

EIA Scoping Report

Monarchs Quay, Liverpool

Prepared on behalf of YPG Developments Ltd

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1 Introduction

- 1.1 This Scoping Report has been prepared by Knight Frank LLP who have been appointed by YPG Developments Ltd to seek planning permission for a hybrid application for a proposed mixed use development at Monarchs Quay, Liverpool.
- 1.2 A hybrid planning application for the proposed mixed use development is currently being prepared. The purpose of this Scoping Report is to agree the scope of the Environmental Impact Assessment (EIA) which will accompany the planning application submission.
- 1.3 This scoping report is accompanied by a Screening Opinion request where Knight Frank have concluded that the proposal does constitute development requiring an Environmental Impact Assessment.
- 1.4 The EIA scoping process presents an opportunity for the Council and other consultees to comment on the proposed methodologies for assessing potential environmental impacts and identify any other issues they consider relevant to the process.

2 The Site

- 2.1 The application site covers approximately 5.5ha/13.8 acres of land at Monarchs Quay in Liverpool. The site is bounded by Wapping Dock / Queens Dock and the River Mersey. To the north west of the site is the Arena and Convention Centre (which is also known as the Echo Arena) and The Exhibition Centre Liverpool and to the south of the site is The Keel apartment complex.
- 2.2 The site is accessed by Queens Wharf road which separates Wapping Dock and Queens Dock. The site is within close proximity to Liverpool City Centre, which can be accessed via Wapping.
- 2.3 The site is a brownfield site which currently comprises a number of surface car parks and green space. The existing buildings on the site comprise two substations and the Hydraulic Tower, a Grade II listed building.
- 2.4 There are no Scheduled Monuments, Registered Parks and Gardens or Registered Battlefields within the Site boundary, although a single listed building lies on the eastern boundary of the Site. This comprises the restored Hydraulic Tower at Wapping Dock (List Entry No 1062575), which was built in 1856 to supply power to the adjacent Wapping Warehouse (lying outside the Site boundary). The tower is afforded statutory protection as a Grade II listed building, whilst the adjacent warehouse is Grade II* listed.
- 2.5 The eastern edge of the Site lies slightly astride the southern boundary of the Albert Dock Conservation Area, which coincides with the southern boundary of the Liverpool Maritime Mercantile City World Heritage Site, a designated area of Outstanding Universal Value and international significance. The majority of the Site lies within the Buffer Zone of the World Heritage Site.
- 2.6 A site location plan is enclosed at **Appendix 1**.

3 The Proposal

- 3.1 A Masterplan has been prepared to demonstrate the development proposals for the full extent of the site.
- 3.2 In summary, the Masterplan shows the following mix of uses:
- Building 1 – Commercial Block occupied by TCC - 4 Storey (c.4,500 sq.m.) – submitted in full
 - Building 2 – Interpretation Centre / Office - 2 Storey (c. 400- 500sq.m.) – submitted in full
 - Building 3 – Ground Floor Retail (c. 2,500 sq. m.) and Multistorey car park (350-400 spaces) – submitted in full
 - Building 4 – Ground Floor Commercial / Food Hub (c. 2,300 sq. m.) and Apartments (120 no.) – submitted in full
 - Building 5 – Ice Rink (2000-3000 seats) and concessions (c. 3,500 sq. m) – submitted in outline
 - Building 6 – Ground Floor Bowling Alley / First Floor Restaurants, Bars (c. 6,400 sq. m) – submitted in outline
 - Building 7 – Ground Floor Car Park (60 spaces) / Apartments (280 no.) – submitted in outline
 - Building 8 – Hotel (250 rooms) – submitted in outline
- 3.3 The Masterplan will also be accompanied by a Phasing Plan and a Design and Access Statement.

4 Requirement For An Environmental Impact Assessment

- 4.1 In accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, an EIA Screening Request has been submitted to Liverpool City Council.
- 4.2 EIA development is defined in the EIA Regulations as being either;
- Schedule 1 Development (major infrastructure); or
 - Schedule 2 Development (likely to have significant effects on the environment by virtue of the development's nature, size or location).
- 4.3 The proposal is not considered to fall within Schedule 1 Development, as it does not comprise major infrastructure. The proposal is, however, considered to fall within Schedule 2, as it can be classified as an Urban Development Project on a site exceeding 0.5ha.
- 4.4 The Local Planning Authority must determine whether the proposals comprise EIA development with regard to Schedule 3 of the Regulations. The criteria set out in Schedule 3 include;
- Characteristics of the development;
 - Location of the development; and
 - Types and characteristics of the potential impact.
- 4.5 The fundamental test when assessing the need for an EIA is whether the proposal is likely to have significant effects on the environment by virtue of the nature of the proposal and the location of the development.
- 4.6 The proposal will involve the redevelopment of 5.5ha of land for a mix of uses including commercial, residential and leisure. The size and quantum of development proposed of the site is a significant factor when determining whether EIA is required. A large scale development of this size is likely to pose potential environmental impacts; therefore an EIA would be necessary in order to identify how these impacts will be addressed.
- 4.7 The accompanying letter therefore seeks the Council's agreement that an EIA is required.

5 Structure of the Environmental Statement

- 5.1 The Environmental Statement will comprise two parts; Volume 1 is a Non-Technical Summary, which will summarise Volumes 2a and 2b. Volumes 2a and 2b contain the detailed assessment of significant environmental effects covered by subject area, with a series of Technical Appendices for each of the individual topics.
- 5.2 The introductory Chapters will set out the background to the project, UK Government Policy and background to the Environmental Statement. This will be followed by agreed Chapters which will set out the assessment of the proposed development.
- 5.3 The main body of the Environmental Statement will cover the key environmental aspects that may be affected by the proposed development and will evaluate the potential impacts that may occur as a result of the development. For each technical assessment, a methodology for the assessment of impacts will be presented. A description of the baseline environmental conditions will then be provided followed by an assessment of the effects of construction and operation. Appropriate mitigation measures will be set out in each technical assessment.

6 Content of the Environmental Statement

Introduction

- 6.1 This Chapter will establish the proposed development and provide background information, details of the project team and the structure of the Environmental Statement.

Assessment Methodology and Significance Criteria

- 6.2 This Chapter will set out the background to the requirement for an EIA and describe the scoping process, along with consultations undertaken at the various stages of the project. General background to the methodology used in the EIA will be outlined in addition to an Assessment of Alternatives.

Project Description

- 6.3 This Chapter will present details of all components of the proposed development and will include a description of the proposed development in terms of construction and likely phasing.

Planning Policy Context

- 6.4 This Chapter will establish the relevant planning policy framework at both national and local level and appraise the proposal in relation to key planning policies and considerations. All statutory Development Plan policies will be considered, in addition to any relevant material considerations such as those found in national planning policy guidance.
- 6.5 A brief note on relevant policies can be found at **Appendix 2**.

Environmental Issues

- 6.6 Set out below are the key environmental issues (and relevant chapters of the ES), which will be assessed as part of the Environmental Statement:
- Air Quality;
 - Archaeology;
 - Ecology and Nature Conservation;
 - Flood Risk and Drainage;
 - Heritage;
 - Land Contamination;
 - Transport;
 - Microclimate;

- Daylight, Sunlight and Overshadowing; and
- Noise

7 Air Quality

- 7.1 Consultation will be undertaken with the relevant Environmental Health Officer at Liverpool City Council (LCC) to agree the precise scope of the methodology.
- 7.2 As part of the Environmental Impact Assessment (EIA), the air quality assessment will include consideration of both the construction and operational phases of development. The assessment of construction phase effects will concentrate on dust and fine particulate matter (PM10). The assessment of operational phase effects will concentrate on the potential impact of road vehicle emissions (nitrogen dioxide, NO₂, and fine particulate matter, PM10 and PM2.5) on ambient air quality.
- 7.3 The construction phase assessment will be undertaken in accordance with the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction' (February 2014). The assessment is qualitative in nature and will consider the potential dust soiling, human health (as a result of PM10) and ecological effects (where applicable) at existing sensitive receptor locations, as a result of demolition, earthworks, construction and the trackout of dirt and mud onto the public highway.
- 7.4 The operational phase assessment will be undertaken using the ADMS-Roads air dispersion model. Meteorological data will be obtained from the most representative recording station, for input into the model. Background pollutant concentrations will be obtained from an existing background monitoring location, or the Defra default concentration maps, as appropriate. Model verification will be undertaken using existing air quality monitoring data, obtained from LCC, where possible.
- 7.5 The assessment will consider the potential air quality effects, as a result of road traffic emissions, at representative existing sensitive receptor locations. It is likely that this will include nearby residential dwellings, including those adjacent to the A5036 Wapping.
- 7.6 Given the location of the site away from major sources of pollution, air quality is not considered to be a significant issue at the site itself. However, pollutant concentrations will be predicted at locations considered to be representative of the proposed residential uses to confirm that the proposed use is appropriate.
- 7.7 All predicted pollutant concentrations will be compared against the relevant annual mean Air Quality Objectives, as detailed in the Air Quality Standards Regulations 2010. The predicted impacts will be compared against the significance criteria included within the Environmental Protection UK (EPUK) and IAQM document 'Land-Use Planning and Development Control: Planning for Air Quality' (May 2015).

- 7.8 The cumulative impacts of other relevant developments will be considered, where necessary.
- 7.9 The results of the air quality assessment will be detailed in an ES chapter to be submitted as part of the EIA for the proposed development.

8 Archaeology

- 8.1 The following presents a brief overview of the baseline conditions, the potential and significance of buried archaeological remains within the Site, and a method statement for assessing the impact of development on these sites of archaeological interest.
- 8.2 There are no Scheduled Monuments, Registered Parks and Gardens or Registered Battlefields within the Site boundary, although a single listed building lies on the eastern boundary of the Site. This comprises the restored Hydraulic Tower at Wapping Dock (List Entry No 1062575), which was built in 1856 to supply power to the adjacent Wapping Warehouse (lying outside the Site boundary). The tower is afforded statutory protection as a Grade II listed building, whilst the adjacent warehouse is Grade II* listed.
- 8.3 The eastern edge of the Site lies slightly astride the southern boundary of the Albert Dock Conservation Area, which coincides with the southern boundary of the Liverpool Maritime Mercantile City World Heritage Site, a designated area of Outstanding Universal Value and international significance. The majority of the Site, however, lies within the Buffer Zone of the World Heritage Site, and whilst it does not share the same Outstanding Universal Value, the importance of any archaeological assets within the Site will nevertheless be enhanced by their historical association with those within the World Heritage Site.
- 8.4 None of the known buried heritage assets within the Site are afforded statutory designation, and would thus not necessarily require preservation in-situ. Amongst these buried remains, which are considered to be non-designated heritage assets, are important elements of the Liverpool's former network of docks and associated infrastructure.
- 8.5 The majority of the Site lies within the footprint of one of the King's Branch Docks and the Queen's Branch Dock, which both originated in the late 18th century and were infilled during the 1980s. The footprint of smaller structures lying within the Site that are of potential archaeological interest include (but are not limited to) Dock Masters' offices, a custom house depot, storage sheds and infrastructure such as a swing bridge, dock gates and local railway network. Further investigation has yet to be undertaken to establish whether any buried remains of these historic structures survive in-situ.
- 8.6 Groundworks for the proposed redevelopment of the Site, including the reduction or other disturbance of ground levels, have the potential for having a direct impact by damaging or destroying buried archaeological remains that do survive in-situ, and these remains may merit preservation by record where they will be directly affected by development.

Baseline Conditions

- 8.7 The development of Liverpool from a small fishing port to a city of massive international significance was largely prompted by the construction of the docks. The first dock constructed in Liverpool was Thomas Steer's Old Dock, which was completed in 1700. This set a precedent for the continuous expansion and development of Liverpool's waterfront through a series of ingenious engineering feats that radically altered the face of Liverpool and defined its place on the world stage during the 19th century. The Outstanding Universal Value of Liverpool's historic centre and docklands were acknowledged in 2004, when the area was inscribed as a World Heritage Site by the World Heritage Committee of UNESCO.
- 8.8 The northern part of the Site incorporates part of the footprint of the King's Dock. Designed by Henry Berry, this dock was originally 6.25 acres and was opened in 1789. Situated immediately to the south was the Queen's Dock, which was 7.75 acres, and was opened in 1795. It incorporated two graving docks, two grid irons and a shared tidal entrance basin (the Queen's Dock Basin). Tobacco was the mainstay of these two docks, although they were also used for a variety of freight from the Mediterranean, Africa and South America. Internal communication between the various docks on Liverpool's waterfront was improved in 1855, when the Wapping Dock and Wapping Basin were constructed, together with an arterial road and railway.
- 8.9 The Queen's Dock Basin was modified into a half-tide dock in the late 19th century, and widened in 1905, whilst the King's Dock was adapted into the two King's Branch Docks that were accessed by creating a breach in the west wall of Wapping Dock. Both of the docks within the Site boundary were eventually abandoned as they became impractical for use by the larger ships of the 20th century, and were infilled during the 1980s.
- 8.10 Potential: all of the known archaeological assets within the Site developed from the late 18th century onwards as a direct result of the development and expansion of Liverpool as a port of international repute. This period offers the greatest potential for the survival of buried archaeological remains, with little or no potential for remains deriving from any earlier periods.
- 8.11 Significance: given their location within the Buffer Zone of the Liverpool Maritime Mercantile City World Heritage Site, buried structural remains of the former docks, associated buildings and infrastructure within the Site boundary have sufficient archaeological potential to merit further investigation to determine their significance. The majority of the area in the Site boundary, however, comprises the infilled bodies of the former docks, which are of lesser archaeological interest.

Method Of Assessment

- 8.12 In line with the National Planning Policy Framework (NPPF) and local planning policies, an archaeological desk-based assessment will be prepared to establish the significance and value of known heritage assets and the potential for the presence of unknown buried heritage assets. The

desk-based assessment will be based on the following:

- Review of the Merseyside Historic Environment Record;
- Historic England's online National Heritage List for England;
- Historical maps, and published and unpublished secondary sources held by Liverpool Record Office, the Merseyside Maritime Museum, and Liverpool Local Studies Library, and;
- Consultation with the Merseyside Environmental Advisory Service, in their capacity as archaeological advisors to Liverpool City Council.

- 8.13 A qualitative assessment of the potential effects of the proposed development on the buried archaeological assets will be undertaken and, where necessary, recommendations will be made regarding a strategy to record and advance an understanding of any below-ground remains that may be damaged or destroyed during the proposed construction work, in a manner appropriate to their importance and impact. This approach will be in accordance with the NPPF, Paragraph 141 and, in the first instance, is likely to require archaeological evaluation works such trial trenching. The archaeological desk-based assessment and any further archaeological investigation reports will be appended to the ES.
- 8.14 The desk-based assessment will identify the significance of the archaeological resource of the Site. In order to assess the potential impact of any future development, the ES will afford consideration to:
- any impact and the significance of the effects arising from the proposed development of the Site;
 - evidence for past impacts that may have affected the sites of archaeological interest identified during the desk-based assessment;
 - outlining suitable mitigation measures, where possible at this stage, to avoid, reduce, or remedy adverse impacts.
- 8.15 Such impacts on the identified archaeological sites may be:
- positive or negative;
 - short, medium or long term;
 - direct or indirect;
 - reversible or irreversible.
- 8.16 Key impacts will be identified as those that will potentially lead to a change to the sites of archaeological interest. Each potential impact will be determined as the predicted deviation from the baseline conditions, in accordance with current knowledge of the site and the proposed development. Table 1 shows the sensitivity of the site scaled in accordance with its relative importance using the following terms for the archaeology issues, with guideline recommendations for a mitigation strategy.

8.17 Table 1: Criteria used to determine Importance of Sites

8.18

Importance	Examples of Site Type	Mitigation
International/ National	World Heritage Sites, Scheduled Monuments (SMs), Grade I, II* and II Listed Buildings	To be avoided
Regional/County	Conservation Areas, Registered Parks and Gardens (Statutory Designated Sites), Sites and Monuments Record/Historic Environment Record	Avoidance recommended
Local/Borough	Sites with a local or borough archaeological interest Sites that are so badly damaged that too little remains to justify inclusion into a higher grade	Avoidance not envisaged
Low Local	Sites with a low local archaeological value Sites that are so badly damaged that too little remains to justify inclusion into a higher grade	Avoidance not envisaged
Negligible	Sites or features with no significant archaeological value or interest	Avoidance unnecessary

8.19 The impact will be assessed in terms of the sensitivity of the site to the magnitude of change or scale of impact during the redevelopment scheme. The magnitude, or scale of an impact is often difficult to define, but will be termed as substantial, moderate, slight, or negligible, as shown in Table 2.

8.20 Table 2: Criteria used to determine Scale of Impact

8.21

Scale of Impact	Description
Substantial	Significant change in environmental factors; Complete destruction of the site or feature; Change to the site or feature resulting in a fundamental change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.
Moderate	Significant change in environmental factors; Change to the site or feature resulting in an appreciable change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.

Slight	Change to the site or feature resulting in a small change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.
Negligible	Negligible change or no material changes to the site or feature. No real change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.

8.22 The interaction of the scale of impact (Table 2) and the importance of the archaeological site (Table 1) produce the impact significance. This may be calculated by using the matrix shown in Table 3:

8.23

Resource Value (Importance)	Scale of Impact Upon Archaeological Site			
	Substantial	Moderate	Slight	Negligible
National	Major	Major	Intermediate/ Minor	Neutral
Regional/County	Major	Major/ Intermediate	Minor	Neutral
Local/Borough	Intermediate	Intermediate	Minor	Neutral
Local (low)	Intermediate / Minor	Minor	Minor/ Neutral	Neutral
Negligible	Neutral	Neutral	Neutral	Neutral

8.24 The impact significance category for each identified archaeological site of interest will be qualified, and recommended mitigation measures will be provided to impacts that are of moderate significance or above. It is also normal practice to state that impacts above moderate significance are regarded as significant impacts. It is important that the residual impact assessment takes into consideration the ability of the mitigation to reduce the impact, and its likely success.

Summary of Assessment Scope

8.25 The scoping assessment of the Site has concluded that the proposed development, in the absence of any further investigation or mitigation, has potential to cause significant harm to non-designated archaeological assets, given their location in the Buffer Zone of the Liverpool Maritime Mercantile City World Heritage Site, and close historical association with heritage assets of Outstanding Universal Value. It would thus be appropriate for archaeological issues to be 'scoped in' an Environmental Statement for the proposed development.

9 Ecology and Nature Conservation

- 9.1 Below is a summary of the proposed ecology assessment; the full scoping report is attached at **Appendix 3**.
- 9.2 The site contains no statutorily designated nature conservation sites, however Mersey Narrows & North Wirral Foreshore (Ramsar) and Mersey Narrows (SSSI) are located approximately 1.9km to the north west of the site.
- 9.3 There are 9 non-statutory designated nature conservation sites within 2km of the site boundary including 8 'Liverpool Local Geological Sites' and 1 'Nature Improvement Area'. The non-statutory site in closest proximity to the development site is the 'Mersey Estuary - Nature Improvement Area', which lies approximately 20m to the west of the site boundary.
- 9.4 Habitats on site comprise areas of hardstanding, amenity grassland, bare ground, introduced shrub and ornamental tree planting, and three buildings. Generally the site is classified as having a low conservation value. None of the habitats within the site are of significant interest in terms of the plant species composition, nor do they have characteristics of semi-natural habitats. No rare or locally uncommon plant species or invasive species as listed under the Wildlife and Countryside Act 1981 (as amended) were detected at the site.

Impact Assessment

- 9.5 It is anticipated that no statutory or non-statutory sites in the local area will be affected by the proposed development.
- 9.6 There is a distinct lack of complimentary habitats present within the application site compared to the Ramsar and SSSI sites, therefore it is considered that there will be no significant adverse effect on the statutory sites in the local area. Consequently, as the preliminary assessment of the application site identified that the North Wirral Foreshore (Ramsar) site will not be impacted as a result of the development, it is therefore anticipated that a Habitats Regulations Assessment will not be required.
- 9.7 Liverpool Local Geological Sites are designated due to their geological interest, therefore it is considered that there will be no significant adverse effect in terms of ecology on these non-statutory sites as a result of the development.
- 9.8 The Mersey Estuary Nature Improvement Area is a designated area in which opportunities may lie to establish and improve ecological networks by enlarging, enhancing and connecting existing wildlife

sites and creating new sites. Therefore it is considered that there will be no significant adverse effect on this non-statutory site, however ecological enhancements within the development proposals may contribute to its aims.

9.9 Concerning habitats and species in the absence of suitable mitigation:

- The loss of introduced shrub and ornamental trees may have an adverse effect of wildlife, connectivity across and around the site, and cause loss of foraging and sheltering opportunities for wildlife in general, however this effect is anticipated to be limited due to the habitats being disconnected and of low quality to wildlife;
- Removal of vegetation could adversely affect breeding birds;
- Works to the Hydraulics building could adversely affect roosting bats if found to be present;
- Construction works have the potential to cause harm to fox, hedgehog etc. should one venture on to the site;
- Indirect impacts to aquatic species as a result of discharge and pollution into adjacent waterbodies affecting water quality.

Mitigation

9.10 Concerning protected species and avoidance of the impacts highlighted above, the following is recommended:

- The retention of the trees and shrubs where feasible, or replacement planting using appropriate native species;
- Vegetation clearance such as introduced shrub and tree pruning works to be undertaken outwith the nesting bird period (March – August inclusive) unless checks by a suitably qualified ecologist (SQE) find active nests to be absent immediately prior to works commencing;
- Habitat and mitigation enhancement to include use of appropriate native tree and shrub species;
- The removal of any tree/shrub cuttings from site once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to nesting birds and other sheltering wildlife, which could subsequently be harmed if the brash pile is burnt or removed with machinery;
- The adoption of precautionary working methods to avoid potential harm to mammal species such as fox;
- Hydraulics building - In accordance with the Bat Conservation Trust publication Bat Surveys Good Practice Guidelines (2016) further assessment is recommended to ascertain the presence/absence of roosting bats and the potential requirement for mitigation/licensing prior to development works commencing. This would include one activity survey undertaken within the appropriate survey season (May – August). This would aim to detect any bats emerging/re-entering the building, determine the species using the building and the type of roost present, i.e. a maternity roost, temporary summer/day roost, etc. In the event of bat roosts being found further activity surveys would be required and a licence from Natural England may be required, with

appropriate mitigation and working methods;

- Implementation of a lighting scheme within proposals that minimise illumination of the site boundaries i.e. river edges;
- The installation of bat and bird boxes within the development proposal;
- Discharge and pollution control must be compliant with attenuation and treatments to minimise pollution to water courses.

Residual Effects and Effects

- 9.11 The loss of open space which has evidence of use by feeding herring gull, however given the abundance of similar habitats with the local and wider area, it is considered that this will not have a significant adverse effect on such species. Bats cannot be fully assessed until further survey work is undertaken, however due to low habitat quality and low potential of a building, this is not anticipated to be significant.

10 Flood Risk and Drainage

- 10.1 Below is a summary of the proposed flood risk assessment; the full scoping report can be found at **Appendix 4**.
- 10.2 A Flood Risk Assessment is required where a development is:
In Flood Zone 2 or 3 including minor development and change of use;
- More than 1 hectare (ha) in Flood Zone 1; or
 - Less than 1 ha in Flood Zone 1, including a change of use in development type to a more vulnerable class (e.g. from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (e.g., surface water drains, reservoirs).
- 10.3 The site is located within Flood Zone 1 (low risk) with the southern extent located within Zones 2 and 3 (medium and high risk).
- 10.4 It is noted that the proposal is for mixed use development with the indicative development plan showing parts of the site is within tidal flood zones 2 and 3. All development types are acceptable within Flood Zone 1. The inclusion of 'more vulnerable' development, of which residential is classified, within Flood Zone 3 should not be permitted and could be subject to successful application of the sequential and exception tests.
- 10.5 'Less vulnerable' uses, such as leisure and commercial, which form part of the mixed use proposal are permitted within Flood Zone 3a. In order to comply with the requirements of NPPF, it is recommended that more vulnerable uses are restricted to Flood Zone 1. However, the developable area as shown with the supplied development plan can remain unchanged, if less vulnerable uses are reserved for Flood Zone 3a. The extent of Flood zone 3a, within the Site, would be subject to inclusion of climate change allowances and may change from that shown on the Environment Agency flood map.
- 10.6 It has been identified that the site is located largely outside the mapped extent of surface water flooding. There are however ponded areas of 'low risk' surface water flooding located within the Site. The ponded areas of surface water flooding appear to be associated with topographic low spots. This type of surface water flooding would be managed through the existing highway drainage network. As previously described, the Lead Local Flood Authority (LLFA) have no records of flooding within the Site.
- 10.7 The nature and location of the site along with a statement from the LLFA of 'the area is not susceptible to high ground water levels' means groundwater flooding within the Site is unlikely, but

groundwater flooding and all other sources of flooding should be investigated further within a full FRA report.

Existing Drainage Arrangement

- 10.8 The Site is 5.5 Ha in area, and is predominantly asphalt, hardstanding, metalled road and brownfield areas.
- 10.9 Based upon current land use within the site and high percentage of hardstanding, it is highly likely that a significant proportion of rainfall volumes enter the existing highway and surface water drainage network (Figure 3.1) with very little infiltration into the underlying geology. The use of greenfield runoff rates are not considered applicable for the Site.
- 10.10 Due to the sloping nature of the masonry abutments adjacent to Wapping and Queens Docks, with a total area of ~0.35 Ha, surface water will naturally drain into the docks.
- 10.11 Figure 3.7, showing the received United Utilities asset plan, shows a private 225mm surface water main sewer within the Liverpool Exhibition centre, located to the West of the Site. This links to a public 750mm surface water main sewer running parallel to Kings Parade, outside the site boundary. The 750mm sewer discharges directly to the River Mersey to the West of the site. It is currently unknown whether drainage to the surface water main sewer is restricted to the exhibition site, or whether it includes areas of the proposed development Site.
- 10.12 Figure 3.6 only shows concessionary and private lateral line drainage within the eastern and southern areas of the site with no detail with regards to outfall locations.
- 10.13 The LLFA have stated that they hold no further information regarding existing drainage within the site.
- 10.14 During the site walkover conducted by Enzygo on the 10th January 2017, the existing surface water drainage strategy was not apparent. As stated above, the nature of existing land use within the Site means that an existing surface drainage network would be present. The details of this are currently unknown and would be subject to further site investigation through CCTV surveys, lifting of manholes and receipt of a detailed topographic survey.
- 10.15 Due to the encapsulation of the site by both the River Mersey and the Docks, it is highly likely that these would form the receptors for existing surface water discharge.

Proposed Development and Drainage Arrangement

- 10.16 Based upon the poor permeability and contaminated nature of the underlying soils and geology, disposal of surface water by infiltration is unfeasible and prohibited.
- 10.17 Based upon the supplied development plan, a large proportion of the proposed buildings are in current areas of hardstanding and as such, it is not envisaged that these would increase the impermeability, and subsequent run off volumes, from the site. In these areas, it is proposed that existing surface water drainage connections are maintained. Where the impermeable area draining to a surface water receptor has decreased or remains unchanged post-development, the peak and volume rate of run-off requirements for surface water run off should be met by default. However, this would be subject to agreement with the LLFA and Canal and Rivers Trust. It is proposed that a detailed comparison of existing and proposed areas of hardstanding is conducted to determine percentage changes of hardstanding within the Site. Drawings clearly showing the impermeable areas of the Site draining to the surface water receptor should be provided for the pre- and post-development scenarios. Figures would also be given to show a comparison between the areas of drained impermeable surfaces pre- and post-development.
- 10.18 With regards to development of impermeable surfaces in current brownfield areas, the percentage impermeable increase would be determined through comparison of the current land use and development masterplan. It is proposed that these areas are connected to the existing surface water drainage network, subject to capacity checks. The peak rate of run off and volume run off criteria can be deemed to be met by default if the Site discharges rainwater directly to a tidal estuary or the sea. Based upon the likely receptors for current surface water discharge, it is envisaged that attenuation to brownfield rates would not be required. However, as above, this would be subject to agreement with the LLFA and Canal and Rivers Trust.
- 10.19 The classification of the docks as a 'tidal estuary or the sea' would require further consideration and consultation with the LLFA and Canal and Rivers Trust to determine whether free discharge would be permitted due to maintained water levels.
- 10.20 The above drainage proposal is dependent upon successful determination of the current surface water drainage network and receipt of a detailed topographical survey for the Site.

11 Heritage

- 11.1 Below is a summary of the proposed heritage assessment; the full scoping report can be found at **Appendix 5**.
- 11.2 The historic environment associated with the Application Site is largely informed by the development of the dock estate. The docks, to the south of Pier Head, gradually expanded into the tidal margins of the River Mersey during the mid to late C18th following the successful opening of Old Dock in 1715. The significance of the south docks is partly derived from their interconnected layout and related dock management systems. During the late C19th and early C20th the configuration of the docks changed and the docks associated with the Application Site, including Kings Dock, Queens Dock and Wapping Dock, were enlarged and re-aligned.
- 11.3 Outside of the site a series of designated and non-designated heritage assets are known to exist, including the World Heritage Site (WHS), and the associated attributes of the Buffer Zone (BZ), Albert Dock Conservation Area and a series of listed buildings.
- 11.4 In order to define a bespoke study area, a number of different factors have been taken into consideration to ensure that it is specific to the requirements of the Proposed Development. These include:
- The nature and scope of the Proposed Development.
 - The proximity of heritage assets to the Proposed Development. The identification of the relevant heritage assets, summarised in the tables below, has been informed by a search of the National List, the Liverpool City Council website, a search of the Merseyside Historic Environment Record (HER) and a detailed knowledge of the Application Site and adjoining areas, including the attributes of the Liverpool Maritime Mercantile World Heritage Site (WHS) and its Buffer Zone (BZ).
 - The degree of inter-visibility between the identified heritage assets and the Application Site taking into consideration the distance between the Site and asset, interposing townscape and landscape features.
 - The sensitivity of the relevant heritage assets and their setting.
 - Baseline conditions.
- 11.5 Therefore, baseline information will be obtained for the Application Site and the surrounding area within a minimum of approximately 400 metres of the boundary of the Application Site
- 11.6 Due to the flat topography of the dock estate, the shallow 'bowl' of the landform between the docks and the ridge of higher ground occupied by the two Cathedrals to the east, and the expansive

character of the waterfront a series of important landmarks make an important contribution to the City's historic environment. Therefore, in addition to the assessment of heritage receptors identified in the Study Area a series of key views will also be assessed.

Baseline Information

11.7 All designated and non-designated heritage assets within the Study Area will be identified and these will be shown on a Heritage Asset Plan, included as an appendix to the chapter. The baseline information will be compiled from the following sources:

- Historic England Archive
- National Heritage List for England (Historic England)
- Merseyside Historic Environment Record
- Historic Ordnance Survey mapping
- Liverpool City Council
- Detailed visual site inspection
- Other published sources of information where relevant

Heritage Assets

- 11.8 The NPPF defines a heritage asset as “A building, monument, site, place area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest.”
- 11.9 Historic England advice in Managing Significance in Decision-Taking in the Historic Environment Historic Environment Good Practice Advice in Planning 2: confirms that:
“A variety of terms are used in designation criteria (for example, outstanding universal value for World heritage Sites, national importance for scheduled monuments and special interest for listed buildings and conservation areas), but all of these refer to a heritage asset’s significance.”
- 11.10 There are no Registered Parks and Gardens, Registered Battlefields or Scheduled Ancient Monuments within, or close to, the Study Area. From reviewing the National Heritage List there are no listed buildings within the Application Site. The Application Site is located outside of, but close to the boundary, of the Albert Dock Conservation Area. It is located outside of the WHS but within the BZ. A series of designated heritage assets are located within the Study Area.
- 11.11 Heritage assets include designated assets and also those identified by the local planning authority, including local listing. Liverpool City Council does not have a local list of architecturally or historically interesting buildings. However, a Historic Environment Record (HER) search has been completed (09 January 2017) to inform the preparation of this chapter of the Scoping Report with respect to

identifying non-designated built heritage assets located within the Study Area. Structures have been identified for inclusion in the Built Heritage chapter of the ES. A range of other HER assets duplicated the National List or simply provide an historic record of the former site of a structure that has subsequently been removed and therefore have not been included in the scope of the Built Heritage Chapter.

- 11.12 The baseline assessment will be undertaken using a combination of desk-based study, research and fieldwork to identify and assess the heritage significance of the designated and non-designated heritage asset receptors. This will also establish the way in which their settings and the Application Site contribute to the heritage significance of these assets.

View Analysis

- 11.13 The proposed viewpoint locations have been identified from desk top research, including reference to the WHS SPD, and detailed knowledge of the Application Site and the wider area, including the Study Area.

Proposed Method of Assessment

- 11.14 The aim of the assessment is to:
- Identify all known designated and non-designated heritage assets that may be affected by the Proposed Development and evaluate the significance / value of the heritage assets;
 - Outline any likely environmental effects of the Proposed Development and the heritage asset receptors likely to be affected, assessing the magnitude of impacts;
 - Assess the effects of the Proposed Development upon those heritage asset receptors, categorising the scale of effect against significance / value;
 - Identify, where relevant, any mitigation measures and assess the likely residual impact after such mitigation on the identified heritage asset receptors; and
 - Carry out an overall assessment of the cumulative impact of the Proposed Development in association with other schemes and with other environmental disciplines, on the overall significance of the heritage assets.
- 11.15 There will be no direct impacts on heritage assets; the focus of the assessment will therefore be the impact of the Proposed Development upon the setting of identified heritage assets.

Assessing Significance of Effect

- 11.16 This assessment will be carried out in light of the statutory duty of the Planning (Listed Buildings and Conservation Areas) Act 1990, relevant policies of the National Planning Policy Framework (NPPF) and the National Planning Practice Guidance for the historic environment. The assessment will also

be carried out in accordance with the Historic England Good Practice Advice In Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment and Note 3: The Setting of Heritage Assets.

- 11.17 In the absence of specific prescribed criteria for establishing the relative value or importance of designated heritage asset receptors, guidance on assessing the value and importance of heritage significance in views will be taken from Historic England's guidance: Seeing the History in the View: A Method of Assessing Heritage Significance within Views (2011).

Value/Importance and Significance of Receptors

- 11.18 The value / importance of the heritage asset will be defined on the basis of the above table. These judgements will also be informed by an understanding of the significance of the heritage asset, set out in the Heritage Assessment that will be appended to the chapter. The Heritage Assessment not only informs the judgement on the value of the identified heritage assets, it also informs the judgement on the magnitude of impact and magnitude of impact against value.

Magnitude of Effect

- 11.19 The magnitude of effect of the Proposed Development in terms of scale, position in a view or design is described in accordance with Historic England's guidance: Seeing the History in the View.

Significance of Effect

- 11.20 The matrix shown in the Historic England guidance: Seeing the History in the View combines the two measures of magnitude and sensitivity to provide a measure of significance of effect. The significance of effect will be assessed for both the construction and operation phases of the Proposed Development.

Cumulative Effects

- 11.21 Potential cumulative effects resulting from the combination of past, present or future actions of existing or planned activities in the Study Area will be considered.

Mitigation Measures and Residual Effects

- 11.22 Having assessed the magnitude of impact against the value of the identified heritage assets, the chapter will consider whether any mitigation measures are necessary where adverse effects have been identified and will set out any residual effects following mitigation

12 Land Contamination

Preliminary Assessment of Baseline Conditions

12.1 In preparing the chapter of this Scoping Report, E3P has undertaken an initial desk based study. No intrusive investigation works have been completed and no previous site investigation reports have been provided or reviewed. A summary of this research is set out below together with an initial view of the baseline conditions.

12.2 E3P has undertaken an initial review of Ordnance survey maps, historical maps and environmental data obtained from a commercially available data provider (Landmark)⁶.

The environmental data obtained contains regulatory information from the following authorities:

- Liverpool City Council – air pollution controls, waste, contaminated land
- Environment Agency – waste, hydrogeological, hydrological, pollution
- Merseyside Waste Disposal Authority - waste
- Coal Authority – coal mining
- Natural England – sensitive sites, nature reserves
- Public Health England - radon
- Health & Safety Executive – COMAH permitted facilities

12.3 The assessment will be guided by the following legislation and good practice:

- National Planning Policy Framework (NPPF)
- Part IIA Environmental Protection Act 1990
- Environment Agency (2004) Contaminated Land Report 11 (CLR11), Model Procedures for the Management of Land Contamination
- Environment Agency Pollution Prevention Guidelines
- Environment Agency Groundwater Protection: Policy and Practice (GP3) 2008
- BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land)

Baseline Conditions

12.4 The geological strata beneath the site comprises of no drift deposits overlying solid strata of the Chester Pebble Beds.

12.5 The Chester Pebble Beds are classified as a Principal Aquifer. Environment Agency data indicates that the subject site is not located Source Protection Zone and the nearest groundwater abstraction is

located 575m east of the site.

- 12.6 The subject site is not indicated as being located within a Coal Mine Reporting Area.
- 12.7 The site is bounded by the River Mersey to the west, with Wapping Quay located to the north east of the site and Queens Dock located east/ south east of the site. The River Mersey flows in a northerly direction.
- 12.8 Localised areas adjacent to River Mersey are indicated by the Environment Agency to be in a Flood Zone 2 and 3. The Environment Agency indicate that some area of the site (generally along the lines of the streams / field boundary ditches) are located within a high risk of surface water (pluvial) flooding. This type of flooding is defined as 'an area that has a chance of flooding of greater than 1 in 30 (3.3%), although this type of flooding can be difficult to predict, much more so than river or sea flooding as it is hard to forecast exactly where or how much rain will fall in any storm.
- 12.9 Historical mapping suggests that the site has been utilised as dockland since before the mid 1800's. Since then the site has undergone multiple layouts with dock areas being excavated and infilled, with railway lines and shed being present in central areas of the site. The site has had a similar layout to the present since the 1980's.
- 12.10 There are three recorded local authority landfills onsite referenced as L002-L004, but there is little other information for the landfills.
- 12.11 The site is in a lower probability area for radon.

Discussion of Potential Impacts

- 12.12 Demolition and earthworks have the potential to cause significant short term effects on the Proposed Development Site (PDS) and its immediate surroundings. Soil disturbance may result in mobilisation of soils and sediment and, if present contaminated materials, due to generation of dust or leaching / erosion of exposed soils due to surface water run-off. Air quality assessments will consider dust generation during demolition and earthworks.
- 12.13 A summary of the types of possible effects is discussed in the Baseline Conditions section. These effects will be assessed as part of the ES chapter.

Proposed Method of Assessment

- 12.14 A staged method of assessment will be followed. The first phase (Tier 1) comprises a preliminary qualitative assessment comprising four stages as follows:
- Hazard Identification – identifying potential contaminant sources on and off site.
 - Hazard Assessment – assessing the potential for unacceptable risks by identifying what pathways and receptors could be present, and what pollutant linkages could result (forming the Conceptual Site Model).
 - Risk Estimation – estimating the magnitude and probability of the possible consequences (what degree of harm might result to a defined receptor and how likely).
 - Risk Evaluation – evaluating whether the risk needs to be, and can be, managed.
- 12.15 The Tier I assessment that will be reported within the E3P Phase 1 Ground Conditions desk study will encompass a review of the available historical and geo-environmental information. The data collection exercise will be undertaken following the guidelines outlined for 'Preliminary Investigations' in Section 6 of BS10175:2011 Investigation of potentially contaminated sites – Code of Practice⁶. The information obtained and considered in the desk study includes historical Ordnance Survey maps, geological maps and memoirs, hydrological and hydrogeological records, environmental databases, coal mining and mineral extraction records and the results of the site investigations carried out previously near the site. The purpose of the desk study is:
- to establish the environmental setting of the site, particularly with regards to ground conditions including local geology, hydrology and hydrogeology;
 - to identify historic use or current potential sources of contamination and how these may affect the proposed scheme or indeed the wider environment;
 - to develop a Conceptual Site Model [CSM] of the site. This would be carried out in line with requirements of the Environmental Protection Act Part 2A² source-pathway-receptor 'pollutant linkage' methodology;
 - to undertake a geotechnical appraisal of the site and identify any site constraints and potential risks;
 - to characterise, where possible, constraints and development considerations, including recommendations for further investigations, assessments and mitigation.
- 12.16 It is likely that a phase of intrusive site investigation to confirm the findings of the Tier I assessment and to provide geotechnical parameters for the constructions of buildings, highways and infrastructure will be undertaken. All site investigation work will be completed in accordance with BS10175:2011 Investigation of potentially contaminated sites – Code of Practice Sections 7, 8, 9 and 10.
- 12.17 Written information requests will be completed with the Local Authority (Liverpool City Council) to determine if they hold any site-specific information or knowledge about the subject site; such as

previous site investigation data.

- 12.18 Based on the findings of the Phase I Ground Conditions desk study the potential effects during the construction stage and the operational development will be evaluated using the method set out below and appropriate mitigation measures identified as necessary.

This will include an assessment of the effects of any proposed earth works and the potential effects of the development activities on sensitive receptors such as groundwater, site workers and future commercial end-users.

Proposed Cumulative Assessment

- 12.19 It is considered that a Cumulative Assessment will be required as some aspects of the proposed development will have inter-relationship with geology, soils and contamination. The Cumulative Assessments will be undertaken with respect to:

- Flood Risk and Drainage
- Ecology
- Air Quality

- 12.20 It is considered that an assessment of likely significant cumulative effects will be undertaken with respect to any large schemes that are present within the host local authority and other statutory consultees.

- 12.21 The assessment will include a review of possible mitigation measures that may be needed with respect to and issues that may be identified. These may include:

- Heavy Metals - BRE Cover systems for land regeneration - thickness of cover systems for contaminated land (BR 465).
- PAH and Petroleum Hydrocarbons - CIRIA - The VOCs Handbook. Investigating, assessing and managing risks from inhalation of VOCs at land affected by contamination (C682).
- Asbestos contaminated soils - CIRIA - Asbestos in soil and made ground: a guide to understanding and managing risks (C733).
- Ground gas and vapours - Publication C665 Assessing risks posed by hazardous ground gases to buildings and BS 8485:2015 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.
- Coal Mining - Construction over Abandoned Mine Workings (1984 reprinted 2002).

13 Transport

- 13.1 Below is a summary of the proposed transport assessment; the full scoping report can be found at **Appendix 6**.
- 13.2 The Transport Assessment will provide a detailed background to the history of the site, the development proposals and stakeholder consultation that has led to the evolution of the site layout, operations and integration with the neighbouring plots and local area.
- 13.3 The following policy and guidance documents will be adopted when preparing the transport reports and associated highway layout / infrastructure.
- The National Planning Policy Framework;
 - The Design Manual for Roads and Bridges;
 - The Manual for Streets Volumes 1 and 2;
 - Merseyside Local Travel Plan (LTP3) 2011 – 2026;
 - Ensuring a Choice of Travel - Supplementary Planning Document;
 - Liverpool Urban Design Guide (UDP); and,
 - Baltic Triangle Planning Framework (due to its area of influence).
- 13.4 If there are any other guidance documents that the Highway Authority requires consideration of, or specific criteria to be adopted, it is requested that this is confirmed to Vectio.

Existing Transport Conditions

- 13.5 A review of the non-motorised user road / highway network will be audited adjacent to this site. This will include establishing the likely pedestrian and cyclist routes between the site, and adjacent land uses / Liverpool City Centre and main public car parks.
- 13.6 The detailed audit will include a review of existing infrastructure, its quality and identify aspects that may create a barrier to the proposed development integrating with its surroundings in terms of connectivity and user safety.
- 13.7 Fully classified traffic turning surveys will be procured for the junctions identified and agreed with the Highway Authority as detailed in Section 3.7 of this scoping report. These will be undertaken for the following periods:
- 7:30 to 9:30 – Weekday;

- 12:30 to 14:30 – Weekday;
- 16:30 to 18:30 – Weekday;
- 12:30 to 14:30 – Saturday;
- 15:30 to 17:30 – Saturday.

- 13.8 It is appreciated that due to the surveys being collected in January / February, they will not fall within a standard neutral or representative survey month, although will be collected outside of school / public holiday periods.
- 13.9 To ensure that the data is representative, it is requested that the Highway Authority provide traffic turning data associated with two junctions within the study area, so that a seasonality factor can be established.
- 13.10 It is considered that this will enable the remaining junction traffic surveys to be adjusted.
- 13.11 Queue surveys will be procured for junctions likely to require capacity analysis to enable junction validation to be undertaken.
- 13.12 Discussion regarding public transport supply and demand will be included in the Transport Assessment. This will be informed through discussions with the local bus operator, Mersey Travel, with infrastructure proposed to ensure bus penetration is maintained within the site.
- 13.13 It is requested that the Highway Authority provide appropriate contact details of the bus operator.
- 13.14 Acknowledging the proximity of the BT Convention Centre, Echo Arena and ECL and ACC, it is important to gain an appreciation of their operations. As part of the wider stakeholder consultation, a meeting will be held with them to gain an appreciation of their daily trip generations, parking demand, along with operations during events.
- 13.15 In addition to is, it is being investigated whether a survey can be undertaken during an event period, to gain a detailed understanding of the traffic operations and parking demand, specifically considering coaches, general cars and service vehicles / HGVs associated with events. To validate stakeholder discussions, various techniques, will be applied to qualify the likely demands and impacts associated with the neighbouring land uses.

Development Phasing

- 13.16 The assessment will discuss in detail the development phasing associated with the first three units (Buildings 1, 2, 3 and 4) which form the detailed part of the planning application. A phasing strategy will focus on maintaining the operation of the existing adjacent land uses, and newly constructed units, to ensure functionality of the road system.
- 13.17 As previously discussed with the Highway Authority, it will be important that the parking supply is maintained (managed) on site to facilitate the existing and proposed users.

Assessment Scenarios

- 13.18 As part of the overall assessment, the following impact assessment scenarios will be considered:
- **Do Nothing 2017 (DN17):** Traffic survey data – used for junction validation purposes;
 - **Do Minimum 2022 (DM22):** Traffic Survey data factored to 2022, plus Committed Developments & Infrastructure;
 - **Do Minimum 2027 (DM27):** Traffic Survey data factored to 2027, plus Committed Developments & Infrastructure;
 - **Do Minimum 2032 (DM32):** Traffic Survey data factored to 2032, plus Committed Developments & Infrastructure;
 - **Do Something 2022 (DS22):** Traffic Survey data factored to 2022, plus Committed Developments & Infrastructure, plus initial phase of development (Buildings 1 and 2) flows;
 - **Do Something 2027 (DS27):** Traffic Survey data factored to 2027, plus Committed Developments & Infrastructure, plus full development flows; and,
 - **Do Something 2032 (DS32):** Traffic Survey data factored to 2032, plus Committed Developments & Infrastructure, plus full development flows.

Trip Generation

- 13.19 A detailed interrogation of the TRICS database has been undertaken to forecast the level of vehicular trips the proposed development is likely to generate during each of the assessment periods.
- 13.20 The land uses, and respective sizes / number of units per building are listed below. It is highlighted that the precise uses of the buildings where outline permission is sought are unknown, as such an estimate as to the specific land use has been adopted. It may be necessary during a reserved matters stage / further detailed planning application, that the traffic impact of this assessment is revisited should higher trip generating land uses be proposed.

Committed Schemes

- 13.21 It is requested that a list of committed developments within the local area, that the Highway Authority consider applicable, is provided, so as to be incorporated in the various assessments undertaken within the Transport Assessment.
- 13.22 It is requested that a list of committed infrastructure within the local area, that the Highway Authority consider applicable, is provided, so as to be incorporated in the various assessments undertaken within the Transport Assessment.

Trip Distribution

- 13.23 Traffic is to be assigned on the local highway network based on a gravity model technique using a population over distance squared formula.
- 13.24 Given the nature of the site, it is considering that a gravity model area encompassing the whole of Liverpool (all 30 wards) is the most appropriate.
- 13.25 This model has been developed for both arrival and departure trips, appreciating some of the one-way routes on the adjacent highway network.

Trip Assignment

- 13.26 Trip assignment will be undertaken based on the calculated trip generations for each scenario assessment period, and junctions forecast to be impacted by 30 or more two way trips, following confirmation from the Highway Authority of the junctions requiring assessment.

Impact Assessment

- 13.27 The Transport Assessment will include a detailed impact assessment considering both phases of the development. The study area for each phase will be determined by a 30-two-way trip trigger, with key junctions to be assessed confirmed by the Highway Authority. The impact assessment will be based on three steps:
- Step 1: identification of junctions impacted by 30 or more two way trips;
 - Step 2: operational capacity analysis of junctions impacted by 30 or more two way trips; and,
 - Step 3: development of mitigation measures.

Development of Site Traffic Impact

- 13.28 Considering the trip generations and distributions discussed earlier in this report, the volume of two

way trips impacting external highway links adjacent to the site for each development phase and respective time periods has been calculated.

- 13.29 It is requested that the Highway Authority consider the projected area of impact and recommend junctions that may require detailed assessment (Steps 2 and 3).
- 13.30 In terms of junction assessment, a 30-two-way trip trigger will be adopted, whereby junctions that are impacted by 30 or more two way trips may require further assessment. As part of the trip generation, distribution and assignment calculations undertaken in support of this scoping report, impacts on the links detailed in Tables 4 and 5 have been estimated, based on **PHASE 1** (buildings 1 and 2) and **PHASE 2** of the development.

Capacity Analysis

- 13.31 Where junctions are agreed to be impacted by the proposed development, junction capacity analysis will be undertaken. The base year scenario (DN17) junction models will be developed and validated against queue survey data.
- 13.32 The validated models will be used to assess the DS22, DS27 and DS32 scenarios, compared to their respective DM scenarios.
- 13.33 Where junctions are impacted detrimentally, mitigation measures will be developed / proposed.

Mitigation Measures

- 13.34 Where junctions are identified to be detrimentally impacted, specifically by the impacts of the proposed development, mitigation measures will be developed to mitigate the negative impacts through discussion with the Highway Authority.

Construction Stage Traffic Impact

- 13.35 High level discussion regarding the foreseen traffic impacts will be included in the Transport Assessment, specifically given the phasing of the development. Key points that will need to be considered / need to be provided during the construction stage will be discussed within the report.

Parking Assessment

- 13.36 To forecast the likely parking demand the proposed development will create, a cumulative trip generation assessment will be undertaken based on average trip rates obtained from the TRICS database.

- 13.37 This assessment will inform the level of parking required on site and off site to facilitate the developments demand, along with the current supply and demand considering the assessments study periods and adjacent land uses.
- 13.38 In estimating the parking demand a parking survey will be undertaken during an general weekday, along with an events day to gain an appreciation of the demands created by the adjacent ACC and LEC developments. This assessment will consider car, coach and HGV / LGV demand.
- 13.39 Measures will be developed to manage parking demand within the site as over supply will have a detrimental trip generating impact, although it is appreciated that undersupply will also have an adverse impact on the local highway network.
- 13.40 It is requested that the Highway Authority provides information regarding the available capacity of the adjacent public car parks within the study area.

Accident Analysis

- 13.41 Accident analysis for the adjacent road network and key pedestrian desire lines will be requested from the local Highway Authority. The data will be assessed for the most recent 5-year period

Framework Travel Plan

- 13.42 A Framework Travel Plan will be developed to support the planning application. Due to the nature of the hybrid application, this travel plan will be high level setting out the overarching strategy and aspects that should be included in the individual site occupiers travel plans, along with how they should integrate with one another.

Event Management Plan

- 13.43 A high-level strategy document will be prepared to detail how the overall development will integrate with the operations of the adjacent LEC and ACC on event days, to best cater for traffic flow and parking demand.

14 Wind Microclimate

- 14.1 A wind microclimate assessment will be carried out to review the suitability of conditions for planned pedestrian activities within the Site and assess whether the Proposed Development unduly impacts on the suitability of wind conditions for existing and future pedestrian activities in the surrounding area. Potentially significant effects will be identified and, in response, mitigation measures will be proposed.

Planning Policy

- 14.2 Liverpool City Council's Local Plan is currently under development. The draft plan (September 2016) includes Policy UD5 New Buildings, which requires that all new buildings should be designed to the highest design standards, based on a clear rationale and aesthetic based on the characteristics of the area, and that design proposals for new buildings should demonstrate that:
- a. The design has been considered from both a macro and a micro-scale, with adequate responses to issues of skyline impact, scale, relationship to existing structures, function, amenity, and its relationship to the public realm.
 - b. Orientation and micro-climate, overlooking and interface issues that may impact on existing structures or neighbouring plots have been considered.

Baseline Conditions

- 14.3 Based on long-term wind climate statistics from Liverpool Airport, corrected to apply directly at the site (taking account of differences in upwind terrain and altitude between the weather centre and the site), the most frequent strong winds blow from the west-north-west and west. Winds from the south-south-east are also common, but these winds are generally light. Northerly winds are generally light and rare, though cold north-easterly winds are common during spring. Wind speeds are generally higher during winter and lower during summer.
- 14.4 Applying the wind statistics at the Site, an area free from localised building effects (either sheltering or acceleration) would be expected to experience pedestrian level wind conditions rated (in accordance with the Lawson criteria) as comfortable for 'leisurely strolling' during winter and comfortable for 'standing or short term sitting' during summer, with spring and autumn marginal between these ratings.

Potential Effects

- 14.5 The Proposed Development will introduce a number of mid-rise buildings to a waterfront area. However, only Building 7 (in the southwest of the Site) is expected to be directly exposed to the most frequent strong winds from the west and west-north-west. The remainder of the Proposed Development is expected to benefit from localised shelter from these winds due to the existing surrounding buildings, which are of generally similar height to the Proposed Development. In the

context of existing surrounding conditions, the Site is more exposed to the frequent south-south-easterly winds and is also exposed to north-easterly winds, common in spring. However, winds from these directions are generally lighter than the prevailing westerly and west-north-westerly winds.

- 14.6 Given the limited heights of the Proposed Development and the extent of shelter provided by existing surrounding buildings, the potential for significant accelerated winds resulting from the Proposed Development is limited. There is however still potential for some downdraughts, particularly from Building 7, to reach pedestrian level and for channelling of winds through the Site. In addition, the Proposed Development will also introduce outdoor amenity spaces where recreational activities will be more sensitive to wind conditions.
- 14.7 On this basis, the Proposed Development is not expected to significantly impact on pedestrian level wind conditions with regards to pedestrian safety, but does have potential to impact on pedestrian comfort.
- 14.8 As a result, purposeful locating of entrances and development of the landscaping scheme is likely to be required to create appropriate conditions for planned activities within the Site. As indicated above, the potential for significant accelerated winds, and thus for impacts on the surrounding area, is limited though development of the landscaping may also be required to ensure an acceptable residual effect on the wind conditions within the surrounding area, close to the Site.

Method of Assessment

- 14.9 Given the limited extent of potential effects discussed above, it is considered that the pedestrian level wind microclimate may be adequately assessed through an experience-based desk study. This study will provide an expert qualitative review of expected pedestrian level wind conditions, based on consideration of the massing and exposure of the Proposed Development in conjunction with long-term wind statistics applicable to the Site and the industry standard Lawson criteria for pedestrian comfort and safety, and will draw from extensive experience in the assessment of wind flows gained from wind tunnel testing of similarly massed schemes within similar urban / waterfront settings.
- 14.10 The assessment will consider the following scenarios:
- Existing conditions (baseline)
 - Proposed Development with existing surrounds; and
 - Proposed Development with cumulative schemes.
- 14.11 Where required, mitigation measures will be recommended, which will form a guide for detailed design of the landscaping scheme to help create suitable residual conditions for planned pedestrian activities in and around the Site.

15 Daylight, Sunlight and Overshadowing

- 15.1 Below is a summary of the proposed daylight, sunlight and overshadowing assessment; the full scoping report can be found at **Appendix 7**.
- 15.2 The purpose of an EIA Daylight, Sunlight and Overshadowing analysis is to assess the impact the development will have in terms of microclimate on neighbouring and proposed amenity. The assessment will cover natural light within neighbouring dwellings and open spaces designated as amenity areas that have a reliance on direct sunlight. The assessment will also consider the quality of light within the proposed buildings and amenity spaces to ensure the layout and design conforms to industry standards.
- 15.3 The study will be carried out in accordance with the recommendations of the Building Research Establishment Report “Site Layout Planning for Daylight & Sunlight 2011” (BRE209).
- 15.4 Liverpool City Council’s Local Plan is currently under development. The draft plan (September 2016) includes Policy UD5 New Buildings, which requires that all new buildings should be designed to the highest design standards, based on a clear rationale and aesthetic based on the characteristics of the area, and that design proposals for new buildings should demonstrate that:
- a) The design has been considered from both a macro and a micro-scale, with adequate responses to issues of skyline impact, scale, relationship to existing structures, function, amenity, and its relationship to the public realm.
 - b) Orientation and micro-climate, overlooking and interface issues that may impact on existing structures or neighbouring plots have been considered.

Methodology

- 15.5 The Daylight, Sunlight and Overshadowing assessments will be undertaken in accordance within the Building Research Establishment (BRE) guidelines “Site Layout Planning for Daylight & Sunlight. A Guide to Good Practice”.
- 15.6 The BRE Report advises that daylight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time. The report also refers to other property types, which may be regarded as ‘sensitive receptors’ such as schools, hospitals, hotels and hostels, small workshops and most offices.

Daylight

15.7 The BRE Guide states that:

“If, for any part of the new development, the angle from the centre of the lowest affected window to the head of the new development is more than 25°, then a more detailed check is needed to find the loss of skylight to the existing buildings.”

15.8 The BRE guidelines propose several methods for calculating daylight.

15.9 The two main methods predominantly used are those involving the measurement of the total amount of skylight available (the vertical sky component (VSC)) and its distribution within the building (the No-Sky line or daylight distribution).

15.10 The VSC calculation is a general test of potential for daylight to a building, measuring the light available on the outside plane of windows.

15.11 The “No-Sky” Line divides those areas of the working plane which can receive direct skylight, from those which cannot. It provides an indication of how good the daylight distribution is within a room.

15.12 The third recognised method of assessment for daylight is the Average Daylight Factor (ADF) calculation which assesses the quality and distribution of light within a room served by a window and considers the VSC value, the size and number of the windows and room and the use to which the room is put. ADF assesses actual light distribution within a defined room area whereas the VSC considers potential light. British Standard 8206, Code of Practice for Daylighting recommends ADF values of 1% in bedrooms, 1.5% in living rooms and 2% in kitchens. For other uses, where it is expected that supplementary electric lighting will be used throughout the daytime, such as in offices, the ADF value should be 2%. There is no general requirement within the BRE guidelines to assess ADF values, other than for neighbouring residential buildings.

15.13 For the purposes of the EIA all three methods of daylight assessment will be considered on the following receptors.

1. The Block, Monarchs Quay Building (South elevation)
2. The Block, Keel Wharf Building (East elevation)
3. Staybridge Suites, Keel Wharf (East elevation)
4. The Dock – Base Serviced Apartments, Keel Wharf (South elevation)
5. Albert Dock Executive Apartments, Wapping Quay (West elevation)
6. Hotel Campanile, Queens Dock (West elevation)

7. The Keel Apartments (North elevation)
8. Pullman Hotel (East and South elevation)
9. Proposed Residential and Hotel units within the Development.

Sunlight

- 15.14 The BRE have produced sunlight templates for London, Manchester and Edinburgh indicating the Annual Probable Sunlight Hours (APSH) for these regions. The Manchester template has been selected for this study as the Manchester indicator template is the closest of the three available from BRE in terms of latitude.
- 15.15 Sunlight analysis is undertaken by measuring annual probable sunlight hours (APSH) for the main windows of rooms which face within 90° of due south. The maximum number of annual probable sunlight hours for the Manchester orientation is 1,392 hours. The BRE guidelines propose that the appropriate date for undertaking a sunlight assessment is on 21st March, being the spring equinox. Calculations of both summer and winter availability are made with the winter analysis covering the period from the 21st September to 21st March. For residential accommodation, the main requirement for sunlight is in living rooms and it is regarded as less important in bedrooms and kitchens.
- 15.16 Due to orientation and room use not all windows assessed for daylight will qualify for sunlight assessment in accordance with BRE Guidance. The sunlight APSH & Winter assessment will be considered on the following receptors.
1. The Block, Monarchs Quay Building (South elevation)
 2. The Block, Keel Wharf Building (East elevation)
 3. Staybridge Suites, Keel Wharf (East elevation)
 4. The Dock – Base Serviced Apartments, Keel Wharf (South elevation)
 5. Albert Dock Executive Apartments, Wapping Quay (West elevation)
 6. Hotel Campanile, Queens Dock (West elevation)
 7. Pullman Hotel (East and South elevation)
 8. Proposed Residential and Hotel units within the Development for units with a southerly aspect.

Overshadowing

- 15.17 The BRE Report advises that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity areas should receive at least two hours of sunlight on 21 March. If as a result of the new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.

- 15.18 The analysis has considered all relevant adjacent amenity areas with an aspect of the development site and will be considered on the following receptors.
1. Amenity Area next to the BT Convention Centre
 2. Amenity Areas Around Keel Wharf
 3. Wapping Dock (For Ecology Purposes)
 4. All designated amenity areas within the proposed development.
- 15.19 The daylight, sunlight and overshadowing analysis will be carried out by constructing a 3D model using AutoCAD to replicate the current street scape of the site and immediate surrounding buildings including any distant, taller buildings that may act as obstructions to the access of light to any of the neighbouring properties identified above immediately adjacent to the development site, including any neighbouring proposed consented schemes. The assessment will also concentrate on the proposed development's 5 apartment blocks which will be located amongst proposed commercial and leisure facilities.
- 15.20 Specialist lighting software will then be inserted into the 3D model to assess against the BRE criteria the current levels of light received by the neighbouring properties around the site. An analysis of the existing daylight levels enjoyed by the neighbouring properties is undertaken in order to provide a baseline against which the impacts arising from the proposed development can be assessed.
- 15.21 The results of the analysis can then be measured against the target values set by the BRE to assess whether the development proposals will comply with the relevant Liverpool City Council Local Plan policies.

Impact Assessment

- 15.22 Once the technical analysis is complete the results will be categorised using significance criteria dependant on the residual impact.
- 15.23 The guidance given by BRE has been used as a basis for the criteria to assess the Development's potential effects. The BRE guidance specifies:
- "...In special circumstances the developer or planning authority may wish to use different target values. For example, in an historic city centre a higher degree of obstruction may be unavoidable..."*
- 15.24 The report adds:
- "...Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints."*

- 15.25 In consideration of the above, it is important to note that the site is located in a large open brownfield site, in parts; neighbouring properties are currently enjoying exemplary daylight and sunlight levels.
- 15.26 In describing the significance criteria as set out in the appendix, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.

16 Noise

- 16.1 The purpose of an EIA noise & vibration assessment is to assess aspects of the existing environment which may be significantly affected by noise and vibration (including human beings and material assets) due to the introduction of the proposed development into that environment. The potential noise & vibration impacts of the proposed development on the existing environment are considered in this report.
- 16.2 Another aspect of noise & vibration impacts is the potential impact of the existing environment (and noise emitting elements of the proposed development) on noise sensitive receptors introduced as part of the development. The proposed development contains noise sensitive elements, including office accommodation and residential use (apartments and an hotel). Recommendations for the provision of a good standards of amenity for the noise sensitive elements of the proposed development will be undertaken by way of a standalone Noise Impact Assessment (NIA).

Vibration

- 16.3 Other than at the construction phase, there are not considered to be any elements of the proposed development with the potential to generate significant ground borne vibration. As such, it is considered that vibration does not need to be considered for the operational phase of the proposed development. The potential for ground borne vibration associated with the construction phase will depend on the foundation solution.

Potential Receptors

- 16.4 Aspects of the environment which may be significantly affected by noise and vibration have been identified as follows:
- Potential impact of the construction phase of the development on local noise and vibration sensitive receptors.
 - Potential impact of the operation of the introduced retail/commercial uses on local noise sensitive receptors.
 - Potential impact of the operation of external fixed services plant associated with the introduced retail/commercial uses on local noise sensitive receptors.
 - Potential impact of road traffic associated with the development on local noise sensitive receptors.

Baseline

- 16.5 Baseline noise conditions in and around the development site will be established through a noise survey undertaken during representative times of the daytime and night time periods. All noise measurements will be carried out by a consultant competent in environmental noise measurement.

Scoping Considerations

- 16.6 Construction noise & vibration impacts are temporary in nature and are considered amenable to a suitably worded planning condition to restrict working hours and adherence to good working practices to minimize noise & vibration emissions (e.g. through the selection and maintenance of plant, selection of appropriate piling techniques (if piling is required) etc.). On this basis, it is considered that further scrutiny of the potential noise & vibration impacts of the construction phase through the EIA process is not required.
- 16.7 From experience of similar developments, subject to standard building constructions, breakout noise from the internal operations of the proposed retail and commercial elements of the proposed development will not be significant. Servicing of the proposed units (deliveries etc.) is considered amenable to a suitably worded planning condition to restrict delivery hours etc. On this basis, it is considered that further scrutiny of the potential noise impacts of the operation of the introduced retail and commercial elements of the proposed development through the EIA process is not required.
- 16.8 External fixed plant associated with the retail and commercial elements of the proposed development has the potential to generate significant noise impacts. It is considered that this element of the development requires further scrutiny through the EIA process. As part of this assessment, consideration will be given to the baseline noise levels and the setting of target criteria for plant to ensure that the noise amenity of existing noise sensitive receptors is not compromised.
- 16.9 Development led traffic has the potential to generate significant noise impacts. It is considered that this element of the development requires further scrutiny through the EIA process. As part of this assessment, consideration will be given to the change in the baseline traffic levels associated with the development and consideration of the potential noise impacts on existing noise sensitive receptors.
- 16.10 As outlined above, it is considered appropriate to provide further scrutiny through the EIA process for the following elements of the development proposals:
- Noise emissions of external fixed plant associated with the retail and commercial elements of the proposed development.
 - Noise emissions associated with development led traffic.

Consultation

- 16.11 The Environmental Health Department at the Council will be consulted to agree appropriate noise assessment/target criteria in keeping with the requirements of the National Planning Policy Framework and other pertinent guidance.

17 Conclusion

- 17.1 This Scoping Report has been prepared by Knight Frank LLP who have been appointed by YPG Developments Ltd to seek a hybrid consent for a proposed mixed use development at Monarchs Quay, Liverpool.
- 17.2 The purpose of this Scoping Report is to agree the scope of the EIA and presents an opportunity for the Council and other consultees to comment on the proposed methodologies for assessing potential environmental impacts and identify any other issues they consider relevant to the process.
- 17.3 We have set out in detail likely impacts and how we intent to assess these. We would be happy to meet with representatives of the Council and other consultees to discuss the information contained within this Scoping Report in order to address any concerns or queries raised.

Appendix 1 - Site Location Plan

Appendix 2 - Planning Policy

The ES will include an assessment of the Planning Policy Framework, including the following policies.

- National Planning Policy Framework, 2012;
- Liverpool Unitary Development Plan, 2002, saved policies only; and
- Emerging Local Plan.

The ES will also include references and an assessment of the relevant evidence base to support both the adopted Unitary Development Plan and emerging Local Plan.

Appendix 3 - Ecology Scoping Report

Appendix 4 - Flood Risk and Drainage Scoping Report

Appendix 5 - Heritage Scoping Report

Appendix 6 - Highways Scoping Report

Appendix 7 - Daylight, Sunlight and Overshadowing Analysis