility and aesthetics. Together, these aspects help in defining the sensitivity and robustness of the study area, and its capacity to accommodate developments of a given scale, form and appearance.
- 1.4 Within this chapter the term townscape is used to generically describe the urban landscape within the study area, which contains large areas of urban development, areas of current and former industrial use and coastal areas.
- 1.5 This chapter includes an appraisal of the proposed Barry Waterfront development. It considers the wider townscape context of the proposed developments through the identification of townscape character types within a study area extending to a radius of 2km from the centre of the proposed site. In this instance, a 2km radius study area is considered appropriate since given the nature of the site, the nature and height of the proposed developments and local topography. Effects on townscape character and visual amenity are not considered to be significant beyond this distance. The townscape of the study area is analysed in broad terms, and current landscape and townscape policy and designations of relevance to the proposed developments is identified.
- 1.6 The assessment of landscape and visual effects although connected follow separate methodologies. Following the assessment of the landscape/townscape to identify potential changes in its character and perceived value, potential visual effects are assessed to identify changes arising from the proposed development on the composition of available views, perception of change and overall effects on visual amenity.

2.0

Planning Policy Context

Local Planning Policy/Statutory Development Plan

2.1

The adopted '*Vale of Glamorgan's Adopted Unitary Development Plan 1996-2011*' include the following policies that are relevant to the Landscape and Visual chapter of the ES.

- ENV3 Green Wedges: Supports areas of the countryside and venerable open land adjoining urban areas in order that development on the urban fringe and between settlements is restricted, so that the character of the countryside is maintained.
- ENV17 Protection of Built and Historic Environment: Policy to ensure that the features within the historic environment (including listed buildings, conservation areas and landscapes, parks or gardens of historic, cultural or aesthetic importance) are protected and enhanced. Presumption that development which is unsympathetic or out of character with the locality or features of acknowledged importance will not be permitted.
- ENV20 Development in Conservation Areas: Policy to preserve and enhance the setting and character of Conservation Areas.

2.2

The above policies and their relation to the Barry Waterfront development and the wider study area are discussed further in Paragraphs 4.29-4.35 of this chapter.

Further Guidance

2.3

The methodology used within the assessment of landscape setting and context draws from the following recognised and established best practice guidance:

- '*Guidelines for Landscape and Visual Impact Assessment, Second Edition*' (2002) The Landscape Institute / Institute of Environmental Management & Assessment. Guidelines that present current principles and techniques for preparing the methodology for a Landscape and Visual Assessment, in order that the assessment carried out is credible, consistent and effective.
- '*Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements)*' (1995 and current draft revisions) Environmental Protection Agency. A set of guidelines that assists in the preparation, structure and content of an Environmental Impact Assessment.
- '*Guidelines on the information to be contained in Environmental Impact Statements*' (2002) Environmental Protection Agency. Published guidelines on the information that should be contained within an Environmental Impact Statement.

- *'Landscape Character Assessment Guidance for England and Scotland. Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity'* (2004) The Countryside Agency and Scottish Natural Heritage. The Topic Paper provides an overview of current thinking regarding landscape sensitivity and capacity and sets out key principles, defines key terms and provides examples of current approaches that can be used within a Landscape and Visual Assessment.
- *'LANDMAP Information Guidance Note 3: LANDMAP, Landscape and Visual Impact Assessment'* (November 2008) Countryside Council for Wales. LANDMAP a Geographical Information System (GIS) based landscape resource, for the whole of Wales (excluding the urban areas of Cardiff and Swansea) where information about the landscape is recorded, organised and evaluated into nationally consistent data sets, known as Evaluated Aspects. These Evaluated Aspects provide an information resource for Baseline Conditions and evaluation information at the assessment stage of the LVA. LANDMAP has been formally adopted as a methodology for landscape assessment by CCW and is also supported by the Welsh Assembly Government, as outlined in Planning Policy Wales (2002).

3.0 **Assessment Methodology & Significance Criteria**

General Background

3.1 The method used follows an accepted approach derived from the published guidance as outlined in paragraph 2.3 above. The guidance is not prescriptive but recognises that every project will require its own set of criteria and thresholds, tailored to suit local conditions and circumstances. In the case of this particular assessment, the approach followed recognises the specific attributes and scale of the project and distinctive characteristics of the surrounding townscape.

3.2 The method has used available LANDMAP data to inform the baseline study and has included detailed examination of Level 3 classification and evaluation data for all 5 aspect layers - Visual and Sensory, Landscape Habitats, Geological, Historic and Cultural Landscape - to describe, classify and evaluate the existing townscape character and sensitivity to the development proposals. Maps for the 2km radius study area were prepared using the methodology described in LANDMAP Information Guidance Note 3.

Evaluation of Existing Character and Quality of the Townscape

3.3 Through the assessment and recording of the important elements that create distinctive areas within towns, such as scale, form, enclosure, density and pattern of the built and urban spaces, broad homogenous areas known as Townscape Character Areas (TCA) may be identified. Defining townscape character enables an understanding to be formed of the inherent value and importance of separate townscape components, the processes that have created features of importance, and the processes that may alter townscape character in the future.

3.4 The approach involved desktop map based research (including LANDMAP – Level 3) and fieldwork, which was carried out in June 2009. The desktop study also included a review of planning policies of relevance to townscape and visual amenity within the study area.

3.5 Based on information gathered through a combination of LANDMAP and fieldwork assessment, the land within the study area has been divided into eight areas of distinct, recognisable and common townscape character types, within which individual distinctive TCAs have been defined. The character areas defined through desk study and field assessment are illustrated in Figure E2 and are defined in Table E4.1.

- 3.6 The TCAs identified were used to draw initial conclusions on the sensitivity and capacity of the townscape of the study area and to make evaluations of acceptable change for different areas. A summary description and analysis of LANDMAP data is included in Table E4.3. Figures were prepared to illustrate data following published guidance, with townscape/landscape policy and designations illustrated as a separate figure (refer to Figure E3).
- 3.7 In Section 4.0, the existing (baseline) townscape of the study area is described, including its natural, 'man-made' and aesthetic attributes. The quality of each TCA within the study area is evaluated using defined criteria and their relative sensitivity is established and reported.
- 3.8 An assessment of sensitivity determines the degree to which each TCA can accommodate development without adverse effects on its character. In this assessment 'sensitivity' is defined as the stability of character and resilience of the townscape to sustain change and to recuperate from loss or damage. This is based on a consideration of the interaction of component attributes identified during the process of assessing and recording townscape character. Attributes considered include:
- acknowledged townscape designations;
 - the scenic quality of individual TCAs and their constituent parts;
 - townscape condition including land management, vegetation and other features;
 - notable features of historical, architectural, geological or biodiversity importance;
 - reference to any specific cultural associations; and
 - past and present perceptions of local value.
- 3.9 To provide a measurement to classify the quality and sensitivity of the townscape, criteria have been devised and set out in a semantic scale. The criteria were developed by Soltys Brewster Consulting and are drawn from the various published guidelines listed in Section 2.
- 3.10 The following criteria have been devised to define townscape quality:
- **Exceptional Quality:** Areas which are of outstanding value by nature of factors such as their outstanding urban quality, historic, cultural or other associations that influence townscape value. For example; Areas of National or international importance such as World Heritage Sites
 - **Very High Quality:** Areas which have particularly high value by nature of their condition, architectural, aesthetic quality, or historic associations. For example; Areas of National or Regional Importance such as Conservation Areas and designed landscapes listed on the Register of Historic Parks and Gardens.

- **High Quality:** Areas which are considered to be of value by virtue of their positive characteristics, sense of place or local associations. For example; Areas of regional or local importance e.g. Listed Buildings.
- **Medium Quality:** Areas which retain a positive character and a sense of place. For example; Areas of local importance.
- **Low Quality:** Areas in fair to poor condition or which have undergone change to the extent that they do not have, or no longer have, a distinctive local character or particular aesthetic quality.
- **Very Low Quality:** Areas that are degraded or in poor condition and where the distinctive character and aesthetic quality has been seriously damaged or destroyed. Of local Importance.

Evaluation of Townscape Sensitivity

3.11 An assessment of sensitivity determines the degree to which each TCA can visually accommodate development without incurring adverse effects on its character. In this assessment 'sensitivity' is defined as the stability of character and resilience of the townscape to sustain change and to recuperate from loss or damage. This is based on a consideration of the interaction of component attributes identified during the process of assessing and recording townscape character. Attributes considered include:

- Cultural attributes: land use, time depth, architecture, and historical/ cultural associations.
- Townscape attributes: Land use, density, built form materials, condition, streetscape elements, circulation, stability, robustness, fragility and ability to be restored.
- Visual attributes: distribution and number of receptors, static and transitory receptors, scope for visual mitigation.

3.12 The following criteria have been devised to define levels of townscape sensitivity:

- **High Sensitivity:** A vulnerable townscape likely to be fragile and susceptible to change. The frequency and sensitivity of receptors is likely to be high but not exclusively so. The introduction of a change is likely to significantly alter the character to the extent that it would be difficult or impossible to restore.
- **Medium Sensitivity:** A townscape that can accommodate a certain amount of change without effecting the overall character. There are unlikely to be large numbers of people or other sensitive receptors.
- **Low Sensitivity:** A resilient townscape that is robust and/ or tolerant of change. It is likely to be easily restored and the frequency and sensitivity of receptors is likely to be low but not exclusively so.

- 3.13 The capacity of a TCA is different from its sensitivity in that capacity varies according to the type of development, its location in relation to the TCA in question and its visibility from the TCA. Consequently, capacity is based on a consideration of sensitivity and townscape quality and takes into account the type and form of development proposed. For the purposes of this townscape character assessment the following criteria have been adopted for assessing capacity.
- **Low Capacity:** The townscape has high sensitivity to the type and form of development proposed which could have a detrimental effect on townscape character or quality.
 - **Medium Capacity:** The townscape has medium sensitivity to the type and form of development proposed and any change caused by the proposed development would be unlikely to have a significant adverse effect on townscape character or quality that could not be mitigated against.
 - **High Capacity:** The townscape will have low sensitivity to this type of development and few constraints imposed by townscape character elements. Development of the type proposed is very unlikely to have an adverse effect on townscape character or quality.
 - **Negligible Capacity:** The townscape is not sensitive to this type of development proposed and will have no adverse effect on townscape character or quality.

Assessment of Impacts on Townscape Character

- 3.14 Potential townscape and visual impacts are assessed as separate but linked issues. The assessment of both sets of impacts requires a combination of quantitative and qualitative evaluations. The assessment and analysis of townscape character contributes to the baseline visual assessment but, whilst townscape impacts are a result of effects on an environmental resource, visual impacts are a result of related effects on the population.
- 3.15 Townscape impacts will be derived from physical changes to the townscape that may cause a change in character and how the townscape is experienced and valued. The townscape classification and evaluation is the baseline against which the impact of the proposed development is assessed. It is important to recognise that the townscape is constantly evolving and changes may not necessarily be adverse.
- 3.16 The potential direct and indirect effects that would result from the proposed development on the characteristics and quality of the identified townscape, on individual character areas and on sensitive or designated sites are assessed.
- 3.17 Assessment of the significance of effects is the result of a combination of magnitude of change and the capacity of the townscape to accommodate or accept the change that is predicted to occur (see Table E3.1).

- 3.18 In applying the criteria, the potential beneficial, adverse or neutral impacts (i.e. where impacts are considered to be neither beneficial or adverse) of the development have been taken into account. Assessment of magnitude is based on factors including geographical extent, prominence, degree of alteration and perceived change, reversibility, duration and potential mitigation.
- 3.19 The following criteria have been used to define magnitude:
- **High:** The development or specific impact will result in substantial loss or major alteration to key elements of the townscape resource to the extent that there is a fundamental change to townscape character.
 - **Medium:** The development or specific impact will result in loss or alteration to key elements of the townscape resource to the extent that there is a partial change to townscape character.
 - **Low:** The development will result in minor loss or alteration to key elements of the townscape resource to the extent that there may be some slight perception of change to townscape character.
 - **Negligible Magnitude:** The development or specific impact will result in very minor loss or alteration to key elements of the townscape resource and there will be no fundamental change to townscape character.
- 3.20 The relationship and combinations of capacity and magnitude determine the significance of townscape impacts. Significance increases in line with the capacity of the townscape character area and the magnitude of impact. Differentiation is made between the sensitivity of particular receptors based upon their value within the townscape. Reduced townscape capacity or a smaller magnitude of townscape impact moderates and / or lessens the significance of impact. Table E3.1 sets out the derivation of significance for townscape impacts, with descriptions provided below

		Townscape Capacity			
		Low	Medium	High	Negligible
Magnitude of Effect on Townscape Character	High	Major	Moderate to Major	Minor to Moderate	Minor
	Medium	Moderate to Major	Moderate	Minor	Negligible to Minor
	Low	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Minor	Negligible to Minor	Negligible	Negligible

Table E3.1 Significance of Effect on Townscape Character

Note: Major and Moderate to Major is considered significant in terms of the EIA Regulations and as such has been highlighted.

- **Major:** (i) If the development will result in the loss (or creation) of a considerable number of existing positive features (or the extent of these) which contribute to the townscape character or quality of the character area, e.g. buildings of local character to the extent that the quality of the TCA will be reduced (or increased); (ii) If the development will have a detracting (or enhancing) effect upon the distinctive and valued townscape characteristics of the TCA; (iii) If the development will cause the loss (or creation) of a townscape type which is scarce in the regional or national context; and/or (iv) If the TCA is highly sensitive and/ or has a low capacity to accommodate the proposed change and the magnitude of the impact is high.
- **Moderate:** If the development will result in some loss (or creation) of townscape features which contribute to the existing townscape character or quality, but the overall integrity of the TCA is maintained.
- **Minor:** If the development could be integrated within the existing site area without the loss of essential townscape features which contribute to townscape character and quality.
- **Negligible:** If the development could be integrated into the existing townscape either without having a material adverse effect or, conversely, by having an enhancing effect upon the distinctive and valued townscape characteristics of the TCA.

Assessment of Impacts on Visual Amenity

- 3.21 Impacts on visual amenity relate to changes in the composition of views and people's responses to these changes.

- 3.22 From within the 2km study area, viewpoints were selected to represent various receptor groups. These included locations frequented by members of the public such as busy vehicular routes and popular viewpoints. The Vale of Glamorgan County Council and Countryside Council for Wales were both consulted on the final choice of viewpoints and their comments are shown in Table E3.2 below.

Consultee	Response
Vale of Glamorgan County Council	Request for one or two long distance viewpoints to the North. Views from one of the residential streets running north-south towards Broad Street, such as Trinity Street. View from Gladstone Road Bridge
Countryside Council for Wales	E-mail received from CCW noting that they had no comments regarding the final choice of viewpoint locations selected.

Table E3.2 Consultation Responses

- 3.23 Relevant considerations for the visual impact analysis include:
- The magnitude of the change to the visual quality that will be caused by the proposed development including the proportion of the development that will be visible, its prominence, its distance from the viewpoint, the context of the view, and the position and scale of the development within the view in relation to the receptor and to other features;
 - The viewpoint location, number of people within each potential receptor group and the nature of these receptor groups and their sensitivities (e.g. will people view the site during work or leisure activities, whilst in transit, etc); and
 - The existing visual character and quality of the viewpoint (including whether it is subject to planning designations, the presence of positive or negative visual detractors, etc).
- 3.24 The level of significance of effect upon visual amenity is determined by correlating the magnitude of effect with the sensitivity of receptors. The magnitude of effect on visual amenity is based upon the following criteria:

- **High Magnitude:** Where the development and/or developments will result in a significant or dominant and immediately apparent feature of the view that affects and changes the overall character of the view and to which other features become subordinate.
- **Medium Magnitude:** Where the development and/or developments form a visible and recognisable new element within the overall view and are readily noticed by the viewer without changing the overall nature of the view.
- **Low Magnitude:** The development and/or developments will constitute a minor component of the wider view, which might be missed by the casual observer. Awareness of the development(s) will not have a marked effect on the overall quality of the view.
- **Negligible Magnitude:** The development and/or developments will represent a very minor alteration to the view experienced with no perceived change.

3.25 Receptor type is the key factor in determining sensitivity of the viewpoint, although other factors listed can influence the sensitivity of the given receptor to visual change. In general terms, those people that live within view of the development or those that have a direct relationship with the townscape e.g. residents are regarded as the highest sensitivity group of receptors.

3.26 For the purpose of assessment, the sensitivity of different receptors can be broadly categorised as:

- **High Sensitivity:** Residents with a view of the development or people visiting the location within which the development is seen as the primary reason for attraction (e.g. tourists). Receptors are more likely to be within a recognised high quality townscape (e.g. conservation area, historic park) and could be attracted to visit more frequently, or stay for longer by virtue of the view.
- **Medium Sensitivity:** Outdoor workers and people undertaking activities where the townscape within which the development is seen is not the primary reason for attraction (e.g. market traders, shoppers). Residents where their aspect of the development is secondary. Receptors are less likely to be within a recognised high quality townscape (e.g. conservation area) and could be attracted to visit more frequently, or stay for longer by virtue of the facilities and features of the particular attraction.
- **Low Sensitivity:** People travelling by car, train, bus etc. between origins and destinations for reasons unrelated to the townscape within which the development is seen, for example, office workers and indoor community facilities. Receptors are unlikely to be within a recognised high quality townscape and are most likely to be present at a given viewpoint by virtue of some other need or necessity unrelated to the townscape or development
- **Negligible Sensitivity:** People with views from heavily industrialised areas or landscapes that are significantly scarred.

3.27 It should be stressed that this is a general theoretical framework for the purpose of evaluation only. There will always be exceptions to the broad

categorisations set out above due to specific criteria and local circumstances that may apply to a given receptor. However, this does provide a model against which individuals and receptor groups can make their own judgement.

Assessing Significance of Impacts on Visual Amenity

- 3.28 The significance of impacts during the construction phase, year 1 following completion of all phases and 10 years following completion of all phases have been assessed based on consideration of the magnitude of the visual impact and the sensitivity of any potential “receptor” (usually within the area from which all or part a development within the site is visible) together with professional judgement.
- 3.29 For the purposes of the viewpoint impact analysis, the following significance criteria have been adopted. These criteria have been developed by Soltys Brewster Consulting based on Landscape Institute guidelines. Where the degree of impact falls between these categories this can be stated as having a “negligible to moderate effect” for example.
- 3.30 Table E3.3 illustrates how magnitude and sensitivity combine to define significance of visual impact.

		Sensitivity of Receptor			
		High	Medium	Low	Negligible
Magnitude of Visual Effect	High	Major	Moderate to Major	Minor to Moderate	Minor
	Medium	Moderate to Major	Moderate	Minor	Negligible to Minor
	Low	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Minor	Negligible to Minor	Negligible	Negligible

Table E3.3 Significance of Effect on Visual Amenity

Note: Major and Moderate to Major is considered significant in terms of the EIA Regulations and as such has been highlighted.

- 3.31 For townscape and visual effects, the level of significance derived from the correlation exercises outlined above is a measure of the theoretical significance of the effect. In reality, the boundaries between different levels of significance represent a transition rather than a clear-cut distinction from one level of significance to another. A combination of common sense and professional

judgement has to be applied either to confirm the theoretical position or to adjust the outcome according to particular circumstances.

- 3.32 Beneficial as well as adverse effects upon receptors may also result from a change to the view. These may be through the removal of negative features or visual detractors, or through the addition of well designed elements, which add to the townscape experience in a complementary, positive and stimulating manner.

Methodology for Production of Wirelines & Viewpoint Visualisations

- 3.33 Eight viewpoints were selected within the 2km study area as representative sample views within the townscape. These are shown at Figure E15 –E22.
- 3.34 All photographs were taken using a Canon EOS 400D digital camera, a lens focal length of 50mm and a professional tripod for true horizontal alignment, at a height of 1.6 metres above adjacent ground level (typical eye level). The photographs for each viewpoint were then merged together using suitable computer software to form panoramic views.
- 3.35 In order to produce the visualisations from the selected viewpoints, a 3-D model of the site, based upon the maximum proposed height for each development block was produced using a standard 3-D computer software package and the Digital Terrain Model (DTM) data for the study area, provided by Ordnance Survey. The 3-D image was then aligned with the viewpoint photograph and exported to create the final image.
- 3.36 It should be noted that the visualisations are for illustrative purposes only and indicate the massing of the development blocks and do not show any details such as finished materials to the buildings.

Methodology for Production of Zone of Theoretical Visibility (ZTV)

- 3.37 The ZTV is determined by topographic information of the area obtained from the Ordnance Survey DTM, which uses survey points at 10m centres. The ZTV defines the areas from where views to the development or parts of the development can be obtained (refer to Figure E1). ZTV preparation follows the methods set out in the published guidance on Landscape and Visual Impact Assessment (refer to Section 2).
- 3.38 To create a ZTV, a three-dimensional computer model was made of the proposed development and accurately located within the DTM. Using these as a base, a further computer programme calculated where the different buildings within the development boundary would theoretically be visible from the surface of the DTM.

- 3.39 For greater accuracy the ZTVs take into account the curvature of the earth and, for the purposes of this study, the ZTVs show degrees of visibility divided into bands. The banding used for each ZTV diagram is set out below:
- Areas where the development/or part of the development will be visible; and
 - Areas where the development will not be visible.
- 3.40 The computer visibility analysis does have a number of limitations. ZTVs prepared solely on the basis of the DTM do not take into account the screening effects of surface features such as buildings, walls, woodlands or trees and other local townscape and landscape features and local topographic variations.
- 3.41 Also, the ZTVs cannot take into account the weather and variable light condition, which can significantly reduce the visibility, or the influence of distance, which will have a strong bearing on the visual prominence of the proposed development.
- 3.42 In summary, the ZTVs take no account of local features such as:
- Low hills (approximately 10 metres [m] high);
 - Built form;
 - Roadside hedges and fences;
 - Atmospheric visibility e.g. cloud and mist; and
 - Local viewpoints and landmarks.
- 3.43 Consequently, the ZTV diagrams should be considered as ‘worst case’ and be used as a tool in determining general theoretical visibility rather than absolute visibility.
- 3.44 The ZTV indicates that development within the site will be visible from the majority of the study area, including the residential and commercial areas, to the north of the proposed site. In reality visibility is likely to be significantly reduced due to the dense urban grain that characterises much of the study area and restricts medium to long distance views throughout.
- 3.45 From areas north of Jenner Road/Barry Road and Salisbury Road, the ZTV indicates that there will be no visibility of the developments within the proposed site. This is predominantly due to topography and the north facing slopes within these areas. The ZTV also indicates that there will no visibility from the Grade II listed historic Romilly Park and that there will be very limited visibility from the Grade II listed Cold Knap Park.
- 3.46 Local topography also restricts visibility of the proposed development from much of Whitmore Bay, within Barry Island.

4.0

Baseline Conditions

Study Area and Context

- 4.1 The study area defined for the purposes of both the townscape character assessment and the visual assessment extends to a radius of 2km from the centre of the proposed Waterfront site (Refer to Figure E1). It extends to Hayes Lane in the east, to the fringes of Porthkerry Park in the west, the residential area of Gibbonsdown in the north and extending out across Barry Island into the Bristol Channel to the south.
- 4.2 The proposed site lies within Barry Docks, a large industrial area of land that is typically between 5-10m AOD. The docks create a strong focal point to the town and are located immediately south of the town centre. Though the docks have been in steady decline since the 1930's they are still operational and include two docks; 'Number 1 Dock' and 'Number 2 Dock'.
- 4.3 Large, flat areas of former industrial land associated with former dock activities, which have been subsequently cleared, surround Number 1 Dock. This area includes the site for the proposed Barry Waterfront development. Land to the north of Number 1 Dock, along Ffordd y Mileniwm, has been recently developed and contains a retail park with parking, semi detached housing and three to five storey apartment blocks. Within this area, the Grade II listed Dock Offices a prominent local landmark, is located. The building overlooks the docks and is currently used as council offices by the Vale of Glamorgan.
- 4.4 Commercial shipping companies primarily use Number 2 Dock, the smaller of the two docks, for the loading and unloading of goods. Associated industrial buildings/units, including the imposing Rank Hovis Atlantic Mills building, storage yards for shipping containers and cranes are all concentrated around the northern and southern dock edges.
- 4.5 To the north, lying at the foot of an embankment and separating the docks from the town of Barry is the Cardiff to Bridgend railway line, which also serves nearby Barry Island.
- 4.6 Areas to the north of the railway embankment extending to edge of the study area are typically more undulating in topography than the flat coastal plain, which contains the docks and varies between 20m and 85m AOD.
- 4.7 The small blocks of Victorian terraced housing constructed to house dockworkers that feed off Dock View Road and run parallel with the railway line, create a permeable yet tight urban grain. This urban structure characterises much of the residential areas that overlook the docks and this area can be considered to be the central core of the town. Though terrace housing is also the dominant housing type between Broad Street and Salisbury Road, further to

the west, Gladstone Road broadly defines the boundary between the Victorian terraced housing, associated with the docks and the rest of Barry.

- 4.8 To the north of Gladstone Road land-use typically remains residential. Properties however are larger, predominately semi-detached in character and, except for Edwardian housing most notably along Tynewydd Road and Gladstone Road itself, were largely constructed between the 1920's and 1970's. In these areas the urban grain is looser and permeability is reduced, particularly within the more modern housing estates.
- 4.9 Within the central core of the study area there is the town's main commercial street, Holton Road. The long narrow street, which has recently undergone street enhancement improvements, is typically made up of three storey high Victorian brick buildings with occasional modern infill.
- 4.10 To the south of the docks is the popular tourist destination of Barry Island. Situated on a peninsula of land Barry Island is separated from the site to the north by a steep escarpment and the railway tracks that run adjacent to the A4055, which lead to Barry Island. The area is characterised by the sweeping arc of sand that forms Whitmore Bay. The bay is enclosed to the west and east by two promontories of land, named Friar's Point and Nell's Point respectively. Both provide good views out towards the Bristol Channel. Nell's Point once contained the former Butlin's Holiday camp, which has since been demolished and replaced with a modern housing estate. To the north of Whitmore Bay there is a promenade, fun fair, amusement arcades and an assortment of small tourist related shops. To the west, located between Friar's Point and Cold Knap Point, is the large intertidal Barry Harbour.
- 4.11 Contrasting with the south facing half of the peninsula the northern side is at a higher elevation and contains a mix of Victorian terraced housing and post Second World War social housing. There are good views north across the town from this location and the tight urban grain of the terraced housing reflects the similar urban structure found within the terraced housing to the north of the docks.
- 4.12 To the west of Cold Knap Point is an area of Barry known as The Knap. An attractive residential area of Edwardian terraces and semi-detached housing, inter-war semi detached housing, large modern detached houses and bungalows. The area contains several attractive parks, including Parade Gardens and the Grade II listed Romilly Park and Cold Knap Park. The latter provides good views south across the Bristol Channel.
- 4.13 There are several other parks within the study area, predominantly constructed during the early part of the twentieth century. These include Gladstone Gardens, located adjacent to Gladstone Road and stretching between Broad Street and Lombard Street, Central Park, which has been recently renovated and is located adjacent to the library within Holton Road and to the western margins of the study area and the 19th Century Porthkerry Park. Porthkerry Park

is a popular, large country park to the west of Barry that provides good views across the Bristol Channel and The Knap from its more elevated locations.

4.14 To the eastern margins of the study area, the large flat expanse of land adjacent to the coast is typically between 10-15m AOD. This area is characterised by low quality industrial units and the nearby large Dow Corning industrial works that dominate the eastern edge and approaches into the town.

4.15 Located between the industrial works and the northeastern edge of Number 2 Dock there is a wetland area containing a series of ponds, which are used by the local angling club.

Townscape Character Areas within the Study Area

4.16 Through a combination of desktop mapping, fieldwork and analysis, including the use of LANDMAP (Level 3) data, 8 broad townscape character areas within the 2km radius study area have been identified.

4.17 The analysis of LANDMAP maps (Figures E5-E14) prepared for all 5 spatial datasets – Visual and Sensory, Landscape Habitats, Geological, Historic and Cultural Landscape informed the baseline study. Maps produced are consistent with LANDMAP data available to download at time of preparation (June 2009). The maps prepared were then assessed in conjunction with the relevant landscape designations illustrated by Figure E3. The conclusions drawn from the map data are summarised in Table E4.1.

4.18 Field assessments were carried out between May and June 2009 across the study area.

4.19 The key characteristics of the landscape character areas are summarised in the table below and their locations are shown on Figure E2.

Character Areas	General location	Key characteristics
Barry Central Core	Land between Gladstone Road and Dock View Road	Narrow streets with blocks of Victorian terraced housing. Tight urban grain. Strong visual, cultural and historical association with nearby docks Holton Road shopping street, civic buildings and offices; including Barry Town Hall, a Grade II listed building. Gladstone Gardens, public park.
Barry Docks	Area contained by Dock View Road/Broad Street, Barry Island, and the Bristol Channel coastline and Dow Corning industrial works.	Large docks form a focal point to the area. Extensive areas of flat, low-lying, former industrial land, most notably to Number 1 Dock. Dock associated buildings/units, cranes and storage yards to northern and southern edge of Number 2 Dock. Retail Park and housing development to northern edge of Number 1 Dock. Former Dock Office – Grade II listed building.

Barry Island	Peninsula adjacent to Barry Docks, enclosed by Cold Knap Point to the west and Nell's Point to the east and the Bristol Channel to the south.	Large, sweeping arc of sand of Whitmore Bay. Promenade, Fun Fair, Amusement Arcades and local souvenir shops. Prominent headlands of Friars Point and Nell's Head. Mix of Victorian terrace housing and post war social housing to the more elevated, northern half of the peninsula. Barry Harbour, to the west of Friars Point. A large, flat tidal area, partly enclosed by a stone breakwater
Eastern Industrial Fringe	Area to the east of Number 2 Dock.	Flat area of land, typically between 10-15m AOD. Low quality industrial units and Dow Corning works. Wetland area with ponds.
North Eastern Terraced Housing	Area enclosed by Harvey Street/Kenilworth Road, Barry Road, Hannah Street and Gladstone Road	Predominately small blocks of Victorian terraced housing, with some Edwardian and modern infill, forming a tight urban grain.
Northern Suburbs	Area north of Gladstone Road	Predominately a mix of Edwardian and inter-war semi detached housing, and late 20th Century housing estates. Undulating/Hilly landform. Jenner Park athletics

		stadium.
The Knap	Area to the west of Barry Island	Attractive area to the western fringe of Barry. Large Edwardian semi-detached houses located along The Parade and overlooking the Grade II listed Romilly Park. A mix of late 20th Century and inter-war detached housing, bungalows and apartments overlook the Grade II listed Cold Knap Park. Good views to Barry Island and out towards Bristol Channel from Cold Knap Point. Includes part of Barry Garden Suburb, an area of inter-war, semi detached housing. Wooded eastern boundary of Porthkerry Country Park. Ruins of the 13th Century Barry Castle
Western Terraced Housing	Area to the north of Broad Street	Mix of traditional Victorian and Edwardian terraced housing. Small independent shops along Broad Street and High Street.

Table E4.1 Landscape Character Areas

Barry Waterfront & Its Setting

4.20

A detailed description of the development proposals are given within Section C of the ES, so only a brief description is given within the following paragraphs.

- 4.21 The proposed Barry Waterfront development site is situated within Barry Docks, an area that dominates the southern half of the town. The site and the surrounding land contained within the docks have gone through considerable change since they were at their peak. Many of the buildings, railway tracks, cranes and storage tanks associated with the port have now been removed. There are only two existing buildings remaining within the development boundary itself, the former Tank Wash Building that is located at the south western edge of South Quay Parkside and the NERC Research Vessel Services building, located to the eastern tip of South Quay Waterside. Land across the site is predominately flat, except for the escarpment to the south of the site. The land within the site is currently contaminated and vegetated with semi-improved neutral grassland, 'brownfield' vegetation over spoil tips and scrub. There are also areas of bare ground and concrete, where former buildings once stood.
- 4.22 Overlooked by the adjacent high ground to Barry and Barry Island the site is concentrated around 'Dock Number One', the larger of the two operational docks. The proposals are for a mixed used development, including residential, retail, leisure, commercial and office units plus a network of open spaces. An area of land has also been provided for educational use. The residential development, predominately two to three storeys in height, is located around West Pond and South Quay Parkside, to the south and west of Dock Number One. It is enclosed, to the north, by the dock edge and the steep escarpment that forms the northern edge of the Barry Island peninsula and to the west by existing railway tracks. To the western edge of Number 1 Dock, there is the area known as the District Centre, with proposals for a mix of retail, including a supermarket, commercial and office units, a hotel and the area of land for educational use.
- 4.23 At Arno Quay, which is situated adjacent to the northern edge of the dock and opposite the existing retail park, a block of three to four storey apartments, with three to four storey housing in front is proposed, with provision for public open space overlooking the dock. Further to the east, situated between the two docks, a larger public park is proposed on the former graving dock, with an adjacent block of two-three-storey housing. This area is now known as East Quay.

Analysis of the Townscape

4.24

Analysis of the townscape within the 8 identified character areas of the study area, which is based on the assessment criteria outlined in paragraphs 3.14-3.20 above, concludes the following:

Character Area	Quality	Sensitivity	Capacity	Comments
Barry Central Core	Medium	Medium	Medium	Area characterised by blocks of Victorian terraced housing. Town's main shopping street, Holton Road.
Barry Docks	Medium	Low	High	Extensive, flat area of land containing large docks and areas of former industrial land. Recent development along its northern edge. Includes the former Dock Offices, a Grade II listed building.
Barry Island	High	Medium	Medium	An area dominated by the sweeping arc of Whitmore Bay and the Old Harbour (Conservation Area). Fun Fair and traditional seaside shops and amusement arcades along promenade. Terraced and semi-detached housing, with good views across Barry, to the elevated northern area.

Eastern Industrial Fringe	Very Low	Low	High	Area to the eastern edge of the study area and dominated by industrial works and industrial units.
North Eastern Terraced Housing	Low	Low	High	Blocks of Victorian terraced housing create a tight urban grain, which restrict medium to long distance views.
Northern Suburbs	Low	Low	High	A residential area of undulating topography that has been degraded over time through the introduction of low quality late 20 th century housing estates.
The Knap	Very High	Medium	Medium	An attractive area to the west of the study area. Contains a mix of Edwardian, inter-war and late 20 th Century housing, Includes the Garden Suburb conservation area and the Grade II listed parks of Cold Knap and Romilly Park.
Western Terraced Housing	Medium	Low	High	A residential area of predominately Victorian and Edwardian terraced housing. Includes High Street, a shopping street containing many independent outlets.

Table E4.2 Summary of Townscape Quality, Sensitivity and Capacity within the Study Area

Analysis of the Landscape Surrounding the Proposed Site

- 4.25 The main body of the proposed site lies within the large flat expanse of former industrial land within Barry Docks and is enclosed to the north and north east by the rising overgrown slopes of railway land and the recent developments that have been constructed along Ffordd y Mileniwm and the listed Dock Offices. The development of retail units, semi detached housing and apartment blocks contrasts with the typical, traditional urban structure of Victorian terraced housing that is found on the higher land overlooking the site. The dock offices overlook the north of the East Quay portion of the site, immediately to its north on higher ground.
- 4.26 The docks extend further to the east of the site, encompassing Number 2 Dock and the surrounding land which includes industrial units and cargo storage yards.
- 4.27 The steep escarpment that forms the northern edge of the Barry Island peninsula provides some good views across the study area and forms a distinctive boundary immediately to the south of the site. To the southwest the railway line causeway and bridging structure creates a clear division between the site and the tidal Old Harbour that opens out to the Bristol Channel.
- 4.28 Overall the site has a low sensitivity given it's post industrial nature, while the surrounding areas, are residential and have a high sensitivity, with a medium to high capacity to the type of development proposed.

Landscape Policy and Designations

- 4.29 Planning policies are used to provide an indication of the value attributed to the townscape/landscape or visual resource by national and local government. They are also considered in the determination of the sensitivity of receptors and views as they provide an indication of the value attributed to the townscape or visual resource by other professionals.
- 4.30 Policy ENV17 of the Vale of Glamorgan's Adopted Unitary Development Plan 1996-2011, covers issues relating to Historic Parks and Gardens, Listed Buildings and Conservation Areas and states: *"The environmental qualities of the built and historic environment will be protected. Development which has a detrimental effect on the special character appearance or setting of; (i) a building or group of buildings, structure or site of architectural or historic interest including listed buildings and conservation areas (ii) Scheduled Ancient Monuments and sites of archaeological and/or historic interest (iii) designed landscapes, parks or gardens of historic cultural or aesthetic importance will not be permitted"*.
- 4.31 *Historic Parks & Gardens:* Cadw/ICOMOS UK have compiled a register of parks and gardens of historic interest that are of national importance within Wales. The register was compiled in order to aid the informed conservation of historic parks and gardens by owners, local planning authorities, statutory bodies and

all concerned with them. There are two parks within the study area that are included on the 'Register of Parks and Gardens of Special Historic Interest in Wales'. Both are Grade II listed parks; Cold Knap Park and Romilly Park. Cold Knap Park is located approximately 720m southwest of the proposed site and Romilly Park approximately 520m west of the proposed site.

- 4.32 *Conservation Areas: Conservation Areas are "areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance". Policy ENV20 of the Vale of Glamorgan's Adopted Unitary Development Plan 1996-2011 states "Proposals for new development or alterations to buildings or features within conservation areas will be permitted where they preserve or enhance the character of the conservation area. Such proposals will need to reflect: (i) The scale, design, layout, character, materials and setting of the building which establish the character of the area (ii) the patterns of use that establish the character of the area (iii) important open space within and adjoining conservation areas (iv) important trees and hedgerows and (v) ponds and streams".*
- 4.33 There are two Conservation Areas within the study area; Barry Marine and Barry Garden Suburb. Barry Marine is located adjacent to the Bristol Channel and incorporates Friars Point, the old Harbour, the area of the Knap south of the Romilly Park and extending west towards Porthkerry Park. Barry Garden Suburb is a housing area on the western periphery of Barry. The area is bounded by Porthkerry Park to the north and Romilly Park to the southeast.
- 4.34 **Listed Buildings:** Listed buildings are those of "special architectural or historic interest" which are subject to special protection under the Planning (Listed Buildings and Conservation Areas) Act 1990. Within the study area there are over 40 listed buildings and structures. No listed buildings or structures are contained within the proposed development site itself, however there are several adjacent to it, including the former Dock Office and the North Hydraulic Pumping House, which is currently in poor condition and located northwest of Number 1 Dock. All listed buildings and structures within the study area are Grade II or Grade II*, except for the Dovecote situated within Cadoxton Court, approximately 1.2km northeast from the edge of the proposed site (East Quay) and is Grade I listed. The location of the three key listed buildings are indicated on Figure E3.
- 4.35 **Green Wedges:** Under Policy ENV3 Green Wedges have been identified "*in order to prevent urban coalescence between and within settlements....within these areas development which prejudices the open nature of the land will not be permitted*". The far eastern edge of the 'Barry, Rhoose and St. Athan' Green Wedge is located to the west of the study area between the residential streets of Salisbury Road and Cwm Barry Way.

Analysis of LANDMAP Data

- 4.36 LANDMAP (Level 3) data has been used to inform the appraisal of the existing landscape and townscape character, value and sensitivity within the 2km study area.
- 4.37 Analysis is based on a series of illustrative maps (see Figures E5-E14) depicting landscape character and overall evaluation for the Visual and Sensory, Landscape Habitats, Geological, Historic and Cultural Landscape layers, using LANDMAP data currently available for Vale of Glamorgan and is summarised in Table E4.3 below.

Aspect	Summary
Visual and Sensory	Predominately urban landscape with mosaic rolling lowland, inter-tidal and other coastal wild land to the urban periphery. Urban area classified as low value, punctuated by medium value within the docks. High value to the green wedge within Porthkerry Park. Intertidal areas of the beach to Cold Knap Point, Barry Harbour, Whitmore Bay, Jackson's Bay and Bendrick Rock to the east of the study area, are of outstanding value.
Landscape Habitats	Mosaic landscape including urban areas, improved grassland, standing water and amenity grassland, predominately of low value Intertidal habitats including mud/sand, saltmarsh, shingle/gravel and boulders/rocks to coastal areas. Outstanding to high value.
Geological Habitats	Extensive areas of lowland plateau to the north, of high value and reclaimed and infilled land, of low value within the docks. Areas of predominately limestone, considered being of outstanding value within Barry island.
Historical	Areas of processing/manufacturing and communication associations within the town, the urban areas of Barry Island and the docks. Romilly Park and Cold Knap Park noted for their historical associations. Evaluation data unknown.
Cultural	Extensive urban area and infrastructure (to railway lines) with strong historical associations with heavy industry/coal exporting port. Considered to be of high value. Customs associated with Barry Island, most notably as a tourist destination. Of moderate value.

Table E4.3: Summary of Key Features within the Study Area

Visibility Appraisal

Visibility Within Character Areas

- 4.38 Features such as buildings, vegetation, topography and local landform all influence the extent of views within each of the character areas. Whether views are very close range (< 100m), close range (100 to 250 metres), medium range (250 to 1000 metres), or long range (> 1000 metres), enclosed and intimate or unrestricted and panoramic depends on the interaction between a building's built form, scale and juxtaposition with one another.
- 4.39 The extent of visibility within each character area varies according to this relationship between landform and features and is summarised in the table below.

Character Area	Visual Appraisal and Key Influencing Factors
Barry Central Core	Most views within the character area are restricted to short to medium distance views by built form. There are some good longer distance views across the docks and the Bristol Channel from the more elevated locations along Dock View Road.
Barry Docks	Good long distance views south towards the Barry Island peninsula and the elevated residential areas to the north of Broad Street. Other medium to longer distance views restricted by topography and local built form.
Barry Island	Excellent long distance views across the Bristol Channel towards the Somerset coast from Whitmore Bay, Friar's Point and Nell's Point. The latter also provides good views further to the east across the industrial works and towards Sully and its coastline. From the north east edge of the of the character area there are good views towards the eastern and northern portions of the site and the town of Barry beyond. Views to the west are predominately restricted by vegetation and the topography of the adjacent escarpment.
Eastern Industrial Fringe	Views within this flat landscape predominantly restricted by vegetation and built form. There are some restricted longer distance views towards the more elevated residential area within the Northern Suburbs.

North Eastern Terraced Housing	Views restricted to very close views by the tight urban grain that is found throughout the character area.
Northern Suburbs	Local built form restricts medium to long distance views. There are some glimpsed longer distance views across the docks and towards the Bristol Channel from the lower section of Ty-newydd Road, to the south of the character area.
The Knap	Good long distance views from the coastal areas across the Bristol Channel. Other views within the character area typically restricted by built form and vegetation. However, there are some good longer distance views towards Nell's Point and the Bristol Channel from within the Garden Suburb.
Western Terraced Housing	Some good long distance views east across the docks, the Industrial Works and Sully Moors beyond from the western edge of the character area. Glimpsed views of Barry Island and the Bristol Channel between built form can be seen from Jenner Road, which dissects the centre of the character area. Additional glimpsed views of the docks from elevated residential streets, such as Trinity Street. Other views restricted to short and medium distance, by built form

Table E4.4: Visibility within differing townscape character types

- 4.40 To aid the assessment of the potential impacts of the development, representative viewpoint locations have been selected and a comparison has been made between the existing view and that with the worst case scenario completed development in place. Details of these viewpoints (with and without the developments) and the analysis undertaken are provided within paragraphs 5.11-5.71. Appropriate viewpoint locations were determined following site visits and consultation with Vale of Glamorgan County Council and CCW; this process is discussed in paragraph 3.22.

Information Gaps

- 4.41 No information gaps have been identified.

5.0 Potential Impacts

Assessment of Townscape Character: Effects and Significance

- 5.1 The following paragraphs provide a qualitative assessment of effects on townscape character as a result of the proposed development (based upon the Illustrative Masterplan Layout included within the ES) and surrounding area during the construction phase, year 1 following completion and year 10 following completion. Future development on The Mole falls outside of the current application boundary therefore it is not included within the following character assessment (and following visual assessment, including the illustrative block model images). Significance of effects are based upon the significance criteria provide within Section 3.

Construction Phase

- 5.2 The first planned phase of construction work, which includes the supermarket within the District Centre and 240 residential units in West Pond is anticipated to start on site in September 2010, with the tenth and final phase, the park and residential properties at East Quay, completed in 2020.
- 5.3 Changes to the landscape character within the site would occur during the site clearance and preparation stages, which would include removal of ground cover and vegetation, land remediation and importation of material to raise site levels, by typically 1 metre. This will result in the loss of some informal amenity land particularly to the area within West Pond and East Quay.
- 5.4 Additional negative effects on landscape character within the site itself would occur as a result of earth moving, construction equipment and material storage such as scaffolding, cranes, cement silos, spoil heap, site huts and the movement of construction traffic within the site and the adjacent roads. The use of cranes is likely to have the most significant effect on townscape character as their visual impacts will be felt at greater distances than other site activities and also the completed development.
- 5.5 Negative effects surrounding the site are likely to be predominately restricted to areas within Barry Island, including locations adjacent to the Fun Fair, Nell's Point, Friars Point, Cold Knap Point and Clive Road. To the north, apart from close locations along sections of Dock View Road and Broad Street, construction activity is unlikely to be discernible and there will be little to no effects on landscape character during the construction phase.
- 5.6 Each main phase of work will predominately be completed before the next commences, which will assist in reducing the effects on townscape character during the construction phase. Overall, the effects on townscape character arising from each of the construction phases are expected to be minor - moderate adverse to areas within and immediately surrounding the site,

reducing to minor to negligible within character areas further away from the site.

5.7

Table E5.1 summarises the construction effects of the Waterfront development on the various townscape character identified within the 2km study area.

Character Area	Townscape Capacity	Magnitude of Effect	Significance of Effect	Type of Effect Adverse/Neutral / Beneficial
Barry Central Core	Medium	Medium	Moderate	Adverse
Barry Docks	High	High	Minor to Moderate	Adverse
Barry Island	Medium	Medium	Moderate	Adverse
Eastern Industrial Fringe	High	Negligible	Negligible	Neutral
North Eastern Terraced Housing	High	Negligible	Negligible	Neutral
Northern Suburbs	High	Negligible	Negligible	Neutral
The Knap	Medium	Low	Minor	Adverse
Western Terraced Housing	High	Medium	Minor	Adverse

Table E5.1: Summary of Significance of Effect on Landscape Character Areas: Construction Phase

Year 1 following completion

- 5.8 Following the completion of each phase of work, negative effects on landscape character will start to decrease and shift from being negative to beneficial. The local character will change from a townscape characterised by an industrial/dockland that is in decline, to an area that is characterised by new, predominately residential and commercial developments, set within a network of street trees and public open spaces.
- 5.9 The establishment of this network of trees and open spaces starts to provide a green structure to the site, replacing amenity spaces that may have been lost during the construction period and enhance the setting of the buildings within the site.
- 5.10 Through careful design and the use of a traditional building vernacular , the new development reflects the dominant housing type within the town. This reinforces its character whilst helping to integrate the development into the existing urban grain.
- 5.11 Overall, the effects on townscape character the year following completion of all phases of the development are expected to be minor-moderate beneficial to areas within and immediately surrounding the site, reducing to minor to negligible within character areas further away from the site
- 5.12 Table E5.2 summarises the effects of the Waterfront development on the various townscape character identified within the 2km study area, within the first year following completion of all phases of development.

Character Area	Townscape Capacity	Magnitude of Effect	Significance of Effect	Type of Effect Adverse/Neutral/Beneficial
Barry Central Core	Medium	Medium	Moderate	Beneficial
Barry Docks	High	High	Minor to Moderate	Beneficial
Barry Island	Medium	Medium	Moderate	Beneficial
Eastern Industrial Fringe	High	Negligible	Negligible	Neutral
North Eastern Terraced Housing	High	Negligible	Negligible	Neutral
Northern Suburbs	High	Negligible	Negligible	Neutral
The Knap	Medium	Low	Minor	Beneficial
Western Terraced Housing	High	Medium	Minor	Beneficial

Table E5.2: Summary of Significance of Effect on Landscape Character Areas; 1 Year After Completion

Year 10 following completion

- 5.13 Once the development has been established for a period of 10 years, trees within the open spaces and along roadways will have established providing a more mature structure to the streetscape that will assist in enhancing the overall character of the area.
- 5.14 Overall, the effects on townscape character 10 years after completion of all phases of the development are expected to be similar to after completion,

therefore effects are considered to be minor-moderate beneficial to areas within and immediately surrounding the site, reducing to minor to negligible within character areas further away from the site.

5.15

Table E5.3 summarises the effects of the Waterfront development on the various townscape character identified within the 2km study area, within 10 years following completion of all phases of development.

Character Area	Townscape Capacity	Magnitude of Effect	Significance of Effect	Type of Effect Adverse/Neutral/Beneficial
Barry Central Core	Medium	Medium	Moderate	Beneficial
Barry Docks	High	High	Minor to Moderate	Beneficial
Barry Island	Medium	Medium	Moderate	Beneficial
Eastern Industrial Fringe	High	Negligible	Negligible	Neutral
North Eastern Terraced Housing	High	Negligible	Negligible	Neutral
Northern Suburbs	High	Negligible	Negligible	Neutral
The Knap	Medium	Low	Minor	Beneficial
Western Terraced Housing	High	High	Minor to Moderate	Beneficial

Table E5.3: Summary of Significance of Effect on Landscape Character Area: 10 Years After Completion.

Viewpoint Analysis

- 5.16 Since a ZTV can significantly exaggerate the likely visibility of a development, a more detailed viewpoint analysis was undertaken to more accurately predict visual effects. As discussed at Paragraphs 3.37-3.46, using the ZTV diagrams as a guide and fieldwork, eight representative viewpoints have been selected.
- 5.17 All viewpoints are publicly accessible. However, the constraints of the location need to be taken into account, for example built form, trees and local obstacles that can obscure clear views to the site and restrict panoramic views. Taking these factors into account, the area was thoroughly explored to find the most suitable, safely accessible location for the photograph to be taken from.
- 5.18 Table E5.4 summarises the location of each viewpoint. Figure E4 illustrates the location of each assessed viewpoint on the OS 1:25,000 Map.

Viewpoint No.	Location Description	OS Grid Reference
1	Dock View Road	312387, 167914
2	Former Dock Offices	312281, 167658
3	Clive Road, Barry Island	311851, 167056
4	Junction of Harbour Road & Broad Street (A4055)	310656, 167109
5	Ffordd Sealand/Ffordd y Mileniwm	311299, 167568
6	Footway, nr Gladstone Road Bridge	311494, 267728
7	Trinity Street	310944, 267873
8	College Road	311217, 268036

Table E5.4: Viewpoint Locations

- 5.19 For each viewpoint the following criteria were evaluated:

- Extent of the proposed development likely to be seen;

- Character of the townscape against which the development would be viewed;
- Prominence of the development
- Amount of available view effected

5.20 From this evaluation, the significance of visual impact of the proposed development from each of the selected viewpoints has been assessed against the significance criteria defined in Paragraphs 3.21-3.32.

Viewpoint 1: Dock View Road

5.21 **Landscape Character Area:** Barry Central Core

5.22 **Type and Sensitivity of Receptor:** Residents and pedestrians, considered to be high sensitivity.

5.23 **Existing View:** From this elevated location there are good views towards Number 1 Dock and the large, flat semi-improved grass/scrub area of the former graving dock. Adjacent to the graving dock, pitched roofs of industrial units that are situated between the two docks can be seen. To the right, Barry Island and the terraced housing, which is situated on the more elevated areas of the peninsula, form a prominent feature within the view. To the left, the distinctive arched roofs of the 'Romilly Units' can be seen with Number 2 Dock, larger industrial units and shipping containers to the dock edge beyond. Within the far distance there are good long distance views across the Bristol Channel.

Construction Phase

5.24 **Predicted View** From this location views of the construction activity to East Quay (Phase 9) will be prominent within the view, including site preparation ahead of the building work and the construction of the residential units and the Public Park. Cranes used during the construction of the residential units will be a dominant feature, breaking the skyline.

5.25 **Magnitude of Change** The views will change from one of occasional activity along the dock edge to one where construction activity, including construction traffic will be a prominent feature. The balance of these factors gives a magnitude of effect on visual amenity of high.

5.26 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high, and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be major. The clear unobstructed view of construction activity and especially of any cranes, though temporary in nature will create a negative feature within the view. The visual effect is therefore considered to be **major negative**.

Year 1 Following Completion

- 5.27 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figures E15a/b. From this location development within East Quay, including the trees planting within the park is likely to be a prominent feature within view. The roofs to the maximum two-storey dwellings to the rear of the town houses may also be visible. Further to the east, the residential development to South Quay Waterside located at the foot of the escarpment will be seen across Number 1 Dock, with the existing terraced housing along Clive Street, Barry Island remaining the dominant skyline element. Development within West Pond, the District Centre, South Quay Parkside and Arno Quay is likely to be obscured from view by existing vegetation along Dock View Road.
- 5.28 **Magnitude of Change:** The view will change from a relatively open view, but one of a landscape in industrial decline, to a view that is more enclosed. The housing to East Quay and South Quay Waterside will provide a sense of enclosure to the docks, providing an urban structure to the area and helping to define the dock edges. The balance of these factors gives a magnitude of effect on visual amenity of high
- 5.29 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be major. The positive resultant regeneration, responding positively to the existing dockside structure, new street trees and a newly establish public park, with good visual amenity in the foreground, will benefit the existing baseline view. The visual effect is therefore considered to be **major beneficial**.

Year 10 Following Completion

- 5.30 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E15c. The predominant view will still be of the residential development to East Quay and the trees within the public park may partially filter views of the adjacent town houses. The tips of tree crowns within the two-storey housing may be visible between housing blocks.
- 5.31 **Magnitude of Change:** The view will change from a landscape that has yet to establish into one that is more mature, providing a green structure to the view. The balance of these factors gives a magnitude of effect on visual amenity of high
- 5.32 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is medium to high, the level of significance of effect on visual amenity is considered to be major. These effects will be permanent therefore the visual effect is considered to be **major beneficial**.

Viewpoint 2: Former Dock Offices

5.33 **Landscape Character Area:** Barry Docks

5.34 **Type and Sensitivity of Receptor:** Office workers and visitors to council offices, considered to be low sensitivity.

5.35 **Existing View:** From this location with the car park of the former Dock Offices, beyond Ffordd y Mileniwm, the flat expanse of land that contains the former graving dock is prominent within foreground views. Beyond, the industrial units and storage container yards concentrated around Number 2 Dock can be seen. To the right a new development of three to five storey apartment blocks and the peninsula to Barry Island restrict longer distance views east. To the far left of the view, the industrial area that contain the Romilly Units is visible, as is the large Rank Hovis Atlantic Mills building and a tower within the industrial works, both of which break the skyline.

Construction Phase

5.36 **Predicted View:** From this close distance location views of the construction work will be unavoidable and will quickly change the nature of the view. The site hoardings will obscure ground level construction activity, however the cranes used during the construction of the residential blocks will be a prominent feature of the skyline.

5.37 **Magnitude of Change** Though views from this location already contain industrial activity associated with Number 2 Dock, the scale of the construction involved in the development of East Quay will be significantly greater and instantly more noticeable within the view. The balance of these factors gives a magnitude of effect on visual amenity of high.

5.38 **Visual Effect:** As the sensitivity of receptors at the viewpoint is low, and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be minor to moderate. Once again, the clear unobstructed view of construction activity and especially of any cranes, though temporary in nature will create a negative feature within the view. The visual effect is therefore considered to be **minor-moderate negative**.

Year 1 Following Completion

5.39 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E16a/b. It is predicted that there will be good close distance views across East Quay and towards the houses south of the park. Views of the housing will be partially filtered by proposed tree planting that will surround the park. Looking across Number 1 Dock, the row of houses that are proposed to South Quay Waterside will be

visible. All other development within the site boundary will be obscured from view by the nearby existing apartment block to Ffordd y Mileniwm.

- 5.40 **Magnitude of Change:** The view will change from one dominated by development associated with the docks to one dominated by housing, reinforcing the changes to the urban character that have occurred in recent years within this area of the docks. The park will create a visual focus point and a buffer between the existing development along Ffordd y Mileniwm and the three-storey development to East Quay. The balance of these factors gives a magnitude of effect on visual amenity of high.

- 5.41 **Visual Effect:** As the sensitivity of receptors at the viewpoint is low and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be minor – moderate. The positive resultant regeneration and the newly establish public park, with good visual amenity in the foreground, will benefit the existing baseline view. The visual effect is therefore considered to be **minor - moderate beneficial**.

Year 10 Following Completion

- 5.42 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E16c. Views towards the residential units to East Quay will be further restricted as tree planting within the public park establishes, resulting in only glimpsed views of the houses and landscape beyond.

- 5.43 **Magnitude of Change:** As the trees mature within the public park they will create a prominent and well-defined open space that will provide a strong focal point to the eastern edge of the development. The balance of these factors gives a magnitude of effect on visual amenity of high.

- 5.44 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is medium to high, the level of significance of effect on visual amenity is considered to be major. Therefore the visual effect is considered to be **major beneficial**.

Viewpoint 3: Clive Road, Barry Island

- 5.45 **Landscape Character Area:** Barry Island
- 5.46 **Type and Sensitivity of Receptor:** Residents and pedestrians, considered to be high sensitivity.
- 5.47 **Existing View:** Within the foreground there are good elevated views across the land that until recently contained a number of large oil storage tanks, with Number 1 Dock, including the mole beyond. To the northern edge of the docks the former dock offices, the existing residential development, Retail Park and

the former North Hydraulic Pumping House can all be seen. Beyond this the tight urban form that characterises much of Barry forms a backdrop to the view, with good views towards the large area of terraced housing to the west of Trinity Street. To the east the roofs of the terraced housing adjacent to Dock View Road can be seen. Further to the north, the larger lower density semi detached housing that is located on the more undulating land within town is visible within the centre of the view.

Construction Phase

- 5.48 **Predicted View:** From this location there may be views of Construction Phases 1,2,6,7,8 and 9. Phases 3, 4 and 5 are likely to be obscured from view by topography or existing vegetation. Where construction work may be visible, it will be viewed at distance and cranes will be largely viewed against a backdrop of existing built form. Exceptions are the construction works to the eastern half of South Quay Parkside (Phase 5), South Quay Waterside (Phases 6-8) and East Quay (Phase 9), where views of the cranes may be noticeable features as they break the skyline.
- 5.49 **Magnitude of Change:** Magnitude of change will be greatest where there are views of the cranes as this is the element of the construction works that is likely to be most visible. The balance of these factors gives a magnitude of effect on visual amenity of medium to low.
- 5.50 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high, and the magnitude of change is medium the level of significance of effect on visual amenity is considered to be moderate to major. Views of any detracting elements within the view will be temporary, therefore the visual effect is considered to be **moderate to major negative**.

Year 1 Following Completion

- 5.51 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E17a/b. From this location the commercial developments within the District Centre are likely to be relatively prominent features to the left of the view, partially obscuring views of the housing located along and running parallel to Broad Street, to the north. To the right of the proposed District Centre the apartment block and housing to Arno Quay will be visible. It is likely to be viewed as an extension to the other apartment blocks, which have been recently constructed along Ffordd y Mileniwm and which are of a similar scale. Within the foreground the rear of the houses and the roofs to the residential development at South Quay Waterside may be visible. To the right there will be good views of the apartment block to the eastern edge of South Quay Waterside and the houses to the dock edge and public open space within East Quay. The skyline will remain dominated by the rising terraces of Barry town.

- 5.52 **Magnitude of Change:** Though many of the proposed developments will be visible, they will predominantly be viewed against a backdrop of existing built form. Proposed developments will largely be in keeping with existing buildings in terms of character and scale, reducing the overall perception of change. There will be an extension of the town's urban form to the right of the Dock Offices due to East Quay, but will assist in obscuring detracting views towards the industrial sheds to Number 2 Dock. The balance of these factors gives a magnitude of effect on visual amenity of medium.
- 5.53 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is medium, the level of significance of effect on visual amenity is considered to be moderate to major. The positive resultant regeneration and the effect provided by extensive tree planting and green open spaces provides good visual amenity and will benefit the existing baseline view. The visual effect is therefore considered to be **moderate to major beneficial**.

Year 10 Following Completion

- 5.54 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E17c. The top of the street trees that are proposed between the blocks of houses to South Quay Waterside and South Quay Parkside may partially obscure views of the housing within these areas. The development to Arno Quay may be partially filtered as street tree planting matures.
- 5.55 **Magnitude of Change:** As street trees within the development mature this will visually enhance the setting of the built form, helping to connect the development with the wider landscape. The balance of these factors gives a high magnitude of effect on visual amenity.
- 5.56 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be major. The positive effect and the structure that the street trees and open space provide to the development will be noticeable from this location, therefore the visual effect is considered to be **major beneficial**.

Viewpoint 4: Junction of Harbour Road & Broad Street (A4055)

- 5.57 **Landscape Character Area:** Western Terraced Housing
- 5.58 **Type and Sensitivity of Receptor:** Residents, road users and pedestrians, considered to be high sensitivity.
- 5.59 **Existing View:** This location to the west provides elevated views across the proposed site, with good long distance views east towards the recently constructed residential development adjacent to Number 1 Dock. The towers to

the chemical works and the Rank Hovis Atlantic Mills building are discernible landmarks within the distance. Further to the right of the view, set against the backdrop of Sully Moors is the industrial sheds that are clustered around Number 2 Dock. The escarpment and housing to Barry Island, including the recent housing development on Nell's Point, is prominent and obscures further long distance views south towards the Bristol Channel. To the left of the view is the dense terraced housing within the town. The tower of the Grade II listed North Hydraulic Pumping House can be seen breaking the skyline. Within the foreground the semi-improved grassland and scrub vegetation within the site, the pitched roofs to a large block of industrial units and a small housing development of modern semi-detached housing can all be seen.

Construction Phase

- 5.60 Construction work to the District Centre (Phase 1A) and West Pond (Phases 1B, 2 and 3, 4 and 5) will be prominent from this location and any initial site clearance work prior to the building phase will dramatically change the nature of the view, as scrub vegetation is removed, opening up further views into the site. Construction work to the other five phases of the development will not be as evident, as the recently constructed buildings will obscure views.
- 5.61 **Magnitude of Change:** Magnitude of change will be greatest during the first phases of the development and will reduce over time, as the view of subsequent construction work is restricted. The balance of these factors gives a magnitude of effect on visual amenity of medium.
- 5.62 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is medium, the level of significance of effect on visual amenity is considered to be moderate to major. Views of any detracting elements within the view will be temporary therefore the visual effect is considered to be **moderate to major negative**.

Year 1 Following Completion

- 5.63 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E18a/b. From this location the small blocks of housing to West Pond and the educational land to the north will be prominent within the foreground, as will the housing to South Quay Parkside. Both will be viewed against the existing skyline backdrop of housing within Barry Island. The taller commercial/residential buildings to the District Centre may partially obscure views across The Mole, Number 1 and 2 Dock and towards the development at East Quay. Views of the three to four storey residential developments at Arno Quay will be visible, but will be viewed against the backdrop of existing buildings within the town.
- 5.64 **Magnitude of Change:** Development within West Pond, the District Centre, South Quay Parkside and South Quay Waterside will result in a significant change in the view. Changing from one predominately of derelict former

industrial dockland to one of a mixed-use urban development. The small blocks of housing will be similar in form and scale to the traditional urban structure found adjacent to the site. This will help to integrate the development into the existing urban surroundings. The balance of these factors gives a magnitude of effect on visual amenity of high.

- 5.65 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be major. The change of view focus from derelict post industrial land in the foreground and traditional terraced housing and industrial components in the background, to a new community with opens space, educational land and a mix of residential grains and building types, will benefit the existing baseline view. The visual effect is therefore considered to be **major beneficial**.

Year 10 Following Completion

- 5.66 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E18c. The street trees will be a prominent feature between the residential blocks to West Pond, providing a green structure to the residential streets and filtering views of the roofs to the terraced housing.
- 5.67 **Magnitude of Change:** The establishment of the street trees will further enhance the visual setting of the development within the townscape. The balance of these factors gives a magnitude of effect on visual amenity of high.
- 5.68 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be major. The positive effects and the structure that the street trees provide will immediately noticeable from this location, therefore the visual effect is considered to be **major beneficial**.

Viewpoint 5: Ffordd Sealand/Ffordd y Mileniwm

- 5.69 **Landscape Character Area:** Barry Docks
- 5.70 **Type and Sensitivity of Receptor:** Residents and pedestrians, considered to be high sensitivity.
- 5.71 **Existing View:** From this close distance viewpoint there are good, unobstructed views south across Number 1 Dock, The Mole and to the housing located on the Barry Island peninsula, which are all prominent features within the centre of the view. To the far left of the view the apartment blocks that are located near to the former Dock Offices can be seen in the distance, as can the industrial units and storage containers to Number 2 Dock. To the right, there are glimpsed views of the large Victorian terraced housing that is located along

Harbour Road and Park Avenue. The tower and roof to All Saint's Church on Park Road forms a feature on the skyline.

Construction Phase

- 5.72 **Predicted View:** From this location the building phase to the District Centre, West Pond and South Quay Waterside will be evident within the view, with the cranes clearly visible as part of the skyline. The cranes to South Quay Waterside (Phases 6-8) will also be the most visual element of that phase of construction works, however they are likely to be viewed against the escarpment and housing within Barry Island, reducing impacts. Views of construction work at Arno Quay and East Quay will be restricted by vegetation or viewed from a distance and therefore not considered to be significant.
- 5.73 **Magnitude of Change:** The effects of the cranes to the construction of the District Centre, West Pond and West Quay Parkside will result in the greatest effects as the cranes will be a temporary, yet dominant feature to the skyline. Site hoardings may obscure ground level activity. The balance of these factors gives a magnitude of effect on visual amenity of high.
- 5.74 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high the level of significance of effect on visual amenity is considered to be major. Views of any detracting elements within the view will be temporary though major during their duration, therefore the visual effect is considered to be **major negative**.

Year 1 Following Completion

- 5.75 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E19a/b. From this location, there will be good views across The Mole, towards the houses and public open spaces proposed to South Quay Waterside and the adjacent South Quay Parkside, creating a clear urban and active edge to the dockside. Visible above the roofline of the houses will be the existing housing on the distinctive skyline of Barry Island peninsula. Number 1 Dock will be further enclosed by the four-six-storey development proposed to the eastern edge of the District Centre. This development will constrain views of the proposed supermarket and also longer distance views to the west, including the housing at West Pond. The tree lined public realm waterfront to the district centre and more distant views of green open space along South Quay Waterside will contribute to views. To the left, the park and residential units that face the dock to East Quay will be visible, with glimpsed views between existing vegetation of the development at Arno Quay.
- 5.76 **Magnitude of Change:** Though views across the open water of Number 1 Dock will be retained, the development to the District Centre and South Quay Waterside in particular will create a sense of enclosure, visually connecting the

built form of Barry Island with that of the town. The balance of these factors gives a magnitude of effect on visual amenity of high.

- 5.77 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be major. The positive mix, grains and textures of built form, public realm, street trees and green open space will create a positive and vibrant view. The visual effect is therefore considered to be **major beneficial**.

Year 10 Following Completion

- 5.78 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E19c. The street trees along the eastern edge of the District Centre and to South Quay Waterside will provide a mature setting to the public realm once established.

- 5.79 **Magnitude of Change:** The establishment of the street trees will further enhance the visual setting of the development within the townscape. The balance of these factors gives a magnitude of effect on visual amenity of high.

- 5.80 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is high' the level of significance of effect on visual amenity is considered to be major. The positive effects of the mature street trees in terms of the visual enhancements that they provide from this location, results in visual effects being **major beneficial**.

Viewpoint 6: Footpath nr Gladstone Road Bridge

- 5.81 **Landscape Character Area:** Barry Docks

- 5.82 **Type and Sensitivity of Receptor:** Pedestrians and Shoppers, considered to be medium sensitivity.

- 5.83 **Existing View:** A large supermarket and car park are prominent features from this view located close to Gladstone Road Bridge. The bridge forms a feature entrance to Barry Waterfront and the trees associated with the entrance landscape obscure views to the western half of the proposed site and longer distance views towards Barry Island. There are some glimpsed views east towards the housing on the Barry Island peninsula, Number 1 Dock and the Bristol Channel beyond, including Steep Holm Island. Adjacent to the supermarket, the apartment blocks that are situated between Ffordd y Mileniwm and the dock are clearly visible.

Construction Phase

- 5.84 **Predicted View:** All activities associated with the building phase to Arno Quay will be clearly visible within foreground views from this location. Once constructed however, it will obscure any views, particularly of the cranes to East Quay. There may be glimpsed views of construction activity to the eastern tip of South Quay Waterside and the upper section of any cranes to construction work within the District Centre may be viewed above the treeline.
- 5.85 **Magnitude of Change:** Due to the close proximity of Arno Quay within the view impacts are likely to be significant as there will be noticeable and immediately apparent change within the view experienced. The balance of these factors gives a magnitude of effect on visual amenity of high.
- 5.86 **Visual Effect:** As the sensitivity of receptors at the viewpoint is medium and the magnitude of change is high, the level of significance of effect on visual amenity is considered to be moderate to major. Views of any detracting elements through the construction of Arno Quay may be immediately apparent within the view, however effects will be temporary, therefore the visual effect is considered to be **moderate to major negative**.

Year 1 Following Completion

- 5.87 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E20a/b. The north facing façade of the three to four storey apartment development at Arno Quay will be a prominent feature within the foreground, obscuring views towards the western half of the dock and the Bristol Channel. There will also be filtered views through existing tree planting, of the houses that face Number 1 Dock within South Quay Waterside. Any views will be set against a backdrop of existing housing within Barry Island, rising to the headland to the east. To the right of the view, existing vegetation and housing within the adjacent housing estate will obscure views further east towards the District Centre and West Pond.
- 5.88 **Magnitude of Change:** The apartment block to Arno Quay will be seen as an extension to the recent development that has taken place along Ffordd y Mileniwm, helping to reinforce the urban built form along the northern dock edge. Proposed housing to South Quay Water will be viewed as part of the wider built form to the Barry Island peninsula. The balance of these factors gives a magnitude of effect on visual amenity of medium.
- 5.89 **Visual Effect:** As the sensitivity of receptors at the viewpoint is medium and the magnitude of change is medium, the level of significance of effect on visual amenity is considered to be moderate. The proposed development is in keeping with the context and scale of existing waterfront development, with more distant mixes of street trees, green open space and varying residential blocks contributing to the view. The visual effect is therefore considered to be **moderate beneficial**.

Year 10 Following Completion

- 5.90 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E20c. Changes in the view at this stage of the development will be restricted to the proposed trees to the public open space in front of Arno Quay filtering views across Number 1 Dock and towards The Mole.
- 5.91 **Magnitude of Change:** The proposed trees to the open spaces will be viewed as part of the block of vegetation that currently exists within this view, therefore there will be no significant, or immediate apparent change in views over time. The balance of these factors gives a magnitude of effect on visual amenity of low.
- 5.92 **Visual Effect:** As the sensitivity of receptors at the viewpoint is medium and the magnitude of change is low, the level of significance of effect on visual amenity is considered to be minor. Though there may be some perception of change in extent of views visible, this will not be a significant change therefore the visual effect is considered to be **minor beneficial**.

Viewpoint 7: Trinity Street

- 5.93 **Landscape Character Area:** Western Terraced Housing
- 5.94 **Type and Sensitivity of Receptor:** Residents (secondary view) and pedestrians, considered to be medium sensitivity.
- 5.95 **Existing View:** The terraced housing either side of the narrow residential street restricts most medium to long distance views from this elevated location. There are views of the western edge of Number 1 Dock, including a section of the Mole and a small area of land that is proposed for development. Beyond the site, there are good views of the housing within Barry Island and the Bristol Channel. Within the centre of the view, rising above the mature trees that line Broad Street, is the chimney to the North Hydraulic Pumping House. The tower to Holy Trinity Presbyterian Church can also be seen to the left of the chimney, at the junction of St. Paul's Avenue.

Construction Phase

- 5.96 **Predicted View:** Construction work to the District Centre (Phases 1A and 2) will be relatively prominent within the view, as may the building phase to the western edge of South Quay Waterside (Phase 6). From this location the main construction activity visible will be the operation of the cranes, which will contrast against the backdrop to the sky and housing on the Barry Island peninsula.

5.97 **Magnitude of Change:** While there may be some perception of activity during the construction phase, it will not form an immediately apparent feature within the view. The balance of these factors gives a magnitude of effect on visual amenity of low.

5.98 **Visual Effect:** As the sensitivity of receptors at the viewpoint is medium and the magnitude of change is low, the level of significance of effect on visual amenity is considered to be minor. Views of any detracting elements within the view will be temporary, therefore the visual effect is considered to be **minor negative**.

Year 1 Following Completion

5.99 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E21a/b. Beyond the dominant foreground of traditional terraces, the western edge of the District Centre (including the four-six storey developments proposed to the dock edge and glimpses of the hotel/offices and supermarket) may be visible from this location, in the distance. However, the overall view is likely to remain dominated by the traditional terraces in the foreground, the proposed development infilling between foreground residential and the principally residential development on Barry Island. The chimney stack of the disused dock building in the mid ground will remain a dominant vertical element. The skyline will remain unchanged. The three-storey housing to South Quay Parkside and South Quay Waterside will be seen at the foot of the escarpment across The Mole. Views towards Arno Quay and East Quay will be obscured from view by existing built form. The skyline will remain unchanged.

5.100 **Magnitude of Change:** While there may be some perception of change, the view will remain that of a traditional street. The proposed developments will be viewed as an extension to the existing built form, both in terms of scale and character, connecting the town with Barry Island. The balance of these factors gives a magnitude of effect on visual amenity of medium to low.

5.101 **Visual Effect:** As the sensitivity of receptors at the viewpoint is medium and the magnitude of change is medium to low, the level of significance of effect on visual amenity is considered to be minor to moderate. The positive resultant regeneration infilling between Barry and Barry Island will benefit the existing baseline view, which remains dominated by the foreground. The visual effect is therefore considered to be **minor to moderate beneficial**.

Year 10 Following Completion

- 5.102 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E21c. The predominant change in the view at this stage of the development would be the view of the street trees to the public realm along the eastern edge and within the District Centre itself.
- 5.103 **Magnitude of Change:** The trees will visually link with the existing mature trees within Broad Street, contributing to the enhancement of views. The balance of these factors gives a magnitude of effect on visual amenity of medium.
- 5.104 **Visual Effect:** As the sensitivity of receptors at the viewpoint is medium and the magnitude of change is medium, the level of significance of effect on visual amenity is considered to be moderate. The street trees will provide a positive contribution to the green structure within and surrounding the site, therefore the visual effect is considered to be **moderate beneficial**.

Viewpoint 8: College Road

- 5.105 **Landscape Character Area:** Northern Suburbs
- 5.106 **Type and Sensitivity of Receptor:** Residents, pedestrians and road users, considered to be high sensitivity.
- 5.107 **Existing View:** From this location to the north of the proposed site views are restricted by housing and local vegetation. A small section of the derelict land adjacent to Number 1 Dock can be seen within the centre of the view, with the steep escarpment and the housing within Barry Island visible beyond. There are glimpsed views of the Bristol Channel in the distance.

Construction Phase

- 5.108 **Predicted View:** From this location the movement of the cranes associated with the construction of Arno Quay may be a notable feature within the view, visible above existing roofs and vegetation. Construction work to South Quay Waterside (Phases 6-8), will be evident but not dominant within the distance.
- 5.109 **Magnitude of Change:** The cranes, especially during construction activity to Arno Quay, will be a dominant feature within this area, contrasting with other built elements within the view. This however will be a temporary change to the view and restricted to a relatively short period of time. Therefore the balance of these factors gives a magnitude of effect on visual amenity of medium.

- 5.110 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is medium, the level of significance of effect on visual amenity is considered to be moderate to major. Views of any detracting elements within the view will be temporary and for a relatively short period, therefore the visual effect is considered to be **moderate to major negative**.

Year 1 Following Completion

- 5.111 **Predicted View:** The worst case effect of the proposed development is illustrated by the illustrative visualisation in Figures E22a/b. From within this area the north façade to the three to four-storey apartment development to Arno Quay may be visible between existing houses within St. Paul's Avenue. Beyond, the houses and apartments proposed at South Quay Waterside, the green open space and street trees will be visible in the distance and the houses located on top of the Barry Island peninsula form the backdrop. The development will not affect the skyline, but will visually integrate within the existing urban components.

- 5.112 **Magnitude of Change:** Views of South Quay Waterside and the houses along the dock edge will be the predominant view. The houses will be viewed as an extension to the housing on the peninsula, integrating into the existing urban structure, rather than as an immediately recognisable new element within the view. The balance of these factors gives a magnitude of effect on visual amenity of low.

- 5.113 **Visual Effect:** As the sensitivity of receptors at the viewpoint is high and the magnitude of change is low, the level of significance of effect on visual amenity is considered to be minor-moderate. The positive resultant regeneration infilling between Barry and Barry Island, particularly the line of South Quay Waterside residential along the base of the Barry Island Cliff, will benefit the existing baseline view, which still remains dominated by the existing urban fabric of foreground residential buildings. The visual effect is therefore considered to be **minor to moderate beneficial**.

Year 10 Following Completion

- 5.114 **Predicted View:** The worse case effect of the proposed development is illustrated by the illustrative visualisation in Figure E22c. The principal change in the view will be that the street trees within the public open space along South Quay Waterside are likely to establish, to become a feature in the distance.

- 5.115 **Magnitude of Change:** The trees within the public open space to South Quay Waterside will provide an attractive feature to the dock, enhancing the overall setting of the development within the view. The balance of these factors gives a magnitude of effect on visual amenity of medium.

5.116

Visual Effect: As the sensitivity of receptors at the viewpoint is high and the magnitude of change is medium, the level of significance of effect on visual amenity is considered to be moderate to major. The street trees will provide a positive contribution to South Quay Waterside and to the view experienced from this location, therefore the visual effect is considered to be **moderate to major beneficial**.

6.0

Mitigation Measures

Construction Phase Mitigation Measures

- 6.1 Opportunities for mitigation measures during the construction phase will be limited. However through the development of a phased construction programme, construction activity on site at any one time is reduced. Visibility during each phase will also be reduced through the use of site hoardings that will surround each phase of work and will assist in screening construction activity. A combination of these measures will lessen the extent of significant negative effects on visual amenity, for example by reducing the number of cranes visible within the skyline or the duration that certain construction activities, for example site clearance/earthworks will be visible.

Operational Phase Mitigation Measures

- 6.2 Landscape and visual assessment issues have informed the development of the illustrative masterplan and subsequent landscape parameters plan, avoiding the need to identify specific mitigation measures. However key elements do contribute towards beneficial visual effects.
- 6.3 Although the scale of development in the district centre is visually prominent, typically the mass and expanse of the supermarket site is not visually perceived within the context of other district centre buildings as much of its more visible façades will be 'skinned' with small scale buildings. This has significantly contributed to it having visual integration within the development.
- 6.4 The mix and configuration of building grain, scale, height and mass has evolved with visual issues influencing their development. Key landmark buildings do positively stand out from the main development mass and from key views. The final quality and detailing of these will effect the degree to which they positively contribute to the visual envelope. The I blocks of housing within West Pond, South Quay Parkside, South Quay Waterside and East Quay, which are predominately two-storeys in height, reflect the traditional street patterns that are typically found within the residential streets surrounding the Docks.
- 6.5 Houses within West Pond and South Quay Parkside will be finished using materials, which compliment the existing housing styles adjacent to the docks.
- 6.6 The residential developments at South Quay Waterside respond to the radial geometry of the adjacent cliff and the terraced housing on the peninsula. Through the use of contemporary design, the housing will connect with its maritime location and integrate the development blocks into their surroundings, whilst still reflecting the traditional urban vernacular of the area.

- 6.7 Extensive street trees that reinforce the street hierarchy and tree planting within open space is proposed and over time they will be visible within the roofscape of the development, providing a green structure. The proposed open spaces that are situated throughout the site will provide areas of visual and recreational amenity for both residents and visitors. Street trees along the district centre public realm will contribute to key gateway views.

7.0 Residual Impact Assessment

Residual Construction Impacts

- 7.1 Mitigation measures such as the use of site hoardings will reduce visual impacts, particularly from very close distance locations, where ground level construction activity may be obscured. However, with the mitigation measures in place, adverse impacts will occur as views of construction work and equipment will remain. Visual impacts will predominately be a result of the cranes, which compared to other site work and equipment, will be visible from both close and more distant locations. All adverse impacts however, will be short term/temporary and restricted to the length of the construction programme. In addition, through the use of a phased construction programme, impacts will be reduced, as the amount of construction work on site will be kept to a minimum and limit the proportion of construction activity that is seen within the view. Therefore, residual impacts during the construction phase are considered to be moderate to major adverse at worst.

Residual Operational Impacts

- 7.2 Once the development is complete, through the construction of buildings that are of a design and scale, which reflects the existing local vernacular, the area will be transformed into an area that compliments and integrates into the surrounding townscape. Residual impacts during the operational phase of the development are therefore considered to be moderate to major beneficial.
- 7.3 The following table provides a summary of the mitigation measures and residual effects during the construction and operational phase of the development, following the implementation of the proposed mitigation measures.

Environmental Topic	Description of Impact		Description of Mitigation Measures	Description of Residual Impact	
	Description	Significance		Description	Significance
Visual effects: Construction Impacts	Views of construction site equipment and activity.	Major Adverse Direct, Temporary Short-Term Local	Programme phases of work to minimise extent of construction activity and equipment on site (e.g. cranes) at any one time. Site hoardings to reduce visibility of construction activity around each phase of work.	Views of construction activity associated with each phase of work, most notably the site cranes.	Moderate - Major Adverse Direct, Temporary Short-Term Local
Visual Effects: Operational Impacts	Views of residential, commercial, leisure and educational developments	Minor-moderate beneficial Direct, Permanent Long Term Local	Design, scale and use of materials to reflect the setting and the local building vernacular.	Urban development that compliments local townscape	Moderate-major beneficial

Table E7.1 Summary Table of Residual Effects of the Proposal Together with Mitigation Measures

8.0

Summary and Conclusions

Statements of Significance

Significance of Effects on Townscape Character

- 8.1 Effects on townscape character will be greatest from within the Barry Docks Character area and from locations immediately surrounding the proposed development site. Areas such as those adjacent to Ffordd y Mileniwm have gone through significant changes in character in recent years with the construction of residential and commercial developments of various aesthetic and architectural quality.
- 8.2 Though changes in character will continue as each phase of land within Barry Waterfront is developed, use of permeable development blocks will result in the majority of the proposed developments being at a scale and form which is sympathetic to the traditional urban grain and structure that is found within the residential areas surrounding the development site boundary. This design approach will assist in integrating new development into the existing, established townscape character of the town.
- 8.3 Other character areas will be predominately unaffected by the developments as built form restricts the extent and degree to which views of the proposed development will effect them, therefore minimising any effects.

Significance of Effects on Visual Amenity

- 8.4 A total of eight viewpoints have been assessed. The proposed Barry Waterfront development will have major visual effects from three viewpoints, moderate to major from one viewpoint, moderate from one viewpoint and minor to moderate from three viewpoints.
- 8.5 Views of the proposed site from the eight viewpoints are currently dominated by the large expansive area of derelict and contaminated land associated with Barry Docks, especially from close distance locations, for example viewpoints 2 to 6. From the majority of the locations effects on visual amenity are considered to be beneficial rather than adverse, as views typically change from that of a townscape that is in decline to one that has been regenerated, with a more aesthetic, coherent urban townscape that compliments the existing built form.
- 8.6 As you move away from the docks topography and, more commonly, built form severely restrict any medium to long distance views of the development site.
- 8.7 The effects on visual amenity during the construction phase, at Year 1 following completion of all phases and at Year 10 following completion of all phases are summarised below:

Viewpoint No.	Location Description	Approx distance to development boundary (metres/nearest development)	Range of View	Significance of effects During Construction	Type of Effect During Construction Adverse/ Neutral/ Beneficial
1	Dock View Road	265m - East Quay	Medium	Major	Negative
2	Former Dock Offices	30m -East Quay	Very Close	Minor-Moderate	Negative
3	Clive Road, Barry Island	10m - South Quay Waterside	Very Close	Moderate-Major	Negative
4	Junction of Harbour Road & Broad Street (A4055)	235m - West Pond	Close	Moderate-Major	Negative
5	Ffordd Sealand/ Ffordd y Mileniwm	25m - District Centre	Very Close	Major	Negative
6	Footway, nr Gladstone Road Bridge	115m - Arno Quay	Close	Moderate-Major	Negative
7	Trinity Street	560m - District Centre	Medium	Minor	Negative
8	College Road	520m - Arno Quay	Medium	Moderate-Major	Negative

Table E8.1 Summary Table of Effects on Visual Amenity: During Construction

Viewpoint No.	Location Description	Approx distance to development boundary (metres/nearest development)	Range of View	Significance of effects at Year 1 Following Completion.	Type of Effect at Year 1 Following Completion. Adverse/ Neutral/ Beneficial
1	Dock View Road	265m - East Quay	Medium	Major	Beneficial
2	Former Dock Offices	30m -East Quay	Very Close	Minor to Moderate	Beneficial
3	Clive Road, Barry Island	10m - South Quay Waterside	Very Close	Moderate to Major	Beneficial
4	Junction of Harbour Road & Broad Street (A4055)	235m - West Pond	Close	Major	Beneficial
5	Ffordd Sealand/ Ffordd y Mileniwm	25m - District Centre	Very Close	Major	Beneficial
6	Footway, nr Gladstone Road Bridge	115m - Arno Quay	Close	Moderate	Neutral
7	Trinity Street	560m - District Centre	Medium	Minor to Moderate	Beneficial
8	College Road	520m - Arno Quay	Medium	Minor – Moderate	Beneficial

Table E8.2 Summary Table of Effects on Visual Amenity: Year 1 Following Completion

Viewpoint No.	Location Description	Approx distance to development boundary (metres/nearest development)	Range of View	Significance of effects at Year 10 Following Completion.	Type of Effect at Year 10 Following Completion. Adverse/ Neutral/ Beneficial
1	Dock View Road	265m - East Quay	Medium	Major	Beneficial
2	Former Dock Offices	30m -East Quay	Very Close	Minor-Moderate	Beneficial
3	Clive Road, Barry Island	10m - South Quay Waterside	Very Close	Major	Beneficial
4	Junction of Harbour Road & Broad Street (A4055)	235m - West Pond	Close	Major	Beneficial
5	Ffordd Sealand/ Ffordd y Mileniwm	25m - District Centre	Very Close	Major	Beneficial
6	Footway, nr Gladstone Road Bridge	115m - Arno Quay	Close	Minor	Beneficial
7	Trinity Street	560m - District Centre	Medium	Moderate	Beneficial
8	College Road	520m - Arno Quay	Medium	Moderate-Major	Beneficial

Table E8.3 Summary Table of Effects on Visual Amenity: Year 10 Following Completion

Significance of Effects on Landscapes, Parks and Gardens of Special Historic Interest

- 8.8 There will be no views from Romilly Park of any of the proposed developments within the site due to screening by existing buildings and vegetation. There may be views of the upper storeys to the taller buildings, such as the hotel and adjacent office block within the proposed District Centre from the far southeastern point of Cold Knap Park. However, views will be partially obscured by existing vegetation adjacent to the A4055 and viewed against a backdrop of existing built form. It is therefore considered that there will be no significant beneficial or adverse impacts on the character or visual amenity from the two historic parks within the study area.

Significance of Effects on Conservation Areas

- 8.9 From within the Barry Garden Suburbs Conservation Area, adjacent housing will obscure views to the east towards the proposed development site. There may be glimpsed views of the residential development to West Pond and the upper storeys to buildings adjacent to the dock edge within the District Centre from elevated locations, such as Little Island and Cold Knap Point within Barry Marine Conservation Area. However, overall it is unlikely that any significant adverse effects on the setting or character of the Conservation Areas within the study area will result due to the proposed developments.

Significance of Effects on Listed Buildings

- 8.10 The two listed buildings that will be most effected by the development will be the Dock Office building and the North Hydraulic Pumping House, both of which have direct views across the proposed development site. At present the Dock Office is viewed adjacent to an area of derelict land and contaminated land that was once the graving docks. The completion of the residential development and in particular the park to East Quay will enhance the setting of the Dock Office and the aesthetic quality of the surrounding area.
- 8.11 The setting of the North Hydraulic Pumping House has been degraded slightly by adjacent modern housing that is out of character with many of the existing buildings near to the pump house. The introduction of additional developments within Barry Waterfront, most notably to the nearby District Centre whose buildings are of a more appropriate scale to the pump house, may compliment and enhance its setting.
- 8.12 Significance of effects on these two listed buildings is likely to be moderate beneficial.
- 8.13 There will be no views of the development from the Grade I listed Dovecote, therefore there will be no adverse of beneficial effects from this structure.

Significance of Effects on the Green Wedge

- 8.14 There will be no adverse or beneficial effects, as the proposals do not encroach into the Green Wedge land and there will be no views of the development from within it.
- 8.15 The Landscape and Visual Assessment undertaken confirms the appropriateness of the proposed Barry Waterfront development.
- 8.16 The development is considered appropriate in terms of its location, design, scale, materials used and its relationship with the surrounding townscape. The proposed developments will have longer term beneficial effects on the local area, transforming a dockland landscape that has been in decline for many years into a vibrant, urban townscape, while still respecting the traditional local urban structure and form that surrounds the site.

9.0

Abbreviations

AOD – Above Ordnance Datum

CCW – Countryside Council for Wales

DTM – Digital Terrain Model

ES – Environmental Statement

TCA – Townscape Character Area

ZTV – Zone of Theoretical Visibility

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