

Leckwith Quays
Leckwith Road,
Cardiff

**Environmental Statement
Addendum**

Non Technical Summary

December 2022



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1. Introduction

- 1.1 This Environmental Statement Addendum (ESA) has been prepared on behalf of Mr Phil Worthing in support of a hybrid planning application for the residential development of up to 250 dwellings (to be submitted in outline) with associated highway and bridge improvement works (to be submitted in full), on land at Leckwith Quays, Leckwith Road. The application, which was accompanied by an Environmental Statement (ES), was submitted to both Vale of Glamorgan Council and Cardiff Council on 7th October 2020. The application was registered by Vale of Glamorgan Council under the reference number 20/01218/HYB and by Cardiff Council under the reference number 20/02081/MJR.
- 1.2 The ESA has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.
- 1.3 This Addendum has been prepared in response to the consultation comments that have been received since the planning application was submitted in 2020 and to reflect the additional information and assessments that have been undertaken during this time. The key issues addressed within the Addendum include:

Parameter Plans

- Proposed Land Use Plan– No changes have been made.
- Movement Hierarchy Plan – the key routes have been revised to reflect the new internal layout.
- Building Heights Plan – the middle block of Area 03 has been increased in height by 1m (from 27m to 28m) to accommodate undercroft parking within the revised design. N/B the building height does not extend the maximum parameter of the block behind which stands at 31m.

Amended Scheme

- The layout of Block A has been altered slightly to bring the edge inside the redline.
- Strengthening/widening of the 'green fingers' for ecological benefit. Some blocks on the southern plateau have been shifted to accommodate this.
- Reconfiguration of blocks along the riverside of the southern plateau to create sufficient acoustic shadows where outdoor amenity space can be situated.
- Area 03 (Block Es) has revised road, building and parking layout to accommodate the above acoustic and ecological requirements, as well as improve efficiency.
- Drainage basins, swales and rain gardens have been amended in association to the changes made to the site layout and landscaping scheme.



- Very minor changes have also been made to a number of the engineering drawings and are associated with refinement as a result of the flooding model, culvert design and levels.

Ecology

- 1.4 Additional survey work has been undertaken in respect of otters and bats.

Landscape and Visual

- 1.5 Landscaping scheme has been refined and strengthened incorporating all necessary ecological mitigation requirements.
- 1.6 Additional viewpoints and visualisations have been provided within the LVIA, as requested by the Council.
- 1.7 As requested by the Council, a further tree survey and Arboricultural Impact Assessment (September 2022) has been undertaken to clarify the number of trees being lost due to the development proposals.

Flood Risk and Drainage

- 1.8 Extensive additional flood modelling work has been undertaken in accordance with NRW requirements. The proposed site levels and culverts have been refined in accordance with the outcome of the flood modelling process. A revised Hydraulic Modelling Report (April 2022) and revised Flood Consequences Assessment (April 2022) have been prepared in support of the development proposals.
- 1.9 The Drainage Strategy (August 2022) has been updated in support of the amended masterplan proposals.

Noise

- 1.10 In response to the Council’s Regulatory Services teams’ comments to the application proposals, the of development blocks located along the riverside of the southern plateau have been re-configured to create sufficient acoustic shadows where outdoor amenity space can be situated. The noise maps associated with the Noise Impact Assessment undertaken for the site have been updated accordingly. It is no longer proposed to included a noise barrier within the scheme.
- 1.11 This Addendum should be read alongside the October 2020 Environmental Statement and associated Figures and Appendices.

2. Site Description and Proposals

- 2.1 The site description remains unchanged from the October 2020 ES. The application site extends to 7.7ha and straddles the border between the administrative boundaries of the Vale of Glamorgan (to the west) and Cardiff (to the east). The land is known as Leckwith



- Yard/Works. It is located to the west of the River Ely and is contained within the Vale of Glamorgan. It is accessed off the B4267 Leckwith Road via the 'Old Leckwith Bridge' which is a Grade II* listed building and Scheduled Ancient Monument. This access also serves the Ely Trail which is, primarily, an off-road walking/cycling route. The Leckwith Road Viaduct rises and continues to run above and across the site continuing up towards Llandough.
- 2.2 The site is made up of two plateaux either side of the bridge which are both largely cleared and levelled. The land is currently used for commercial and industrial uses comprising a number of buildings and hard standing areas.
 - 2.3 The site is located adjacent to the River Ely and the Grangetown-Ely Link Road which runs along the north-eastern boundary of the site. To the south and west large areas of woodland, comprising Leckwith Wood and Factory Woods, border the site.
 - 2.4 The site is currently located outside the defined settlement limits of both Cardiff and the Vale of Glamorgan and is therefore considered in planning policy terms to be located within the countryside. However, the site is located in very close proximity to Cardiff's Capital Retail Park and other existing commercial, industrial and sporting uses.
 - 2.5 As outlined above, the 'Old Leckwith Bridge' is located within the site and is designated as a Grade II* listed building and Scheduled Ancient Monument. Whilst the site does not have any international or national biodiversity designations the Leckwith Woods, Factory Woods and the River Ely are all designated locally as a Site of Importance for Nature Conservation (SINC). The site is also located within the Cwrt-yr-Ala Basin Special Landscape Area (SLA), a mineral safeguarding area (limestone) and it lies within Flood Zone C1 as shown on the relevant Development Advice Map of the Welsh Government's Technical Advice Note No15, Flood Risk. It is therefore formally recorded as being "served by significant infrastructure including flood defences". The site is also located within a Health and Safety Executive Consultation Zone.
 - 2.6 The development proposals seek to redevelop the existing brownfield site for residential uses (up to 250 units) comprising a mix of houses and apartments with associated public open space, landscaping and parking areas. The proposals include the realignment of the existing B4267 Leckwith Road link and a new bridge crossing of the River Ely. The existing B4267 runs through the site on a viaduct which is in a very poor state of repair. The new road alignment has been arranged to allow the existing road to remain open during its construction. The new bridge has been positioned immediately upstream of the existing, listed, masonry bridge which is to be retained to allow pedestrian and cyclist access to the site.
 - 2.7 It is currently proposed that the development is split into two parcels on either side of the proposed new bridge crossing - referred to as the northern (1.3 ha) plateau and the southern plateau (6.4 ha). The northern area will deliver a residential development of up to 80 dwellings, whilst the southern plateau will deliver circa 170 dwellings. A new signalised four arm junction is proposed to allow access to each development parcel. The site extends along approximately 890m of the Ely riverbank on the Vale of Glamorgan side.
 - 2.8 The development proposals are cross boundary in that the residential element of the proposed development lies solely within the administrative boundary of the Vale of Glamorgan whilst



some of the highway works fall within the administrative boundary of Cardiff and the jurisdiction of Cardiff Council.

3. Planning Policy

- 3.1 In assessing the acceptability of the proposals in planning and environmental terms consideration has been given to the status and content of the Development Plan and other relevant material planning considerations of both Vale of Glamorgan Council and Cardiff Council.

4. Highways and Transportation

- 4.1 Chapter 4 of the October 2020 ES provides an assessment of the likely transport effects arising from construction and operation of the proposal. The Chapter is supported and is intended to be read in conjunction with the Transport Assessment (TA) and Outline Travel Plan (TP), which forms part of the embedded mitigation, and are submitted with the planning application.
- 4.2 Baseline conditions have been identified through a combination of desk-based research, site visits and traffic surveys. Each road within the study area has been assigned a link, which is used to assist in the assessment of traffic impacts. The links are used as proxies for sensitive receptors in the vicinity of the various highways, including motorised and non-motorised road users as well as users of nearby amenities and residences.
- 4.3 A number of embedded mitigation measures have been identified through the iterative EIA process and have been incorporated into the design and construction planning of the Proposed Development.
- 4.4 Construction impacts will be managed through a Construction Management Plan (CMP) or similar document, the measures of which would be intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the Proposed Development. As part of the management plan, a construction vehicle routing regime for access to the construction site will be identified and agreed with the local and strategic highway authorities to ensure that drivers of construction related vehicles do not use inappropriate routes which are unsuitable by virtue of their width, alignment or character. The regime will aim to ensure that construction vehicles avoid residential areas and use the strategic highway network wherever possible. Potential impacts of construction traffic include noise, vehicle exhaust emissions, dust, and mud and debris on roads, as well as possible road safety issues. Mitigation of these impacts will be achieved through strict adherence to the proposed construction routes and permitted hours of working, as well as by controls under health and safety legislation and good construction site practices. The CMP will be agreed with both the VoG and CCC following the award of planning consent but prior to works starting on site.
- 4.5 In regard to the operational phase, the Proposed Development has been designed as a walkable neighbourhood; the network of footways on-site and network of footways/cycleways created as part of the access arrangements will create a range of travel options both on-road and as traffic free routes. Footways and cycleways alongside the carriageway will be provided



at high quality with clear spaces for non-motorised travel. The layout and design of the Proposed Development has focused on the strength of its sustainable location, the proposals include re-purposing the existing listed bridge for a walking and cycling route. In addition to this, the proposals fully exploit the site's position adjacent the Ely Trail and includes enhancements which make pedestrian and cyclists crossings safer and more convenient. The TP seeks to reduce single-occupancy vehicle use to/from a development or site and promote the uptake of sustainable travel. The TP includes reasonable and suitable mode-share targets and a monitoring programme to assess progress against these targets.

- 4.6 During the construction phase of the Proposed Development, the effects of construction traffic will be minor adverse, which is not significant. The construction period is identified as medium-term and therefore only temporary in its effects. Management control mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety requirements and good construction site practices.
- 4.7 During the operational phase, the Proposed Development will give rise to an increase in travel demand, which will be permanent. The effects of this will be minor adverse, which is not significant.

5. Ecology

- 5.1 Chapter 5 of the October 2020 ES and Ecological Statement has been written in accordance with published Ecological Impact Assessment (EclA) Guidelines (CIEEM, 2018) and presents the likely ecological effects of the proposed development on the ecological baseline of the development site and surrounding area, based on information available at the time of writing. The site is considered to support a number of SINC designated sites, in addition to protected habitats and supports a number of protected species. The proposed development would result in some major adverse effects on important ecological features if suitable mitigation is not implemented through the construction and operational phases. To address this, the assessment details mitigation, compensatory and enhancement measures that have been incorporated into the redevelopment plans. These include specific provisions for protected species where deemed necessary, retention of protected and important habitats as much as possible and newly created habitats within the site to compensate and enhance (where compensation or mitigation cannot be provided) for the loss of some habitat. Following the implementation of these measures, the effects should be minor or negligible and adequate compensatory and enhancement measures could provide necessary ecological benefits where losses cannot be directly mitigated or compensated for on a like for like basis. With regard to the SINC present within site, the mitigation measures proposed, in the form of a habitat management plan, could allow for the enhancement of woodland areas, and protect and prevent further disturbance with regard to riparian habitats and enhancement measures are proposed for the loss of the post industrial land.
- 5.2 The cumulative impact of the proposed development alongside that of nearby developments, and housing allocations in the vicinity has been made. The Statement concludes that there would be some adverse cumulative impacts during the operational phase, particularly in consideration the current development in light of another development affecting Factory wood SINC, where woodland SINC habitats have also been cleared to facilitate development.



- 5.3 The Statement also identifies likely positive effects regarding non-native invasive species within the site following mitigation to remove these.
- 5.4 Based on the ecological survey work undertaken and given the incorporation of appropriate mitigation and compensation measures as recommended, the overall conclusion is that the proposed development will not result in an unacceptably high level of adverse impact to the ecological features of the site or its environs.

6. Landscape and Visual

- 6.1 Chapter 6 of the October 2020 ES confirms that a Landscape and Visual Assessment (LVIA) of the application site has been undertaken which identifies that the site is primarily located on the western bank of the Ely River, 4.3 km northwest of Penarth on the eastern edge of the Vale of Glamorgan, Wales.
- 6.2 The site lies at the base of a wooded scarp slope that forms the north-eastern side of Cock Hill. This brownfield site is linear in form, approximately 890m in length. The majority of the site lies is a strip between the River Ely and the Leckwith and Factory Woods. The smaller portion of the site extends east across the river and under the A4232 flyover and covers the junction with the same road's access roundabout.
- 6.3 The majority of the site lies within Cwrt-yr-Ala basin Special Landscape Area (SLA) and is bordered on the west by Ancient Woodland. The site also overlaps with small portions of Sites of Importance for Nature Conservation (SINCs), Factory Wood and the River Ely, it also abuts a third; Leckwith Woods. Within the site is Old Leckwith Bridge, which is a Grade II* listed structure and a Scheduled Monument.
- 6.4 The landscape mitigation and enhancement measures associated with the current proposed development include:
- Scale, density and layout of the development designed to be sympathetic with the local context
 - Covered car park located under courtyard deck garden
 - Maximum building height (5-storey) informed by the local topography, to avoid breaking the skyline in majority of views
 - Wooded nature of surrounding slopes retained and extended with new tree planting, contributing to the local distinctiveness of the area
 - River side vegetation retained and improved to ensure stability of banksides and existing habitats
 - Riverside access promoted with new routes, but constrained with bankside platforms
 - New pedestrian and cycle access into and around site



- Appropriately sensitive access into woods to facilitate recreational use and management
 - Soft landscape areas managed for their biodiversity value.
- 6.5 Ten landscape receptors were identified within the study area as being potentially affected by development on the site. These included a Special Landscaped Area (SLA), three Sites of Importance for Nature Conservation (SINC), an area of Ancient Woodland, a Site of Special Scientific Interest (SSSI), a scheduled monument, an artificial pond, vegetation, and topography. Of these landscape receptors, six were judged to experience significantly adverse effects during the construction phase. This is principally due to loss of trees and woodland. During the whole life operational phase of the development, there were predicted to be no significantly adverse effects and indeed six became significantly beneficial. This was judged to be because there is opportunity to provide a sensitive, high quality landscape scheme which enhances biodiversity, links the riverside with the woodlands, provides appropriate managed access to an enhanced riverside and facilitates natural regeneration of woodland as recommended by arboricultural experts.
- 6.6 Seven viewpoint receptors were agreed and finalised with the local planning authority. Of these, four were assessed to have significantly adverse effects during the construction phase of the development due to construction activities such as crane movements, building and site security measures. During the whole life operational phase, three of the viewpoint receptors were assessed to have significantly adverse effects. This was judged to be due to their close-proximity to the site from a walking trail and because the increased height of the buildings meant a diminished view of the wooded Special Landscape Area backdrop to the west.
- 6.7 The existing site is well contained visually because of the surrounding topography but has many existing detractors because of the adhoc collection of buildings and commercial activities. The proposed development of the site provides opportunity to provide high quality buildings and a sensitive landscape scheme integrated within its context linking the woodland to the river.

7. Flooding and Hydrology

- 7.1 Chapter 7 of the October 2020 ES states that according to the TAN15 Development Advice Maps the site lies within Flood Zone C1 and is, therefore, served by significant infrastructure including flood defences. The site has, however, been identified as being at risk of flooding from the Pontsticill (Taf Fechan) Reservoir were the latter to fail catastrophically.
- 7.2 The site has located in an area with a history of flooding events and is adjacent to the River Ely upstream from the Cardiff Bay. The River Ely is the primary water receptor of concern for the Proposed Development although there is also the presence of groundwater below the Site. The River Ely is known to have biological receptors, namely a SSSI, downstream of the Site.
- 7.3 Since the completion of the October 2020 ES, additional flood mitigation and analysis for this development has been completed. This addendum identifies these changes as relevant to the ES, as such the following update to the ES Non-technical summary follows:



- 7.4 The site is located in an area with a history of flooding events and is adjacent to the River Ely upstream from the Cardiff Bay. The River Ely is the primary water receptor of concern for the Proposed Development, although there is also the presence of groundwater below the Site. The River Ely is known to have biological receptors, namely a SSSI, downstream of the Site.
- 7.5 Mitigation requirements as part of the Proposed Development include the implementation of a CEMP, the completion of a Water Framework Directive (WFD) assessment (prior to construction) and establishing a communication regime with Natural Resources Wales and Cardiff and Vale of Glamorgan councils.
- 7.6 The likely effects identified for the Proposed Development relate to flood risk and the potential for pollution of water receptors (surface and ground). These effects are likely to principally occur during the construction phase, with flood risk potentially decreasing on the floodplains upstream of the site but increasing within the channel downstream of the site. With the implementation of mitigation measures and WFD assessment, no significant effects are anticipated.

8. Ground Conditions

- 8.1 Chapter 8 of the October 2020 ES outlines that baseline data for this chapter is primarily sourced from the findings of the Leckwith Quay, Cardiff, Preliminary Risk Assessment. A ground investigation is recommended to refine this assessment.
- 8.2 It is known that the site has been utilised for a number of industrial and commercial uses from pre-1880s to present day. There are records of four historical landfills on site. During the site walkover, an 8m high embankment in the north of the site with evidence of the landfill material was observed. The geology is anticipated to be Made Ground over the majority of the site, overlying Tidal Flat deposits along the east of the site and Tufa deposits in the southernmost part of the site (Secondary Undifferentiated and A Aquifers). The bedrock comprises the Blue Anchor Formation, overlying the Mercia Mudstone (both Secondary B Aquifers). Groundwater in the nearby BGS borehole logs ranged between 2.0m and 4.3m bgl. There is one groundwater abstraction within 500m of the site located 105m west of the site for Woodland Farm, used for general farming and domestic use, however, this was considered to be upgradient of the site and therefore discounted from the assessment.
- 8.3 The nearest surface water body is the Ely River, that runs adjacent to the eastern site boundary. The river originally meandered through the centre of the site but was rechannelled by 1970. There are two surface water abstractions within 500m of the site, the closest is 95m west used for household water supply and farming use. Both are upgradient of the site and therefore discounted from the assessment.
- 8.4 The risk to human health receptors from a contaminated land perspective is considered to be high. Based on the historical and current industrial land uses on and surrounding the site and the presence of Made Ground and landfill material and naturally occurring radon, the likelihood of direct contact and the generation of ground gases is high. The risk to controlled waters is also considered to be high based on the proximity of the River Ely. Due to the likelihood of shallow groundwater, impact from leaching and migration in groundwater is considered to be likely.



- 8.5 Likely significant effects identified are principally associated with the construction phase and the contamination which may be caused by potential spills or leaks from construction plant, physical contamination caused by run-off containing a high percentage of sediment into the River Ely. There are no significant effects identified during the operational phase as the risks are anticipated to have been designed out or remediated prior to or during the construction phase.
- 8.6 Mitigation measures for the potential effects identified are generally inherent to the site and are incorporated into the detailed design (such as drainage design) and CEMP required for the Construction Phase. Should contamination sources be identified, mitigation measures will include the implementation of a remedial scheme in accordance with a site-specific remediation strategy; mitigation measures may, for example, include the provision of a capping layer across garden and landscaped areas.
- 8.7 Following implementation of the mitigation measures both inherent and incorporated into the detailed design of the site, it is considered unlikely that there will be any residual significant effects.

9. Archaeology and Built Heritage

- 9.1 Chapter 9 of the October 2020 ES confirms that an archaeological desk-based assessment has been undertaken, comprising of a review of existing information about the archaeological resource within a 750m study area around the development site.
- 9.2 The information was gathered from the statutory bodies including the regional Historic Environment Record and the National Monument Record, Cadw and the Central Register of Air Photography for Wales (CRAPW). Documentary sources were gathered and a site walkover undertaken.
- 9.3 The assessment is intended to conform to the Chartered Institute for Archaeologists Standards and Guidance for Historic Environment Desk-based Assessments (2017) and has used the Design Manual for Roads and Bridges Volume 11 for the purpose of levels of significance
- 9.4 The following indirect visual assessment does not conform to the full ASIDOHL2 methodology. However, in order to ensure a thorough evaluation, indirect effects have been assessed employing the principles of ASIDOHL2.
- 9.5 Of forty two sites identified with the study area, the assessment identified ten historic assets directly within the proposed development area.
- 9.6 The historic assets identified within the development area included the Scheduled Monument and Grade II* Listed Building Leckwith Bridge (GM014/ 0134S/ LB13748/ LB26487/ 24126), Leckwith New Bridge and Viaduct (307689), Limekiln (04120s) and Structures (04122s, 04125s).
- 9.7 Five new sites were further identified during the course of this assessment, including LQ001 (Leckwith Bridge Public House), LQ002 (Old Weir), LQ003 (Cottage), LQ004 (Milestone) and LQ005 (Drain cover).



- 9.8 An assessment of the significance of events was made against each of the historic assets.
- 9.9 It was considered that the proposed works will have a ‘Major’ effect on two sites of archaeological interest within the development area, Leckwith Bridge House (LQ001 and Leckwith New Bridge and Viaduct (307689).
- 9.10 A ‘Minor’ effect was considered on the sites of Leckwith Bridge (00134s/GM014/LB13748/LB26487/24126), Two Structures (04122S), Structure (04125s), Limekiln (04120s), Old Weir (LQ002), Structure (Possible Cottage) (LQ003), Milestone (LQ004), and Drain (LQ005).
- 9.11 As a response, the suggested mitigation includes for appropriate protective measures (such as a barrier and appropriate signage) to be constructed outside both ends of the bridge before works commence and maintained during all works (to be approved by CADW before works commence) and an archaeological watching brief outside of the immediate area for the Scheduled Monument 00134S/GM014/LB13748/LB26487/24126 Leckwith Bridge.
- 9.12 Preservation in-situ is the preferred Welsh Government policy. However, if this were not possible, it also includes for a Photographic Record prior to demolition on 3047689 Leckwith New Bridge and Viaduct, LQ005 Drain and a Level 3 Building Survey on LQ001 Leckwith Bridge House. An archaeological watching brief has been recommended on remaining sites and will also mitigate any previously unknown archaeological interests.
- 9.13 When implemented, the proposed mitigation will reduce the magnitude of impact allowing for either preservation in situ, or preservation by record.
- 9.14 The mitigation recommendations to reduce the level of significance of effect have been assessed to be proportional responses to the historical assets.
- 9.15 Any such archaeological mitigation works should be tailored to detailed construction proposals and will be determined by the LPA.
- 9.16 Consultation with Cadw is also required regarding recommended mitigation measures for Scheduled Monument and Grade II* Listed Building Leckwith Bridge (00134S/GM014/LB13748/LB26487/24126) prior to construction works.

10. Noise and Vibration

- 10.1 Chapter 10 of the October 2020 ES outlines that an Environmental Noise Assessment has been undertaken to assess the external noise environment at the site.
- 10.2 Due to the site’s close proximity to the A4232 there is an identified risk of high external noise levels being experienced across the development site.
- 10.3 The results of the noise survey indicate that the noise levels across the development site are relatively high, with areas exceeding typical recommended external noise level limits for outdoor amenity and creating risk of high internal noise levels if openable windows are used.



- 10.4 Subsequent detailed noise mapping and site assessments have been carried out to inform and influence the design of the site from an early stage to help mitigate and reduce any noise impact and to increase acoustic comfort in both external and internal spaces. As such, various mitigation options have been reviewed, such as the inclusion of screening at the adjacent roads, as well as using building massing to provide screening to other areas of site.
- 10.5 Noise mapping shows that screening and building massing can be used successfully to create large areas of outdoor amenity areas that have ambient noise levels below 55dB, thereby falling within WHO and TAN 11 recommendations. However, there will still be areas that exceed the recommended lower limit by up to 7dB, falling within TAN11 Noise Exposure Category B.
- 10.6 Internal noise level within dwellings can be easily controlled through the design of the façade. This may require the specification of suitable opening window types and orientation, or through additional façade elements to further improve the acoustic attenuation, such as architectural fins/screening, window baffles, secondary facades or recessed balconies. The acoustic design of facades will be further developed once thermal modelling has been carried out of the proposed developments, so to fully understand the open area requirements for overheating, and where the acoustic performance can be improved.
- 10.7 It is therefore considered that with the sensitive design of the site and the inclusion of appropriate mitigation measures, the site would be suitable for residential purposes.
- 10.8 The development and the residential units themselves are not considered to be a significant source of noise. From reviewing the existing roads, any increase in traffic flow from the development is not anticipated to result in a noticeable increase in traffic noise, while any new roads within the development are not likely to increase traffic noise at any existing nearby dwellings.

11. Air Quality

- 11.1 Chapter 11 of the October 2020 ES confirms that the Air Quality Chapter of the Environmental Statement has been produced and sets out the air quality impacts of the Proposed Development.
- 11.2 The Proposed Development has the potential to affect air quality as a result of emissions to air from increases in particulate emissions due to construction; and changes in pollutant concentrations from traffic related to the Proposed Development.
- 11.3 Impacts for nitrogen oxides (NO_x), nitrogen dioxide (NO₂) and particulate matter (PM₁₀) were considered at existing and future residential properties and sensitive ecological sites.
- 11.4 There is no air quality monitoring available within 500m of the Proposed Development, but the closest available data indicates that pollutant concentrations are low and well below the standards set out in the UK Air Quality Strategy and European Union Ambient Air Quality Directive



- 11.5 Air Quality in the Vale of Glamorgan and Cardiff is generally good and meet the relevant objectives. However, concentrations are higher in areas with heavily trafficked roads and, as a consequence, Air Quality Management Areas (AQMA) have been established. However, no AQMAs are within 2km of the Proposed Development.
- 11.6 Detailed mitigation measures to control construction traffic should be discussed with Vale of Glamorgan Council and Cardiff Council to establish the most suitable access and haul routes for the site traffic. The most effective mitigation will be achieved by ensuring that construction traffic does not pass along sensitive roads (residential roads, congested roads, via unsuitable junctions, etc.) where possible, and that vehicles are kept clean (through the use of wheel washers, etc.) and sheeted when on public highways. Timing of large-scale vehicle movements to avoid peak hours on the local road network will also be beneficial.
- 11.7 The Operational Phase includes mitigation which anticipates that there will be a 10% reduction in traffic generation from the Proposed Development due to the implementation of Travel Plan measures based on published studies and the aspirations of Cardiff Council. It has not yet been confirmed what measures will be implemented but they would typically involve the promotion and incentivisation of more sustainable travel. Should there be any further mitigation, this would be associated with addressing localised traffic capacity issues (i.e. at specific junctions) and should not affect traffic forecasts used in the assessment.
- 11.8 The predicted dust emission magnitude has been combined with the sensitivity of the surrounding area to determine the risk of impacts during the construction phase, prior to mitigation. The assessment identified that there is a Low Risk of dust soiling impacts and a Low Risk of increases in particulate matter concentrations due to construction activities.
- 11.9 Through good site practice and the implementation of suitable mitigation measures, the effect of dust and PM10 releases would be significantly reduced. The residual effects of dust and PM10 generated by construction activities on air quality are therefore insignificant. The residual effects of emissions to air from construction vehicles and plant on local air quality will be negligible.
- 11.10 A quantitative assessment of the potential impacts during the operational phase was undertaken using ADMS Roads to predict the changes in NO_x, NO₂ and PM10 concentrations that could occur due to traffic generated by the Proposed Development.
- 11.11 The results show that the Proposed Development would cause an imperceptible increase in pollutant concentrations and would not cause any exceedances of the statutory objectives at both human and ecological receptors.
- 11.12 All existing receptors show negligible impacts due to the Proposed Development in the years 2025 and 2030, as well as no exceedances of the objectives at future receptors.

