

## 7.0 Archaeology

### Introduction

7.1 This chapter has been prepared by the Glamorgan-Gwent Archaeological Trust Limited and assesses the minor amendments made to the masterplan and any additional information since the completion of the assessment of the Barry Waterfront ES (August 2009). This chapter should therefore be read in conjunction with Chapter G of the Barry Waterfront ES (August 2009).

7.2 This chapter considers any alterations in national, regional and local level planning policy and in addition, the known and potential archaeological baseline within the study area referenced in Chapter G of the Barry Waterfront ES (August 2009) has also been reviewed.

7.3 This chapter considers any changes in the magnitude and significance of potential effects upon archaeological resources during the construction and operational phases. No alterations in the magnitude and significance of effect (impact) have been identified, and therefore no additional mitigation measures are proposed nor are there any resulting residual effects.

### Policy Context

7.4 As part of the current ES addendum a review of relevant legislation, planning policy and good practice guidance has been undertaken to determine whether there have been any changes in legislation, planning policy and guidance since the August 2009 planning submission. The review indicates that the legislation and policy context set out in paragraphs 2.3 to 2.6 of Chapter G of the Barry Waterfront ES (August 2009) remains valid.

7.5 The description of the existing application site in paragraphs 2.1 has not changed to that outlined in Chapter G of the Barry Waterfront ES (August 2009).

### Assessment Methodology & Significance Criteria

7.6 The approach and methodology used to reassess the impacts, proposed mitigation and overall residual effect remain unchanged to the approach outlined in paragraphs 3.1 to 3.10 of Chapter G of the Barry Waterfront ES (August 2009). However, we suggest that paragraph 3.7 should be split into a separate paragraph at the fourth bullet point, to read:

3.8 The **effect** of the proposal on the archaeological resource has been assessed using the following criteria:

7.7 The desk-based research reviewed as part of this chapter is intended to conform to the standards outlined by the *Institute for Archaeologists* in their

*Standard and Guidance for Archaeological desk-based assessment* (1994: Revised 2001 and 2008).

- 7.8 The definitions of archaeological significance (Table G1 in Chapter G of the Barry Waterfront ES (August 2009) remain applicable.

### **Baseline Conditions**

- 7.9 It is considered that no significant change has occurred to the baseline conditions set out in Chapter G of the Barry Waterfront ES (August 2009) and, therefore, the archaeological baseline described in paragraphs 4.1 to 4.57 of the Barry Waterfront ES (August 2009) remain applicable in terms of recovered archaeological evidence (both physical and documentary). In addition, Figures G1 to G8, and Plates G1 to G15 associated with Chapter G also remain applicable.
- 7.10 For clarification, Castle Land Quay comprises the small area of land (see Figure G1) between Arno Quay and East Quay. The land is within Consortium ownership and is proposed within the application as public open space.

### **Potential Impacts**

- 7.11 The potential impact section of Chapter G of the Barry Waterfront ES (August 2009) remains applicable in terms of known and potential archaeological resources, identified reports and the expected development design.
- 7.12 For clarification, the construction impacts (effects) on archaeological sites referred to in paragraphs 5.1-5.4 are based on the construction program, which will include demolition of standing buildings or the break up of slabs/ hardstandings at surface level, ground clearance, ground remediation, landscaping and any other intrusive groundworks including piling for construction purposes. The site investigation work in Chapter I, section 4.0, provides details on the present sub-strata across the development area. This information has been utilised during the assessment of potential for archaeological sites. However, without detailed construction information the assessment has to consider that the removal/clearance of ground levels, deposits, structures and buildings will be complete.
- 7.13 For clarification, paragraphs 5.1, 5.12 and 8.4 identify different groups of archaeological data sets. Paragraph 5.12 at line 6 refers only to the 35 archaeological interests with the 'BW' prefix identified within the study area during the assessment through the process of map regression, analysis of documentary sources and the consultation of aerial photographs (please see paragraph 4.57). Paragraph 5.1 refers to the total of sites within the development area, that number being 33. Paragraph 8.4 refers only to the 29 sites subject to effect by the construction work.

### **Mitigation Measures**

- 7.14 The mitigation proposal identified within Chapter G of the ES (August 2009) with respect to the identified receptors remains current.

### **Residual and Cumulative Effects**

- 7.15 The residual and cumulative effects section of Chapter G of the Barry Waterfront ES (August 2009) remains applicable in terms of known and potential archaeological resources and the expected development design.
- 7.16 For clarification, providing the mitigation measures are adhered to, the effect on the archaeological interests is considered to be reduced to none as the mitigation measures will ensure their preservation by record. An archaeological watching brief is designed to identify and record any archaeological structures, features and deposits during the construction phase, with an in-built facility to record any unforeseen structures, features and deposits, thereby providing preservation by record in perpetuity.
- 7.17 The residual and cumulative effects identified within Chapter G of the ES (August 2009) remains current.
- 7.18 The summary and conclusions presented in Chapter G of the submitted Barry Waterfront ES (August 2009) remain applicable.

## 8.0 **Water Resources, Drainage and Flooding**

### **Introduction**

- 8.1 This chapter has been prepared by Arup and addresses comments received to date since the planning application was submitted in August 2009 in relation to water resources, drainage and flooding, (Chapter H) together with minor amendments to the masterplan for the Waterfront Barry development. Comments received include those from the Environment Agency (9/12/09), Welsh Water (23/12/09) and the Council's Pollution Control Department (30/11/09).
- 8.2 This chapter takes into account alternatives to national regional and local level planning policy in relation to water resources, drainage and flooding since the planning application was submitted in August 2009. Baseline conditions have been amended to provide clarity on specific items, the potential impacts, mitigation measures, residual and cumulative effects have been revised to clarify specific impacts.

### **Legislation, Policy Context and Guidance**

- 8.3 There has been no significant change to legislation, policy or guidance since the Barry Waterfront ES was submitted (August 2009).

### **Assessment Methodology and Significant Criteria**

- 8.4 The approach and methodology used to assess the effects, proposed mitigation and overall residual effects remains unchanged to the approach outlined in paragraphs 3.1 to 3.4 of Chapter H of the submitted ES (August 2009).

### **Baseline Conditions**

#### **Drainage and Flooding**

- 8.5 Paragraph 4.52 of the ES has been amended to provide further information.
- 8.6 The Application site, consisting of Arno Quay, East Quay, West Pond and South Quay are all unused sites with little or no active drainage. Recent surface works drainage is still present in parts of West Pond and South Quay from the previous uses of the site. This includes a shallow ditch running through West Pond which collects rainfall runoff before discharge into the dock; this ditch was formed as part of previous works on site in the 1990s.
- 8.7 For clarification, Paragraph 4.57 of the ES has been amended to provide further information:

- 8.8 The site is on the coastline and has the potential for tidal inundation during an extreme event. There are no formal sea defences that protect the site. The TAN15 Development Advice Map shows that the majority of the sites are within Zone B, see Figures ESH5. Some areas of Arno Quay, East Quay and South Quay are in Zone A, other areas of East Quay and land along the dock walls at Arno Quay, West Pond and South Quay are shown within Zone C2.
- 8.9 As confirmed within paragraph 2.8 of the submitted ES (August 2009), the Strategic Level Flood Study was issued to the Environment Agency in March 2008. The EA responded favourably to the assessment in May 2008; for completeness a copy of the EA response has been provided at Appendix 8.1. The baseline conditions recorded on site are not considered to have significantly changed and the baseline in the submitted ES (August 2009) remains applicable.

## **Potential Impacts**

### **Impacts during Construction and after Completion**

#### **Contamination of surface water and groundwater from construction activities**

- 8.10 Paragraph 5.4 and 5.5 of the ES has been amended to provide further information and are to be replaced as follows.
- 8.11 Activities such as vehicle operations may lead to potential spillages/leakages of contaminants which may impact on the dock water and groundwater. The construction works will include the storage of fuels and other wastes, whilst the works may produce silt, sediments and suspended solids which could migrate into the adjacent dock. Migration of contaminated groundwater during treatment could also have indirect impact on surface water receptors.
- 8.12 The dock water volume is large and has significant capacity for dilution. The volume of flows from spillages/leakages and silt would be limited. The yield of the aquifer is low and as stated in Section 4, the location of existing abstractions are not in the direction of flow of groundwater. Overall the sensitivity is therefore considered to be Low to Moderate and the impact magnitude is considered to be Low to Medium.
- 8.13 Paragraph 5.6 of the submitted ES remains the same.
- 8.14 The impact is considered to be of **Minor to Moderate Adverse Significance** prior to the implementation of mitigation measures.

## **Mitigation Measures**

### **Introduction**

- 8.15 Paragraph 6.1 of the ES has been amended as follows to provide further information.

- 8.16 The development proposals for this site include mitigation measures to ensure the protection of the water environment both during construction and operational phases. Key mitigation measures include the protection of the dock from spillages, leakages, silt, sediments and suspended solids, source removal of free product contamination within the groundwater and raising the site to above the agreed flood level.
- 8.17 The following paragraphs are added to this section to provide further information.
- 8.18 The site operators will need to undertake measures to prevent spillages, leakages, silt, sediments and suspended solids from migrating into the dock. Measures will be in accordance with guidance documents outlined in Section 2.2 of the Environmental Statement (August 2007) and include the following:
- Fuel, oil and chemical storage sited on an impervious base within a bund and secured.
  - Storage of waste in designated areas, isolated from surface drains.
  - Effluent from wheel washes and plant washing facilities will be contained, treated and appropriately disposed.
  - The fuelling and concrete mixing plant washing out will be located in designated, controlled areas, away from drains.
  - The inclusion of silt traps and interceptors along drainage routes
  - The discharge of silt water into the dock will be avoided where possible. If discharge is necessary as part of the works, the contractor will need to agree a working method using settlement lagoon, tanks, or other suitable methods and will need to obtain a formal Discharge/Flood Defence Event from the Environment Agency.
- 8.19 The contractor responsible for the work will need to submit detailed method statements, Construction Environmental Management Plans (CEMP) and Site Waste Management Plan (SWMP) to the Environment Agency and local authorities, for agreement.

Welsh Water, the Environment Agency and the Vale of Glamorgan Council's Pollution Control Department confirm that they have no objection to the application subject to planning permission.

### **Residual and Cumulative Effects**

- 8.20 There is no change to the overall residual effects of the development outlined in Chapter H of the submitted ES (August 2009).
- 8.21 Paragraph 8.2 within the Summary and Conclusions of the ES has been changed to the following to provide further information, since the Environment Agency letter dated 9/01/08 suggested that a watercourse is situated within the site:

8.22

The geology varies across the site, but generally consists of made ground overlying cohesive and granular alluvium (sometimes absent) overlying bedrock. Most of the sites are classified as non-aquifers although part of West Pond is considered a minor aquifer. There are no water courses on the site, but there are a number of old discharges transmitting flows into the adjacent dock, and there is a shallow ditch running through West Pond which collects rainfall run-off before discharge into the dock.

## 9.0 **Ground Conditions and Contamination**

### **Introduction**

9.1 This chapter has been prepared by Arup in relation to comments received since the planning application was submitted in August 2009 together with minor amendments to the Masterplan Waterfront Barry development set out in Section 2 of this report.

### **Planning Policy Context**

9.2 There has been no significant change to legislation, policy or guidance since the submission of the application in August 2009.

### **Assessment Methodology and Significance Criteria**

9.3 The approach and methodology used to assess the impacts and define significance criteria remain unchanged to the approach outlined in paragraphs 3.1 to 3.8 of Chapter 1 of the submitted ES (August 2009).

### **Baseline Conditions**

9.4 Given that the minor amendments to the masterplan relate to the built form of the proposed development it is considered that no change has occurred to the baseline conditions set out in Chapter 1 of the submitted ES (August 2009).

### **Potential Impacts**

9.5 There is no change to the potential impact(s) of the proposed development on ground conditions and contamination to that provided within Chapter 1 of the submitted ES for Barry Waterfront (August 2009).

### **Mitigation Measures**

9.6 No additional significant environmental impacts arise in relation to the alteration considered in this ES addendum or that have been highlighted by the additional assessment undertaken, therefore, additional mitigation measures are not required. The EA has submitted representations to the application that confirm that they have no objection to the application provided that conditions they propose are attached to any grant of planning permission.

### **Residual and Cumulative Effects**

9.7 There is no change to the overall residual effects of the development or conclusions reached in Chapter 1 of the submitted ES (August 2009).



## 10.0 Noise and Vibration

### Introduction

10.1 This ES addendum has been prepared by RSK Environmental and should be read in conjunction with Chapter J of the August 2009 Environmental Statement (ES) for the Barry Waterfront proposals. The addendum is aimed at adding clarity to the ES, removing any ambiguity from the presentation of the noise assessment results and addressing any relevant feedback received to date from the Vale of Glamorgan (VoG) Council Pollution Control Department (PCD).

10.2 A number of minor amendments have been made to the masterplan submitted within the August 2009 application. These are outlined in section 3 of this addendum report and have been considered for the purpose of this addendum. However, the minor amendments have been found to have no significant or quantifiable implications for the Noise and Vibration assessment presented in Chapter J of the August 2009 ES.

### Policy Context

10.3 The policy context has not changed since the production of the submitted ES. The referenced standards and guidance documents are still current and the planning policies of the LPA are still as they were at the time of original production.

### Assessment Methodology & Significance Criteria

10.4 The approach and methodology used to assess the impacts, proposed mitigation and overall residual effects remain unchanged to the approach outlined in paragraphs 3.1 to 3.17 of Chapter J: Noise and Vibration of the August 2009 ES. The paragraphs below provide clarity on a number of points within the submitted August 2009 ES text.

### Operational Phase

#### Suitability of Site for Residential Development - Noise

10.5 The recommendations and guidance presented in TAN 11, BS 8233 and the WHO guidelines, as summarised in paragraphs 3.28 to 3.35 of Chapter J: Noise and Vibration of the August 2009 ES were used to derive criteria for assessing the impact of noise on the suitability of the site for residential development based on noise exposure levels at the site, and for assessing the impact of noise within the proposed residential dwellings once constructed, which will include any specific noise mitigation proposed in accordance with TAN 11 guidance for areas of the site classified as NEC B, C or D.

10.6

This was presented in Table J5 of the ES, which unfortunately contained some typographical errors. Accordingly, this Table has been updated as presented below.

Daytime Noise Level	Night-time Noise Level	Significance of Impact
<b>Noise Exposure Levels at Site</b>		
>72 dB $L_{Aeq,T}$	>66 dB $L_{Aeq,T}$	Major Adverse
63 - 72 dB $L_{Aeq,T}$	57 - 66 dB $L_{Aeq,T}$	Moderate Adverse
55 - 63 dB $L_{Aeq,T}$	45 - 57 dB $L_{Aeq,T}$	Minor Adverse
<55 dB $L_{Aeq,T}$	<45 dB $L_{Aeq,T}$	Negligible
<b>Internal Noise Levels</b>		
> 40 dB $L_{Aeq,T}$	> 35 dB $L_{Aeq,T}$	Major Adverse
35 - 40 dB $L_{Aeq,T}$	33 - 35 dB $L_{Aeq,T}$	Moderate Adverse
30 - 35 dB $L_{Aeq,T}$	30 - 33 dB $L_{Aeq,T}$	Minor Adverse
<30 dB $L_{Aeq,T}$	<30 dB $L_{Aeq,T}$	Negligible

Addendum Table J5: Criteria for Assessing the Suitability of the Site for Residential Development in respect of Noise

### Railway Noise

10.7

Comments submitted to the application by the VoG Council PCD on the 30<sup>th</sup> November 2009, queried whether the assessment included railway noise (paragraph 4.a)

10.8

To confirm, the levels of railway noise affecting the site have been taken into account in the baseline measurements. However, these were deemed to not be dominant and due to their relative infrequency over the averaging period made little or no calculable difference to the  $L_{Aeq,16hour}$  daytime or  $L_{Aeq,8hour}$  night-time figures used in the assessment. As a result, the future year calculations contained within the August 2009 ES chapter focus on the dominant sources of noise and do not make specific reference to noise generation from the rail line.

### **Biomass Plant**

- 10.9 The VoG Council PCD has also queried whether a proposed Biomass Plant has been taken into consideration within the assessment (paragraph 4.c)
- 10.10 The December 2008 Environmental Statement prepared by Parsons Brinckerhoff for Barry Energy Recovery Ltd, for their proposed biomass fuelled energy recovery plant at Barry Docks demonstrates that calculated levels of operational noise impact for the development are predicted to be below the prevailing background noise level at all nearby existing and proposed receptors. Paragraph 9.4.21 of the document states:

*“The results of the BS4142 assessment indicate that noise levels from the proposed Energy Recovery Facility are of less than marginal significance at all locations and that complaints from existing residents are unlikely.”*

- 10.11 As a result of the above, the plant was not afforded specific consideration in the August 2009 ES by virtue of its forecast negligible effect on the future noise climate of the area.

### **Baseline Conditions**

- 10.12 The baseline figures used in the assessment remain valid and no changes have been made or are required to this section of the assessment.

### **Potential Impacts**

- 10.13 The potential impacts have been set out and discussed in paragraphs 5.1 to 5.41 of Chapter J of the ES. As no changes have been made to the baseline data and the minor amendments to the masterplan have been determined to have had no significant or quantifiable implications for the noise and vibration assessment, this section of the ES remains unchanged. However, the following points of additional clarification are made for completeness.

### **Site Preparation and Construction Phase**

#### **Construction Noise**

##### **Construction Enabling Works**

- 10.14 We can confirm that the required remediation works at the site have been accounted for in construction noise predictions and assessment associated with the Enabling Works sub-phase of construction noise assessment.

##### **Construction Traffic**

- 10.15 The assessment of construction traffic impacts presented in Chapter J of the August 2009 ES considers the year 2010, during which the greatest increase in road traffic on the local road network is predicted as a result of significant material imports.

- 10.16 The predicted increase in road traffic noise levels presented in the ES chapter was calculated in accordance with the CRTN prediction methodology. However, the number and type of vehicles assumed in these predictions is incorrectly stated within paragraph 5.17 of the August 2009 ES.
- 10.17 To clarify, the predictions and assessment presented within the August 2009 ES chapter were based on 240 heavy goods vehicle (HGV) movements and 100 light good vehicle (LGV) movements per day. The predicted increase in noise level and the significance of the impacts presented in paragraph 5.18 to 5.21 of the August 2009 ES chapter remains unchanged.

## **Operational Phase**

### **Site Suitability for Residential Development - Noise**

- 10.18 The site suitability assessment presented in Paragraphs 5.27 to 5.32 of Chapter J: Noise and Vibration of the August 2009 ES identified that the site would be classified as NEC C in areas fronting primary roads, with the remainder of the site being classified as NEC B or NEC A.
- 10.19 For areas of the site classified as NEC C, TAN 11 states "*Planning permission should not normally be granted. Where it is considered that permission should be given, for example because there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise.*" This classification relates to a very small area of the application site.
- 10.20 For areas if the site classified as NEC B, TAN 11 states "*Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise.*"
- 10.21 For areas if the site classified as NEC A, TAN 11 states "*Noise need not be considered as a determining factor in granting planning permission, although the noise level at the high end of the category should not be regarded as desirable.*"
- 10.22 The extent of the overall site classified as NEC C is very small and development within the NEC C areas is necessary for the feasibility of residential development on the remaining majority of the site areas classified as NEC B and A.
- 10.23 Mitigation measures that are capable of providing a commensurate level of protection against noise have been recommended to control the impact of noise in areas of the site classified as NEC C and B, in accordance with the guidance presented in TAN11.
- 10.24 Accordingly, it is considered that with the proposed mitigation measures, that noise need not present a significant constraint to the residential development proposals at the site.

**Suitability of Site for Residential Development - Vibration**

- 10.25 The vibration predictions and assessment presented within Paragraphs 5.33 to 5.39 of Chapter J: Noise and Vibration of the August 2009 ES, make reference to transfer functions and amplification factors, to establish and assess the impact of vibration within the upper storeys of the proposed residential dwellings. Presented below is further information relating to the transfer functions assumed.
- 10.26 BS 6472 states that a transfer function should be applied; however, BS 6472 does not contain any guidance on suitable transfer functions.
- 10.27 There are two key aspects to the effect that the building structure will have on the measured vibration levels: the first is generally a reduction as the vibration passes into the foundations of a building; there is typically then amplification as the vibration propagates up the building to the upper storeys and across potentially suspended floors.
- 10.28 Different types of foundation will affect the amount of vibration that is transferred from the ground to either the building or the hard surface. It is necessary to use a transfer function that would represent the likely effect that the foundation would have on the vibration magnitude as it propagates into the building structure.
- 10.29 In assessing the effect that the different foundations may have, guidance has been sought from the Handbook of Urban Rail Noise and Vibration Control (HURNVC), published by the Federal Transit Administration, USA, written by H J Saurenam, J T Nelson and G P Wilson. The HURNVC sets out attenuation factors that can be applied to calculate the transfer function between vibrations measured on unloaded ground and vibration at a foundation. It notes that the multiplication factor for a strip foundation is approximately 0.5 and for a piled foundation approximately 0.4, both based on the 31.5 Hz frequency band.
- 10.30 To extrapolate the measured unloaded ground vibration levels up the building to a suspended upper storey, an amplification factor is required. Based on figures presented in Transmission of Ground-borne Vibration in Buildings by Jorgen Jakobsen, Journal of Low Frequency Noise and Vibration, Vol. 8 No. 3, 1989, an amplification factor of 2.8 is considered appropriate for the type of buildings proposed.
- 10.31 As stated with the ES chapter, on the basis of piled foundations, an overall transfer function, or multiplication factor, of 1.12 (i.e.  $2.8 \times 0.4$ ) was assumed to consider the likely impact of vibration at worst case upper suspended storeys in the assessment.

**Road Traffic Noise**

- 10.32 The changes in road traffic noise levels as a direct result of the development proposals were assessed in the Chapter J of the August 2009 ES by predicting

and by comparing noise levels for the 2020 design year, both with and without the proposed development. In addition to the traffic generated by the proposed development, the 'with development' scenario also includes the proposed primary new routes that will be used to access the proposed development.

- 10.33 No consideration was given to the effects of noise and vibration for the 'tourism traffic scenario' in the August 2009 ES, as given the limited duration of the 'tourism period', it was not considered to be representative of normal impacts. No further consideration has been given in this ES Addendum for the same reason and comments are still awaited from Capita Symonds / the VoG Council regarding the transportation effects of the proposals.

### **Operational Noise**

#### **Compatibility between Future Site Uses**

- 10.34 Paragraphs 5.39 and 5.40 of Chapter J of the ES state the following:

*"Good practice dictates items of building services plant associated with all new developments should be designed to give a cumulative noise rating level ( $L_{Ar,Tr}$ ) at or below the currently prevailing background level ( $L_{A90}$ ) at a distance of 1m from the nearest residential facades, including the new residential façades associated with the proposed development itself."*

*"The results of the baseline environmental noise measurement exercise have been utilised to determine appropriate  $L_{Ar,Tr}$  rating noise levels limits at the closest existing residential receptor locations to the proposed development parcels, which are identified in Figures J25 and J26."*

- 10.35 The design of the site and particularly the mixed use zones has been formulated with neighbour sympathy in mind. While it is acknowledged that catering and licensed premises may acoustically conflict with residential land uses, it is also acknowledged that by their nature, they need to be in close proximity for them to be viable. Therefore, at detailed design stage, close attention will be paid to these mixed use areas in ensuring compatibility and compliance with stated noise criteria.

### **Mitigation Measures**

#### **Construction Phase**

- 10.36 Paragraphs 6.1 to 6.5 of Chapter J of the August 2009 ES discuss the proposed CEMP and mitigation measures which will be employed as part of it. It is proposed that the CEMP will be dynamic in nature, insofar as it will be modified, as necessary, prior to the commencement of each significant, discrete stage of site preparation and construction, in order to maximise its mitigative effect and minimise likely impacts from the scheme's construction.

#### *Operational Phase*

- 10.37 Paragraphs 6.6 to 6.28 of Chapter J of the ES set out mitigation measures that may be employed in minimising impacts from the scheme on existing noise sensitive receptors and on proposed noise sensitive receptors forming a part of the scheme. These will be examined in detail at the detailed design stage.
- 10.38 No changes have been made to the development profile, the baseline figures, the source data or the noise criteria, so the mitigation measures presented in the August 2009 ES remain unchanged at present.

### **Residual and Cumulative Effects**

- 10.39 The residual and cumulative effects of the scheme are set out in paragraphs 7.1 to 7.10 of Chapter J of the ES and for the reasons stated above, remain unchanged.

### **Summary and Conclusions**

- 10.40 Paragraphs 8.1 to 8.6 of the ES set out the Summary and Conclusions of the assessment, which remain unchanged by the ES addendum.
- 10.41 It is considered that this ES addendum clarifies any areas of potential ambiguity with regard to Chapter J of the original ES, dated August 2009.

## 11.0 Air Quality

### Introduction

11.1 This addendum to the Air Quality chapter of the Barry Waterfront ES (August 2009) has been prepared by RSK STATS Environment Health and Safety Limited (RSK) and should be read in conjunction with chapter K. It advises the likely air quality impacts that arise from minor amendments that have been made to the Masterplan following submission of the planning application in August 2009. Consideration has also been given to the representations to the application, submitted by the Council's Pollution Control Officer (20/01/2009).

11.2 Key changes are set out in Section 5 of this report. The quantum of development has not changed nor do the traffic flows therefore no relevant changes should impact on the air quality assessment undertaken.

### Policy Context

11.3 There has been no change to legislation or guidance since the planning application was submitted.

### Assessment Methodology and Significance Criteria

11.4 There has been no change to the methodology used to assess air quality effects. For clarification as to why air quality is a 'low priority concern', the impact significance criteria is based on the guidance provided by Environmental Protection UK (formerly known as National Society for Clean Air) detailed at paragraph 3.9 and in Figure K2 of Chapter K of the ES. The abovementioned guidance is widely followed in the UK to identify the air quality impact significance and was applied in addition to the method of assessment set out in Chapter B, as this guidance is more specific to air quality impacts. As a result, the use of the term 'low priority concern' is set out in deriving the impact significance criteria in Section 3 of chapter K of the ES and means that the proposed development is not considered to:

- lead to a breach or significant worsening of a breach of an EU Limit Value;
- lead to an extension of an existing AQMA and will not cause the declaration of a new AQMA;
- interfere significantly with, and will not prevent the implementation of, an Air Quality Management Plan;
- interfere significantly with the implementation of a local strategy; and,
- lead to a significant increase in emissions, degradation in air quality or increase in exposure, below the level of a breach of an Air Quality Objective.

### Baseline Conditions

11.5 There has been no change to the baseline conditions in chapter K of the submitted Barry Waterfront ES (August 2009).



- 11.6 RSK acknowledges comments received to the application from the Council's Pollution Control department. These are being considered but any further clarifications are being held until receipt of the transportation feedback from Capital Symonds, on behalf of VoG Council, who are undertaking an assessment of transportation issues on behalf of the LPA. A review of the outstanding pollution control comments will therefore be addressed in due course.

### **Potential Impacts**

- 11.7 RSK seeks to clarify Paragraph 1.4 of Chapter K of the submitted ES (August 2009), which concludes that the development would generate significant vehicle movements compared to the impact assessment at Paragraphs 5.10-5.21 of Chapter D. The classification of movements as 'Significant' should read 'large increase' in the context of the DEFRA Air Quality Technical Notes.

- 11.8 As per Table A6 of the Local Air Quality Management Technical Guidance Notes (LAQM TG(09)) published by the Department for Environment, Food and Rural Affairs (DEFRA), an increase of more than 25% in traffic flow on any road with more than 10,000 vehicles per day is classified as 'large' increase. Traffic increase on Ffordd y Mileniwm meets this criterion. This threshold is applicable for assessing air quality impacts and threshold for categorising the increase in traffic may be different when a different type of impact is assessed. It should however be noted that the abovementioned 'large' increase in road traffic will not lead to a significant impact on the local air quality as demonstrated in Section 5 of Chapter K of the submitted ES (August 2009) and the proposed development is a 'low priority concern' as per the Assessment Methodology and Significant Criteria described in Paragraph 1.4 above. The impact significance of the proposed development at the assessed receptors is 'Minor' as described in Paragraph 5.39 of Chapter K of the submitted ES (August 2009).

- 11.9 RSK seeks to clarify Paragraph 5.36 of Chapter K of the submitted ES (August 2009) that 'Figure K1' mentioned therein should be read as 'Figure K2'.

### **Mitigation Measures**

- 11.10 No additional significant environmental impacts arise in relation to the alternations considered in this ES addendum or that have been highlighted by the additional assessment undertaken, therefore, additional mitigation measures are not required at this stage.

### **Residual and Cumulative Effects**

- 11.11 There is no change to the overall residual effect of the development at the current time. Further clarification and additional information may be provided following the receipt of the LPA's response on transportation considerations.

## 12.0 **Socio Economic**

### **Introduction**

12.1 This addendum to the Socio Economic chapter of the Barry Waterfront ES (August 2009) has been prepared by Nathaniel Lichfield and Partners (NLP) and should be read in conjunction with chapter L of the submitted ES. This chapter seeks to provide further clarification to the previously submitted ES Chapter to remove any ambiguity from the presentation of the socio-economic assessment results. The key changes that have been made to the Masterplan are set out in Section 3 of this report. However, as the quantum of development has not changed and the design amendments are minor it no relevant changes are required to the socio economic impact assessment presented in the submitted Barry Waterfront ES (August 2009).

### **Policy Context**

12.2 There has been no change to legislation or guidance, relevant to the socio-economic impact assessment, since the planning application was submitted in August 2009. Paragraphs 2.1 to 2.12 of Chapter L of the submitted ES therefore remain valid.

### **Assessment Methodology & Significance Criteria**

12.3 There has been no change to the methodology or significance criteria used to assess the Socio Economic impacts of the proposed development, as set out at Paragraphs 3.1 to 3.3 of Chapter L of the submitted Barry Waterfront ES (August 2009).

### **Baseline Conditions**

12.4 The baseline conditions used in the socio-economic impact assessment remain valid therefore no changes have been made to Section 4 of Chapter L of the submitted Barry Waterfront ES (August 2009).

### **Potential Impacts**

12.5 At paragraph 5.8 of Chapter L of the submitted Barry Waterfront ES (August 2009) reference is made to the Retail Assessment (RA) as demonstrating that the additional retail capacity can be justified by additional demand for the proposed residential development and the identified overall shortfall in provision against capacity. In order to provide further clarity to this consideration NLP seeks to replace Paragraph 5.8 of Chapter L of the submitted ES (August 2009) as follows in order to provide further details in relation to the key findings of the RA:

*Consideration must be given to any job losses that might arise as a result of the Proposed Development. This might include some of the new food and drink, retail and hotel jobs provided on the application site effectively being transfers of existing facilities which lose some to the new development. Consideration must also be given to retail need and the potential impacts additional out of centre retail floorspace will have on existing stores and centres. However, the RIA implies that any diversion of trade will be largely dispersed with no one store/centre detrimentally impacted. No displacement is assumed for the leisure elements, which will cater for a growing market for such provision.*

12.6

In order to provide further clarity with regards to retail impact, NLP seeks to amend the wording of Paragraphs 5.67 to 5.74 included under the heading 'Impact on Retail Facilities' of Chapter L of the submitted ES (August 2009) as follows:

*Full details relating to the impact of the proposed retail facilities are contained within the separate Retail Assessment report.*

*Barry tops the retail hierarchy for the Vale of Glamorgan. However, it is considered that the town is currently not fulfilling this role with a number of poor quality shops and a lack of opportunity for expansion within the town centre. There is also considered to be a lack of attractive large foodstores with non-food offers and a lack of modern retail units suitable for current multiple retailer requirements. Against this background, the retail element of the scheme which will extend to 8,825sqm and will include:*

1. A 6,525 sq m (gross) foodstore; and,
2. 2,300 sq m (gross) non-food retail floorspace.

*The capacity and need for this additional floorspace as well as the potential impacts associated with its development are thoroughly explored within the RIA. However, for the purposes of this Socio Economic Assessment the key findings can be summarised as follows:*

- a. *In terms of quantitative need the RIA demonstrates capacity for the convenience and comparison elements of the proposed scheme (2,800 sq m net and 3,600 sq m net respectively).*
- b. *In qualitative terms the RIA demonstrates a requirement for the development through the need to claw back expenditure currently leaking out of the catchment area e.g. to Culverhouse Cross.*
- c. *The Council's retail study (CACI, 2009) found a quantitative need for a new foodstore in Barry and demonstrated the importance of improving the food and non-food retail offer in order to assist in the claw back of expenditure.*

- d. *The Council's Town and District Retail Centre Appraisal Report (Martin Tonks, 2008) found that whilst Barry is still attracting retail investment the town is constrained by small, poor quality units which do not meet the requirements of the majority of the key multiple retailers. Therefore, a need is identified to provide units which are suitable for multiple retailers who tend to favour large modern units which they are able to move straight into.*
- e. *In terms of scale, the RIA shows that the proposed retail floorspace is acceptable.*
- f. *In sequential terms the RIA demonstrates that the Waterfront is the most sequentially preferable site for this form of development.*
- g. *In terms of convenience impact, the RIA demonstrates that any impact will be dispersed among the existing larger foodstores so that the impact on any individual outlet or Barry town centre as a whole will be small. The main stores impacted by the proposed development are located out of centre.*
- h. *In terms of comparison impact, the RIA demonstrates a dispersed impact amongst the existing large foodstores and on other out of centre locations such as Culverhouse Cross due to the ability of the proposed floorspace to claw back trade that is currently leaking from the area. The RIA also demonstrates that overall the additional comparison floorspace will have limited impact on Barry town centre even in the short term.*
- i. *The RIA concludes that the scheme will not have a significant detrimental effect on any existing store nor harm the vitality and/or viability of any existing centre.*

*As demonstrated above, the RIA clearly exhibits quantitative and qualitative need and capacity for the proposed retail floorspace. However, despite this need, the proposed development will inevitably divert trade from existing stores and centres within the local area, many of which are currently overtrading as a result of the proven shortfall in provision.*

*It is considered that this retail impact will be largely dispersed amongst the existing large foodstores within and beyond the catchment area as well as out of centre retail locations such as Culverhouse Cross which currently attract a great deal of expenditure from the Catchment Area. However, as demonstrated within the RIA, no individual store will experience a significant detrimental effect nor will the vitality and/or viability of any existing centre, and particularly Barry town centre, be harmed as a result of the development proposal.*

*In the light of the benefits that it will offer in respect of the improved retail offer, enhancement of Barry as a retail centre, reduction in leakage and acceptable impact upon the town centre, the impact of the proposed development upon the demand for retail facilities can be assessed as positive and moderate in magnitude.*

### **Mitigation Measures**

- 12.7 No additional significant environmental impacts arise in relation to the alternations considered in this ES addendum or that have been highlighted by the additional assessment undertaken, therefore, additional mitigation measures are not required at this stage.

### **Residual & Cumulative Effects**

- 12.8 There is no change to the overall residual effect of the development at the current time. Further clarification and additional information may be provided following the receipt of the LPA's response on the submitted Retail Impact Assessment.

### **Summary and Conclusions**

- 12.9 None of the summary and conclusions provided within Chapter L of the ES (August 2009) have changed as a consequence of the above amendments.

## 13.0 **Arboricultural Effects**

### **Introduction**

13.1 This addendum to the Arboricultural Chapter of the submitted Barry Waterfront ES (August 2009) has been prepared by Steve Ambler Arboricultural Consultancy. It assesses the likely impacts that may arise from minor amendments that have been made to the Masterplan layout following submission of the planning application in August 2009 which are set out in section 3. To date no consultation responses have been received that provide comment or seek further clarity on the Arboricultural Assessment within the submitted Barry Waterfront ES (August 2009).

### **Policy Context**

13.2 There has been no change to legislation, policy or guidance since the planning application was submitted in August 2009.

### **Assessment Methodology & Significance Criteria**

13.3 The approach and methodology used to assess the impacts and define significance criteria remain unchanged to the approach outlined in paragraphs 3.1 to 3.16 of Chapter M of the submitted ES (August 2009).

### **Baseline Conditions**

13.4 Given that the minor amendments to the masterplan relate to the built form of the proposed development it is considered that no change has occurred to the baseline conditions set out in Chapter M of the submitted ES (August 2009).

### **Potential Impacts**

13.5 The proposed changes to the Masterplan layout will have no effects on assessed arboricultural issues. There is therefore no change to the potential impact(s) of the proposed on arboriculture to that provided within Chapter M of the submitted ES for Barry Waterfront (August 2009).

13.6 For clarification, the Mole has been excluded from the arboricultural assessment as there are no trees on the boundary of the application site and therefore no arboricultural issues to assess.

### **Mitigation Measures**

13.7 No additional significant environmental impacts arise in relation to the alterations considered in this ES addendum or that have been highlighted by the additional assessment undertaken, therefore, additional mitigation measures are not required.

### **Residual & Cumulative Effects**

- 13.8 There has been no change to residual or cumulative effects since the planning application was submitted.

### **Summary and Conclusions**

- 13.9 The masterplan revisions have no effect on the assessment or conclusions of the submitted Arboricultural chapter of the Environmental Statement (August 2009).

## 14.0 Residual and Cumulative Effects

### Introduction

14.1 This chapter identifies whether the impacts contained in the ES Addendum (January 2010) give rise to any additional residual or cumulative effects and additional inter-relationships that were not identified at the time of the submission of the Barry Waterfront ES (August 2009).

14.2 The sensitive receptors considered are identical to those considered in the Barry Waterfront ES (August 2009); no new receptors have been proposed by the consultation responses received to date and none have been identified as a result of the assessments contained within this Addendum.

### Summary of Additional Residual Effects Arising

14.3 There are no additional residual effects resulting from the assessment of the amended design proposals or the additional clarifications provided through this ES Addendum.

14.4 For clarity the following text should be entered after paragraph 2.10 to further describe the extent of the mitigation proposed which results in the residual effect for highway junctions, pedestrians/cyclists and existing residential receptors as being minor/moderate beneficial during the operational phase:

Paragraph 2.10:

14.5 Improvement works have been identified which could improve the operation of those junctions identified as having potential congestion issues either as a result of growth in base traffic or the Barry Waterfront development. The implementation, timing and funding of these improvements will be the subject of discussion between the development consortium and the local authority.

Additional Text:

14.6 As identified at Paragraph 6.11 of Chapter D of the submitted ES (August 2009), there are programmed improvements to two junctions at Merrie Harrier and Waycock Cross. Works at Merrie Harrier will improve facilities for buses, cyclists and pedestrians and proposed works at Waycock Cross will improve capacity on all approach arms, which will benefit all users of the junction including existing residential receptors.

14.7 Further measures will be introduced at other junctions listed at paragraph 6.12 of the submitted ES (August 2009) which will result in increased capacity and increased ease of use for all users of these junctions.



- 14.8 The submitted Barry Waterfront ES (August 2009) also anticipates that improvement works would be required at a further four junctions to introduce signalisation to three of the junctions and a roundabout to the fourth. These improvements will benefit all users of the junctions including pedestrians, cyclists and existing residential receptors.
- 14.9 Notwithstanding the measures outlined above which are considered necessary to mitigate against the impact of the Barry Waterfront development, it should be noted that a number of junctions were identified in the baseline capacity assessment as operating over practical capacity even without the Barry Waterfront development.
- 14.10 Existing residential receptors will also benefit from improved pedestrian links with Barry and Barry Island rail stations (submitted ES paragraphs 6.18 to 6.21) and improved bus services (submitted ES paragraphs 6.19 to 6.21).
- 14.11 Pedestrian amenity will be improved through a number of measures including the construction of wide footways, at-grade crossings and signalised junctions along the main link road (submitted ES paragraph 6.24) and provision for pedestrian shortcuts to maximise pedestrian permeability throughout the development. The full range of proposals to benefit pedestrians are outlined at paragraphs 6.24 to 6.28 of the submitted ES (August 2009).
- 14.12 Mitigation measures also seek to improve cycle amenity for existing residential receptors as well as future residents/users of the Barry Waterfront development. These are outlined at paragraphs 6.29 to 6.34 of the submitted ES (August 2009) and include the provision of dedicated cycleways, at grade crossings and cycle parking provision.
- 14.13 As a result of the mitigation proposed above Chapter D of the submitted ES (August 2009), relating to transportation impacts, concludes that the residual effect for highway junctions, pedestrians/cyclists and existing residential receptors will be minor/moderate beneficial during the operational phase of the Barry Waterfront development.
- 14.14 Paragraph 2.22 of the submitted ES (August 2009) states that the proposed development is identified as having a major significance on archaeology in respect of No. 1 Dock and Barry Dock Railway Systems. For avoidance of doubt additional text “prior to the implementation of mitigation measures” should be inserted at the end of the first sentence to confirm that there this is not a significant residual impact predicted.

### **Analysis of Additional Inter-Relationships Arising**

- 14.15 On the basis of the effects identified in the ES Addendum, no additional inter-relationships between environmental impacts have been identified that require consideration.

## Cumulative Impact Assessment

- 14.16 In relation to cumulative effects, at the time of submission of the Barry Waterfront ES there were no committed developments (allocated schemes with planning permission) which the Local Authority requested required consideration as part of a cumulative assessment. However relevant technical assessments gave consideration to the effect of the proposal on the potential future development of the Mole to ensure that it would not be prejudiced by the development proposals.
- 14.17 At the request of the VoG Council Pollution Control Department the ES Addendum has considered the potential cumulative effect in respect of a proposed Biomass Plant in terms of the Noise and Vibration assessment. The ES Addendum reaffirms that the biomass plant should not be afforded specific consideration as it is forecast to have a negligible effect on the future noise climate of the area.
- 14.18 Individual chapters of this ES Addendum have considered the quantitative and cumulative effects of the development as illustrated by the revised Masterplan and parameter plans however there were found to be no further relevant effects in addition to those presented within the submitted Barry Waterfront ES (August 2009).

## Summary and Conclusions

- 14.19 This ES Addendum has provided a detailed summary of the effect of the minor amendments to the Barry Waterfront scheme that are being submitted for consideration in January 2010. It also clarifies and provides additional information on issues raised to date during consultation on the Barry Waterfront application.
- 14.20 The ES Addendum should be read in conjunction with the Barry Waterfront ES (August 2009) which together assess the potential significant effects arising from the Development. Together, the Barry Waterfront ES and ES Addendum contain the detailed analysis of impacts and mitigation and should be referred to for the complete assessment of impact. Detailed mitigation strategies, where appropriate, will be controlled via the use of planning conditions.
- 14.21 The technical assessments presented in this Addendum each conclude that the submitted ES (August 2009) remains valid therefore no further mitigation has been found to be required to reduce any significant adverse environmental effects that may have been identified.
- 14.22 The Barry Waterfront ES and ES Addendum conclude that it is the construction period that holds the greatest potential for cumulative impacts which are proposed to be extensively mitigated particularly when new residential units will be occupied and construction continues for the remaining phases of development.

14.23

During the operational phase, it is predicted that there will be some residual environmental effects however these are predicted to be generally negligible to minor adverse to moderate beneficial following the implementation of mitigation measures. The exception to this relates to ecology where residual significant effects are predicted and an overall loss of biodiversity likely to occur. The significance of these effects is however predicted to reduce in the longer term.

## ES ADDENDUM

### **Appendices**

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Appendix 2.1 Nathaniel Lichfield and Partners EIA Scoping Request to the Vale of Glamorgan (27 November 2007)



Steve Ball  
Vale of Glamorgan Council  
Development Control  
Dock Office  
Barry Docks  
Barry  
CF63 4RT

1st Floor Westville House  
Fitzalan Court  
Cardiff CF24 0EL

Tel: 029 2043 5880  
Fax: 029 2049 4081

cardiff@nlppanning.com  
www.nlppanning.com

Date: 27th November 2007  
Our ref: WE30327  
Your ref:

Dear Sir or Madam,

**TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 1999 – REQUEST FOR FORMAL SCOPING OPINION**

**SITES C & D – WEST POND & SOUTH QUAY, BARRY WATERFRONT**

On behalf of our clients, Taylor Wimpey, Persimmon and Barratt, we request a formal opinion on the scope of the Environmental Statement to be submitted in conjunction with an outline planning application. All matters are to be reserved apart from access for the redevelopment of West Pond (Site C) and South Quay (Site D), Barry Waterfront for a mixed use development including residential, leisure, education, community facilities, employment, hotel and retail use. Areas of public open space and public realm improvements will also form part of the development. The request is made under Regulation 10 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (hereon in called 'the 1999 Regulations').

The Environmental Statement will be submitted in accordance with Regulation 12 of the 1999 Regulations, which sets out the procedure to facilitate its preparation. Our clients understand that an environmental impact assessment is necessary to be undertaken as a result of the scale of the development proposals.

In accordance with the 1999 Regulations, and to assist the Vale of Glamorgan County Borough Council in forming a formal scoping opinion, we have provided you with information on the proposals and the scope of the environmental impact assessment and includes information on:-

- The site location and description;
- A description of the nature and purpose of the development proposals;
- Possible environmental impacts; and
- The proposed form of the Environmental Statement.

The emphasis of the environmental impact assessment process will be on the systematic analysis and presentation of the environmental effects to provide a focus for public scrutiny. It will also enable the predicted effects of the proposal and mitigating measures to be properly evaluated by the Vale of Glamorgan County Borough Council. The finalised Environmental



Statement will be submitted for consideration with the outline planning application.

### **Site Location and Description**

The sites cover an area to the west and south of the No. 1 Dock at Barry Waterfront, and is located to the south of Barry town centre. A location plan has been provided at Appendix 1 for your information.

The site covers an area of 33.46 hectares known as West Pond (Site C) and South Quay (Site D). The land was historically used for Dock related activities and industrial development, however, it now forms a large part of the Barry Waterfront regeneration area. The topography of the site is flat as a result of its past land use as dockland.

The site is bound by a number of features including the waterfront at No. 1 Dock, Charles Darwin Way, Clive Road, Harbour Road and Powell Duffryn Way. The existing railway line from Barry Island also defines the western and southern limit of the site.

The site can be accessed from the north via Powell Duffryn Way and Ffordd y Milleniwm. In terms of public transport, a railway station at Barry Island provides links with Barry Town and Barry Docks in the local vicinity as well as Penarth, Dinas Powys and Cardiff further afield.

A bus service currently runs along Ffordd y Mileniwm, which can be some distance from parts of the site. Despite this, once the development is completed, it is likely that the bus service will extend into the site to improve accessibility.

Whilst the railway line can form a barrier to pedestrian access, there are a number of pedestrian connections that link the site to the waterfront, the Town Centre and Barry Island.

Barry is also close to Cardiff International Airport, which provides flights to both national and international destinations.

### **Description of Nature and Purpose of Proposals**

The outline application is for the development of West Pond (Site C) and South Quay (Site D) for a mixed use development, including:

- The undertaking of ground remediation works to identify and decontaminate where necessary.
- The creation of up to 2,500 dwellings of a range of types and densities including houses and apartments.
- Retail use.
- Employment use.
- Leisure development.
- Education development.
- Community facilities.
- Public open space and public realm improvements.



- A Hotel.

As can be seen, the proposal seeks to create a comprehensive mixed use development on brownfield land. In its current state the land is likely to need remediation works due to the potential ground contamination that may have occurred as a result of past activities on the site such as the oil storage terminal located at South Quay.

Following ground remediation works, the proposal would create a number of complementary development quarters that would fit with the local context and would provide a sustainable mixed use scheme for residents and visitors alike.

### **Possible Environmental Impacts**

The environmental issues that are likely to arise to various degrees by the development are indicated below and could form the basis of the Environmental Statement.

#### *Traffic and Transport*

A comprehensive Traffic Assessment (TA), taking into account trip generation and distribution, will be undertaken for the local highway network including certain major junctions that may be impacted upon both during the construction period and as a result of the completed proposed residential development. The roads and junctions to be assessed within the Traffic Assessment are to be discussed and agreed by our client and the Vale of Glamorgan County Borough Council.

Accessibility by modes of transport other than private car (such as by foot, cycle and bus) will also be assessed.

Depending upon the outcome of the trip generation analysis, the capacity of the junctions may require further modelling. Where it is found that the development will impact upon the existing highway network, mitigation measures will be proposed to address the impacts.

#### *Ecological Assessment*

This section of the Environmental Statement will examine the ecological issues arising out of the planning application for the built development within West Pond (Site C) and South Quay (Site D). It will be undertaken within the context of the national planning guidance set out in Planning Policy Wales and Technical Advice Note (Wales) 5.

It is currently unknown whether there any ecological habitats within the site and adjacent land and if so how the development may impact upon them.

In order to identify the potential impact(s) of the development and formulate mitigation measures to protect important habitats and species, a baseline study will be undertaken. The baseline study will review the current habitats and species and assess any impacts upon the baseline arising from the proposal.



Having identified the ecological impacts of the development, the Environmental Statement will propose avoidance, mitigation and compensatory measures to enable any ecological impacts to be avoided or overcome in a positive manner.

#### *Water Resources & Flood Risk*

The nearest watercourse, Barry No. 1 Dock, is located adjacent to the waterfront development site. The water regime of the Dock is controlled by sea locks, however Environment Agency flood maps indicate that in the event of an extreme flood, floodwater may affect a minimal amount of land within the site.

In order to undertake an analysis of any possible environmental impacts arising from the proposal a Flood Risk Assessment will need to be prepared.

The Flood Risk Assessment will also discuss the strategy for dealing with surface water drainage within the site and propose measures to ameliorate any adverse impacts which may occur.

#### *Ground Remediation*

This section will examine the characteristics of the existing ground condition in terms of potential contamination. This is required due to the historic use of the site as a docklands area and partially for an oil storage terminal.

An assessment of the site will be undertaken to identify areas of potential contamination or 'hot spots' and the risks associated with it. A desk-top study of historic data and evaluation of the proposed development area will be undertaken. Where contamination is found, measures will be put in place to undertake the necessary remediation works and to minimise the risk to both the environment and workers during construction will also be addressed.

With regards to each of the environmental impacts, mitigation measures will be proposed where necessary. The cumulative impacts of the proposals with nearby development will be addressed where relevant.

#### *Noise*

Noise measurements will be undertaken on site at times that have been agreed with the Local Authority to provide baseline data against which the impact of the development will be assessed. Two components of change in environmental noise conditions are likely to occur, being:

- Site clearance and construction; and
- Changes in road traffic patterns and the potential noise contributions once the development is complete and operational.

Beyond construction noise, which will be measured against Construction Best Practice, the impact of proposals upon the local noise environment is expected to be limited.

The effect of the existing noise climate on residents of the proposed development will also be assessed and mitigation measures proposed for any identified potential adverse effects.





### *Air Quality*

Having undertaken an examination of the baseline air quality, the Air Quality Assessment will predict emission levels during the construction phase of development, dealing mainly with dust emissions and their control, and also predicting emissions and air quality once the development is operational. Should the assessment reveal that the development proposal significantly affects air quality, mitigation measures will be proposed to address any impact(s) that are found to arise. It is not anticipated that the proposal will have a significant impact upon air quality.

### **Proposed form of Environmental Statement**

The information to be included within the Environmental Statement will reflect the requirements of Schedule 4 of the 1999 Regulations. The emphasis of the Environmental Impact Assessment will be on the systematic analysis and presentation of the environmental effects to provide a focus for public scrutiny. To this end, the non-technical summary will be made available to interested parties and individuals in a form that encourages participation in the planning consultation process.

We look forward to receiving any comments you may have on the above and confirmation of the scope of the Environmental Impact Assessment. We are aware that you have five weeks from receipt to respond as required by Part IV(4) of the 1999 Regulations, however, given the strategic importance of these development proposals we would be grateful for an earlier response. In the interim, please do not hesitate to contact us if you require any further information or if you wish to discuss the content of this scoping letter further.

Yours sincerely

**GARETH WILLIAMS**  
**SENIOR ASSOCIATE DIRECTOR**

## **ES ADDENDUM**

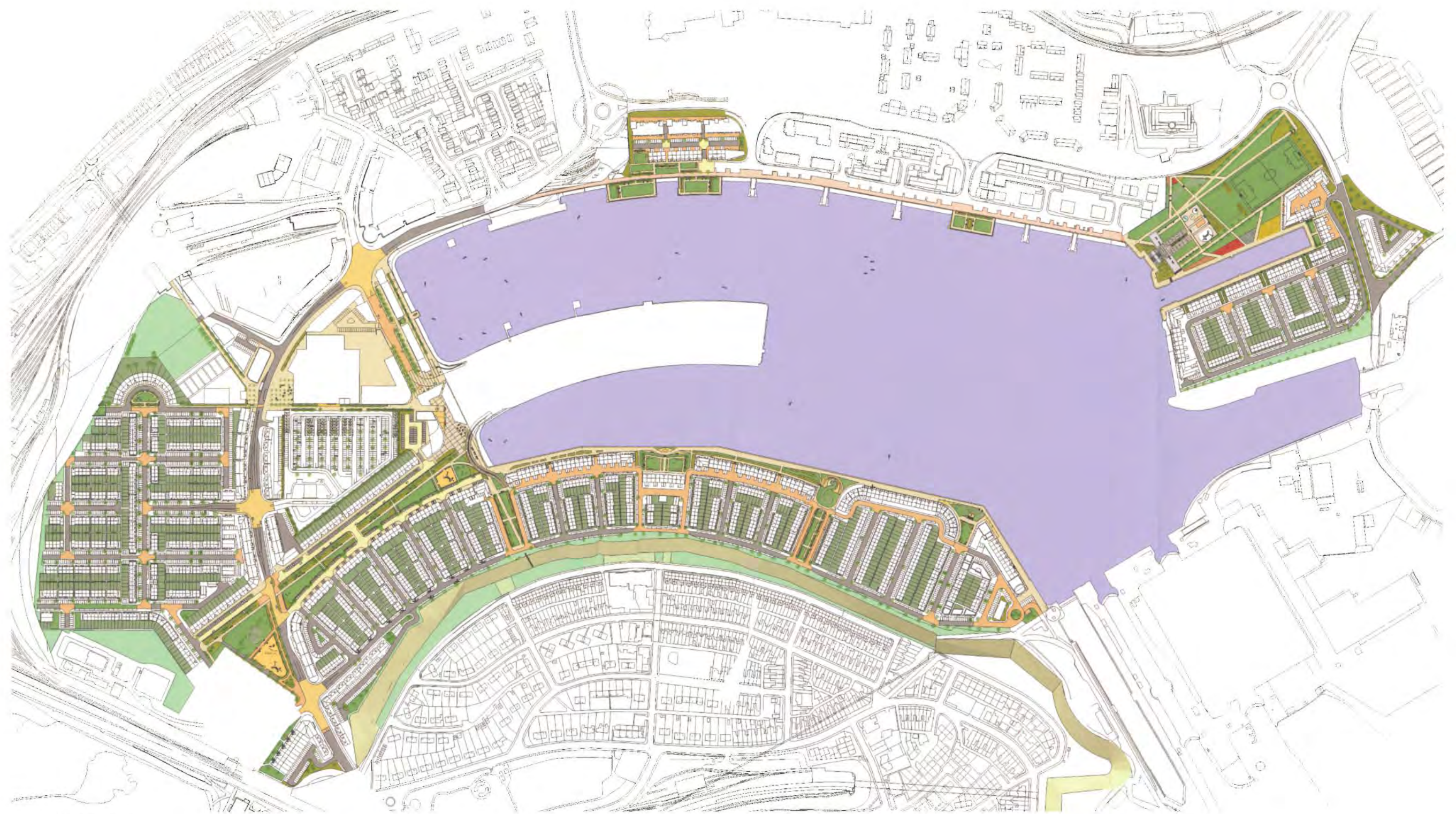
### **Appendices**

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Appendix 2.2 Amended Plans for Consideration in January 2010 including Plan Schedule

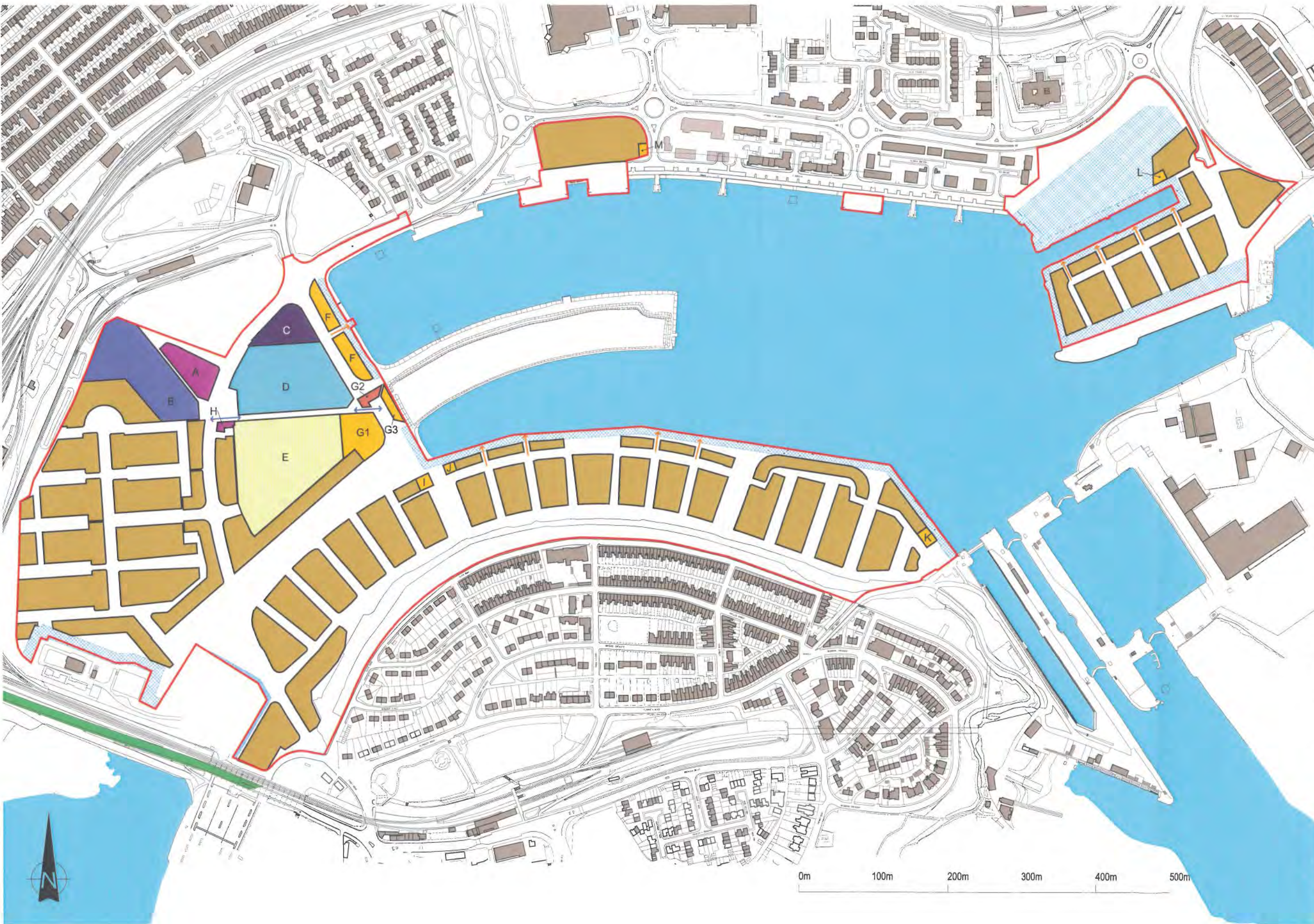
**Appendix 2.2** Schedule of Amended Plans submitted for consideration in January 2010

<b>Plan Description</b>	<b>Drawing Number</b>	
	<b>Barry Waterfront ES (August 2009)</b>	<b>ES Addendum (January 2010)</b>
Planning Application Boundary	SK201 Revision: -	No Change
Illustrative Masterplan	0833101/Pre/SK/041	0833101/Pre/SK/041 Rev A
Parameter Plan 1: Building Envelope and Proposed Uses	SK202 Revision: -	SK202 Revision A
Parameter Plan 2: Building Heights	SK203 Revision: -	SK203 Revision A
Parameter Plan 3: Movement	SK204 Revision: -	SK204 Revision A
Parameter Plan 4: Public Open Space	SK205 Revision: -	SK205 Revision A
Barry Waterfront Illustrative Character Areas	No reference	No reference – amended plan is within ES Addendum Appendix 2.2



**Barry Waterfront**  
Illustrative Masterplan (0833101/Pre/SK/041-Rev A)

approx. scale 1:5000 at A3  
do not scale from drawing - for illustrative purposes only



**KEY**

- C3 Residential
- B1 Office / C3 Residential
- Education & Associated playing field
- C1 Hotel / B1 Office
- A1 Retail
- Carpark for A1 Retail & Petrol filling station
- A3 Retail / C3 Residential
- A3 Retail / C3 Residential / D2 Community Uses
- No build zone
- Break in building line 6m min
- Break in building line 8m min.

**Schedule**

C3 Residential development: up to 2,000 dwellings  
 West Pond 500-700 dwellings  
 South Quay 650-900 dwellings  
 East Quay 100-250 dwellings  
 Arno Quay 75-200 dwellings  
 District Centre up to 150 dwellings

A1 Retail use: 6,525 sq. m food store and 2,300sq m of non-food retail

A3 Café, restaurant, drinking establishment: between 750sqm – 1,820sqm

B1 Offices: up to 3,450sqm

C1 Hotel: up to 3,500sqm

This plan defines the maximum envelope of proposed buildings and their proposed use. The proposed building line is subject to a +/-4m variation

Community use up to 400sqm in either F or G2

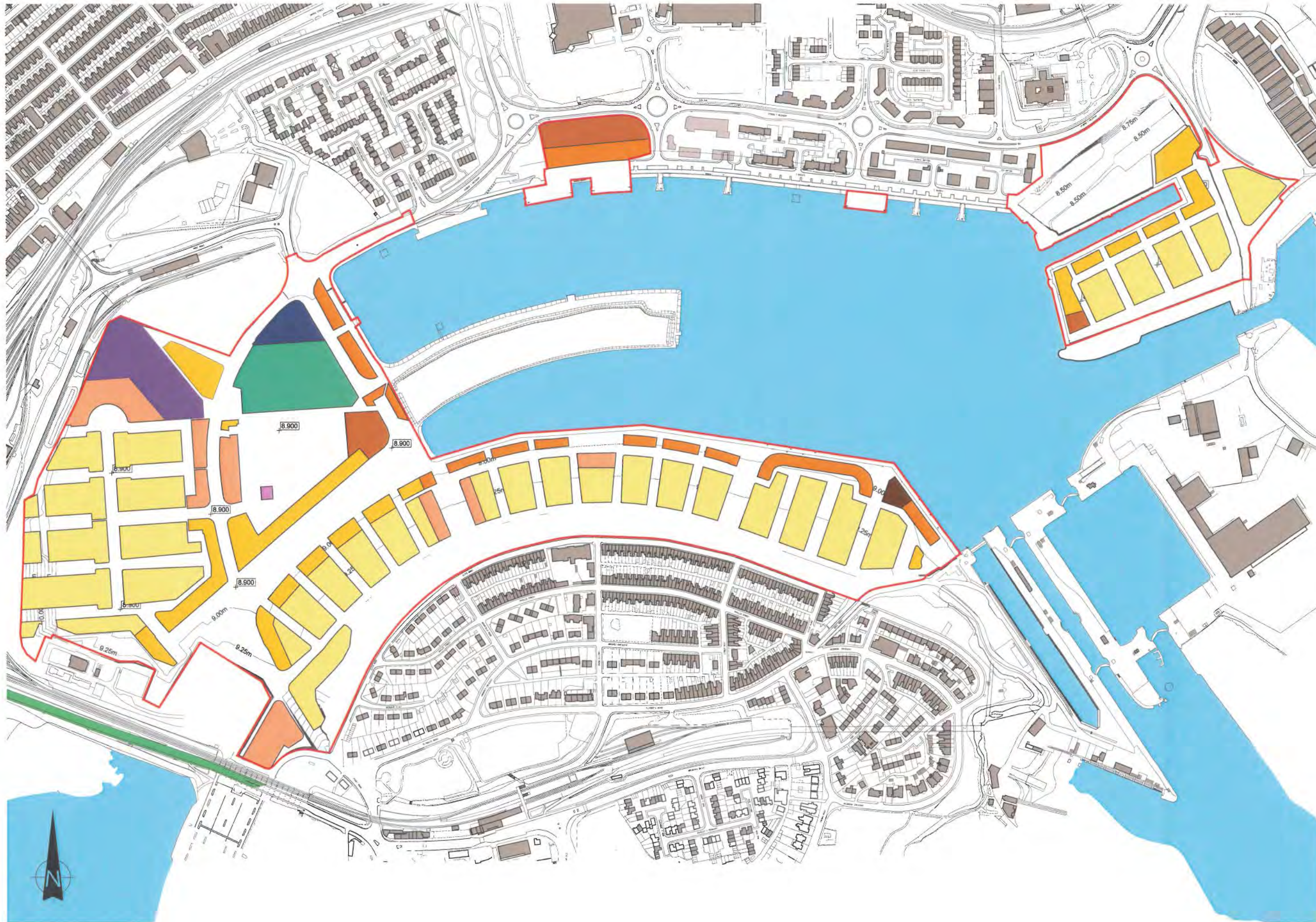
**Plot Use and Floorspace**

- A** B1 Offices: up to 1,360sqm; C3 dwellings up to 40 apartments
- B** D1 School: up to 2,760sqm
- C** C1 Hotel: up to 3,500sqm; B1 offices: up to 1,590sqm
- D** A1 Retail: up to 8,825sqm
- E** Car parking for A1 retail up to 600 spaces and a Petrol Filling Station
- F** A3 Café, Restaurant, Drinking Est. up to 260sqm; C3 dwellings: up to 40 dwellings
- G1** A3 Café, Restaurant, Drinking Est. up to 984sqm; C3 dwellings: up to 47 apartments
- G2** A3 Café, Restaurant, Drinking Est. up to 408sqm; C3 dwellings: up to 15 apartments
- G3** A3 Café, Restaurant, Drinking Est. up to 513sqm; C3 dwellings: up to 18 apartments
- H** B1 Offices: up to 219sqm; C3 Dwellings: up to 8 apartments
- I,J,K** A3 Cafe, Restaurant, Drinking Est. Up to 555sqm at ground floor
- L** A3 Cafe, Restaurant, Drinking Est. Up to 130sqm at ground floor
- M** A3 Cafe, Restaurant Drinking Est. Upto 200sqm at ground floor

**Holder Mathias architects**

Barry Waterfront	Job No: 3514	Rev: A
	Dwg No: SK202	

Title: Parameter Plan 1 - Building envelope and proposed uses					
Date: 29/07/09	Drawn: JK	Check: ***	Status: Sketch	Scale: 1:2500 @A1	
Client: 029 2049 8681 London: 020 7287 0720 www.holdermathias.com					



KEY

Residential / Mixed Use

- 2-2.5 Storey (7.5m +/-2m)
- 2-3 Storey (7.5 -10m +/-2m)
- 3 Storey (9.5m +/-2m)
- 3-4 Storey (9.5-12.5m +/-2m)
- 3-5 Storey (9.5m-15.5m +/-2m)
- 5-7 Storey (18m-22m +/-2m)
- 3-7 Storey (9.5m - 22m +/-2m)

Non-Residential

- (12m +/-2m)
- (5.5m +/-2m)
- (5-8.5m +/-2m)
- (11.5m +/-2m)

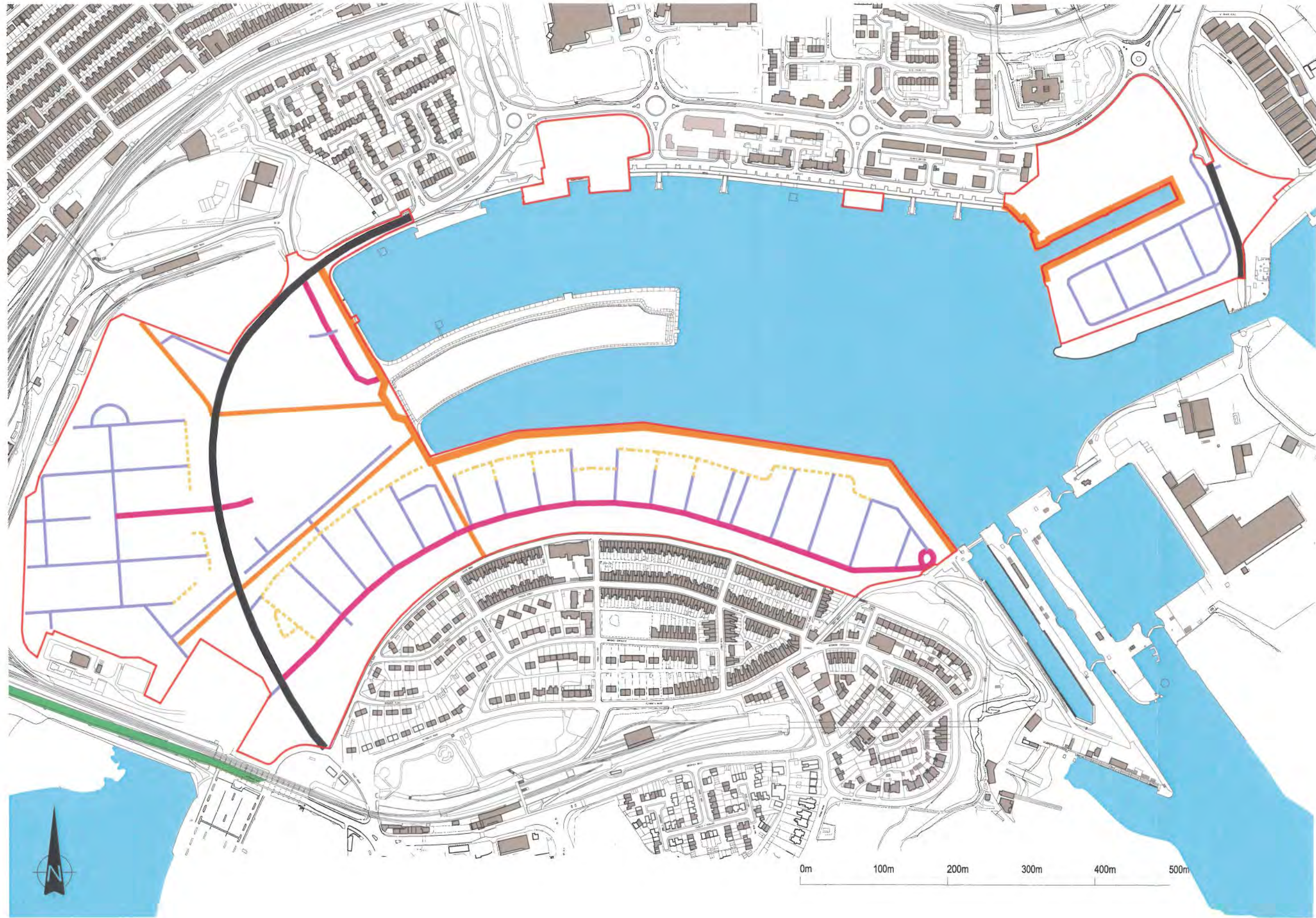
- 8.900 Proposed spot height
- 8.50m Proposed contours



Holder Mathias architects

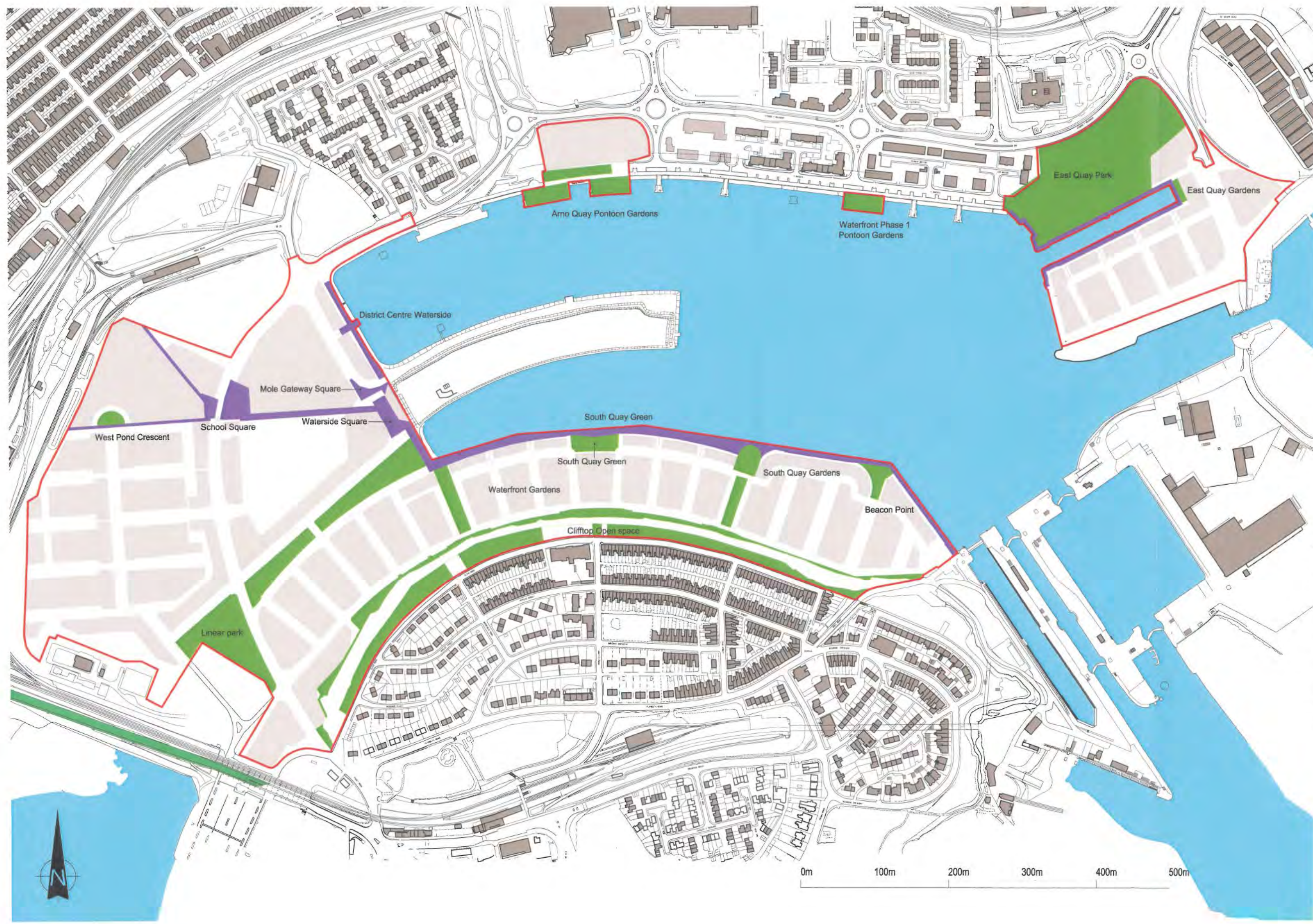
Barry Waterfront  
 Job No: 3514  
 Dwg No: SK203  
 Rev: A

Title: Parameter Plan 2 - Building heights  
 Date: 29/07/09  
 Drawn: JK  
 Check: CJ  
 Status: Sketch  
 Scale: 1:2500 @A1  
 Client: 025 2049 8081  
 London: 020 7287 0735  
 www.holdermathias.com



KEY

- Pedestrian/ Cycle route min. 6m
- Pedestrian/ Cycle route 3-6m
- Primary vehicle route
- Secondary vehicle route
- Tertiary vehicle route
- Shared surface



**KEY**

- Green open space
- Public realm

**Public Open Space Schedule**

Total public open space provided: 6.24ha

Total public realm provided: 1.72ha

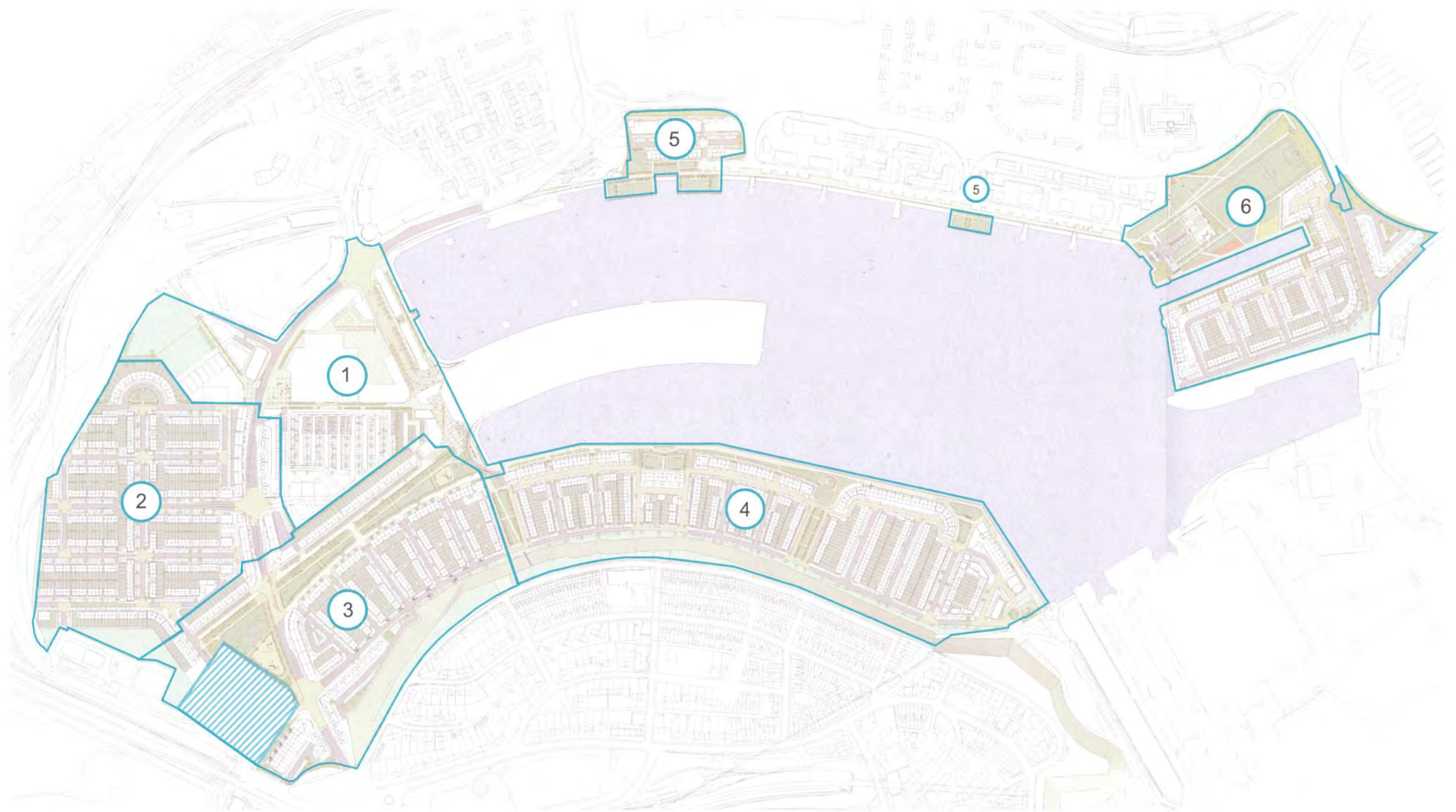
Total public open space and public realm: 7.96ha

Of which children's play areas: 0.59ha  
 (LAP's: 0.27ha, LEAPs & NEAPs: 0.32ha)

**Note:**  
 Total figure includes: Whole of cliff top open space and ecological mitigation areas.

Total figure excludes:  
 VoG Land adjacent to Linear Park : 0.52ha,  
 and Proposed Ecological Mitigation Areas  
 (not accessible for POS use)





**Barry Waterfront  
Illustrative Character Areas**

approx. scale 1:5000 at A3  
do not scale from drawing - for illustrative purposes only

**Key**

Character Area Boundary



Area within character area but outside of application boundary



- 1 District Centre
- 2 West Pond
- 3 South Quay: Parkside
- 4 South Quay: Waterside
- 5 Arno Quay & Castle Land Quay
- 6 East Quay