Eden Project International

EDEN PROJECT NORTH, MORECAMBE

Environmental Statement Volume 1: Non-Technical Summary



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1 INTRODUCTION

1.1 OVERVIEW

1.1.1. Eden Project International Limited (herein referred to as ‘EPIL’) is seeking full planning permission for a major mixed use leisure-led development (herein referred to as the 'proposed development’) at the Central Promenade Regeneration Site, Marine Road Central, Morecambe (also referred to as ‘the site of the former Bubbles Complex’).

1.1.2. This Environmental Statement (ES) supports a full planning application seeking permission for:

“Demolition of existing buildings and proposed construction of major mixed leisure development in association with Eden Project (including use classes E, F1 and F2), outdoor arena (including live music performances), public realm, landscaping works, cycle parking, energy pods, and associated infrastructure and engineering operations”

1.1.3. The location is identified in **Figure 1.1 of Volume 4** and below. The site extends to circa 4.58 hectares and comprises land situated to the north and west of Morecambe Town Centre. The main development site is bound by the promenade to the north and east, Marine Road Central to the south and the Grade II* listed Midland Hotel to the west.

Image 1.1 – Site Location



1.2 RATIONALE FOR DEVELOPMENT

1.2.1. Eden Project North represents a once in a generation opportunity for Morecambe, its local community and the North West region. The project will be an aspirational, flagship development for the North West, providing a platform to educate future generations about the importance of sustainability.

1.2.2. With climate change firmly at the top of local and national government agendas and indeed Lancaster City Council's (LCC) own recent declaration of a Climate Change Emergency, there has never been a more important time for such a development to come forward.

1.2.3. The development itself will feature large indoor environments which accommodate a series of exhibitions and immersive experiences, creating a space that will inspire and connect visitors with the natural world.

1.2.4. Eden Project North will transform Morecambe, delivering a range of social, economic, environmental and cultural benefits. The development will support positive social change, being accessible to a wide demographic.

1.3 PURPOSE OF THIS DOCUMENT

1.3.1. This document is a Non-Technical Summary (NTS) of the Environmental Statement submitted in support of the planning application for the proposed development described above. The purpose of an NTS is to present a standalone summary of the findings of the Environmental Statement in non-technical language, as required under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended).

2 THE EXISTING ENVIRONMENT AND SURROUNDING AREA

2.1 THE SITE AND EXISTING CONDITIONS

2.1.1. The site extends to circa 4.58 hectares and comprises land situated to the north and west of Morecambe Town Centre. The main development site is bound by the promenade to the north and east, Marine Road Central to the south and the Grade II* listed Midland Hotel to the west.

2.1.2. The main development site is identified by LCC as a Development Opportunity Site. The site is known as the Seafront Headland, Central Promenade and also the site of the former Bubbles leisure complex.

2.1.3. The site falls within the Morecambe Conservation Area and is close to a number of designated heritage assets.

2.1.4. The main development site is bound to the north, east and west by the promenade which extends east-west along the Bay of Morecambe. A Royal National Lifeboat Institution (RNLI) station lies immediately north of the site adjoining the promenade. A stone jetty extends out from the promenade to the north west of the site.

2.1.5. There are no adopted highways nor Public Rights of Way within the proposed development red line boundary.

2.1.6. Vehicular movements within the site are currently only allowed for emergency vehicles, RNLI access, the Stone Jetty (servicing) and the Bay Arena Car Park.

2.1.7. The existing site comprises five distinct areas:

- The Harbour Band area in the north-western corner of the site which is laid out as public open space following the demolition of the former bandstand;
- The redundant Bubbles site comprising the former swimming pool complex temporarily used by fair rides and attractions;
- The dome theatre southeast of the Bubbles complex built in 1979 and presently disused;
- The Bay Arena Car Park to the east; and
- The Promenade Gardens in the south-western corner of the site.

2.1.8. The site is located at the heart of the Morecambe promenade, a well-pedestrianised traffic free corridor connecting Heysham and Hest Bank. The traffic free environment of the site also includes cycling, a key activity along the Promenade. Sustrans Route 69 (Way of the Roses) and 700 permeate part of the site. These routes connect Morecambe with Lancaster via a segregated traffic free route along the River Lune.

2.1.9. Immediately to the south west lies the Grade II* listed Midland Hotel and the Bay of Morecambe.

2.1.10. The site is bound to the south by Marine Road Central beyond which lies the Grade II* listed Winter Gardens, amusement arcades, shops, public realm and car parks serving Morecambe Town Centre.

2.1.11. Other designated heritage assets in close proximity, but outside, the site boundary include the Grade II listed station building and lighthouse at the northern tip of the stone jetty, the Grade II listed wall and entrance piers enclosing the car park and the Grade II listed war memorial.

2.2 SURROUNDING AREA

2.2.1. The site is situated immediately to the north and west of Morecambe Town Centre. Morecambe Train Station is located approximately 300 metres to the south east.

2.2.2. In terms of strategic infrastructure, the site is located in close proximity to the M6 and other key roads such as the A683.

2.2.3. Morecambe Railway Station is located just 300 metres to the south of the proposed development. It provides regular services to Lancaster and Leeds. Wider regional services are available from Lancaster.

2.2.4. Both Morecambe and Lancaster Railway Stations provide key walking and cycling connectivity with the proposed development site with traffic free and segregated walking and cycling routes.

2.2.5. Morecambe Bus Station is located on Central Drive next to the railway station, effectively forming a transport hub in the town centre. Local services connect Morecambe with Kendal, Lancaster, Preston and multiple local and regional destinations.

2.2.6. Furthermore, a series of bus stops for local services are located across Marine Road Central, all of which provide sheltered waiting facilities.

2.3 ENVIRONMENTAL CHARACTERISTICS

2.3.1. Key environmental features are summarised below:

Ecology

2.3.2. There are six statutory designated sites within 5km of the site, as follows:

- Morecambe Bay Special Area of Conservation;
- Morecambe Bay and Duddon Estuary Special Protection Area (SPA);
- Morecambe Bay Ramsar;
- Morecambe Bay SSSI;
- Heysham Moss SSSI; and
- Lune Estuary SSSI.

2.3.3. There is also one non-statutory designated site within 2km of the site – Oxcliffe Road Lake Biological Heritage Site (BHS).

2.3.4. The site is within the Morecambe Bay Limestones and Wetlands Nature Improvement Area. One of the primary purposes of the Nature Improvement Area is to improve and connect the area's special wetland, limestone grassland and woodland habitats.

Landscape and visual

2.3.5. The site is not located within any international, national or local landscape designations. There are, however, a number of designations in proximity to the site, as follows:

- Heysham Head Local Landscape Designation – 480m to the southwest;
- Torrishome Barrow Key Urban Landscape – 2.8km to the east;
- Arnside and Silverdale Area of Outstanding Natural Beauty (AONB) – 5.6km to the north;
- Williamson Park Key Urban Landscape – 6.5km to the southeast; and
- Forest of Bowland Area of Outstanding Natural Beauty (AONB) – 8km to the east.

Cultural heritage and archaeology

2.3.6. The application site is entirely within the Morecambe Conservation Area. There are no heritage assets within the scheme boundary, however the Grade II listed War Memorial (NHLE 1292855) is located directly adjacent to the site's southern boundary and Grade II* listed Midland Hotel (NHLE 1208988) is located directly adjacent to the site's western boundary. The Winter Gardens (NHLE 1025280), a Grade II* listed theatre, is located on the southern side of Marine Road Central a short distance from the site's southern boundary.

2.3.7. In addition to the Conservation Area and three buildings detailed above, the following relevant Grade II listed buildings have been identified within 500m of the site boundary:

- Former Station Building and Lighthouse (NHLE 1207223)
- The Clock Tower (NHLE 1279837)
- Morecambe Railway Station Main Building (NHLE 1207224);
- 217, 219 and 221 Marine Road Central (NHLE 1207218); and
- Wall and 2 pairs of entrance piers enclosing south-east side of car park of Midland Hotel (NHLE 1292883).

2.3.8. There are two non-designated heritage assets within 500m of the site boundary:

- Former Woolworths Building, now occupied by B&M; and
- Former Littlewoods Building, now occupied by CB Warehouse.

Hydrology and flood risk

2.3.9. The site lies adjacent to Morecambe Bay.

2.3.10. The Environment Agency's Flood Map for Planning shows the Site lies in Flood Zone 1, 2 and 3 and so the chance of flooding in any year ranges from a 0.1% to 3% probability.

Air quality

2.3.11. The site is not located within or adjacent to an Air Quality Management Area (AQMA). The nearest AQMA to the site is the City of Lancaster AQMA, which lies approximately 4.77km east/southeast of the site.

Noise

2.3.12. A Noise Assessment of the site and surrounds has been undertaken and identified the existing key noise sources around the site and the closest sensitive receptors.

2.3.13. Existing noise sources are predominantly associated with road traffic noise from Marine Road Central to the south.

2.3.14. The closest sensitive receptors to noise impacts are considered to be:

- Residential properties, hotels and B&Bs immediately to the south and south east along Marine Road Central;
- The Midland Hotel immediately west of the site; and
- Ecological receptors within Morecambe Bay.

2.3.15. No clearly identifiable vibration sources have been identified by the Noise Assessment.

3 THE PROPOSED DEVELOPMENT

3.1 DESCRIPTION OF DEVELOPMENT

3.1.1. The planning application will seek full planning permission for the following development:

"Demolition of existing buildings and proposed construction of major mixed leisure development in association with Eden Project (including use classes E, F1 and F2), outdoor arena (including live music performances), public realm, landscaping works, cycle parking, energy pods, and associated infrastructure and engineering operations"

3.2 MAXIMUM DEVELOPMENT PARAMETERS

3.2.1. The following maximum development parameters were set for the development within the ES Scoping Report (scoping ref: 21/00988/EIO, submitted to LCC on 30 July 2021) and the Environmental Impact Assessment (EIA) will has been prepared on this basis:

- Maximum building height of 37.3m Above Ordnance Datum (AOD);
- Maximum building footprint of 18,000sqm (based on the 'Gross External Area' (GEA));
- Maximum visitor numbers of 1 million per annum with an estimated average of 760,000 per annum. There will be timed ticketing to control visitor flows. The proposed development has been designed to accommodate a maximum of 4,000 visitors per day. Feasibility studies indicate an estimated average of 100 days per annum of up to 3,750 visitors; 200 days per annum of up to 2,500 visitors; and 60 days per annum of up to 1,250 visitors. There will be a maximum of 750 visitors per hour accessing the site.
- Maximum core hours of operation (main site):
- Daily: 09:00 – 21:00
- Maximum hours of operation (main site – summer time):
- Daily: 09:00 – 00:00
- Maximum 6,000-person capacity outdoor arena to host up to 8 late evening events per calendar year (summer months only) during the following hours:
- 18:00 – 00:00 (music finishing at 23:00)
- A canopy-like structure primarily to provide weather protection for visitors plus flexible spaces that can accommodate Class E food and beverage and retail outlets, house renewable energy technologies and/or provide sheltered cycle parking.

3.2.2. Within these maximum parameters, the proposed development will comprise development within the following land and building use categories ('Use Classes'), as defined by the Town and Country Planning (Use Classes) Order 1987 (as amended):

- Use Class E (commercial, business and service use);
- Use Class F1 (learning and non-residential institutions);
- Use Class F2 (local community uses); and
- *Sui Generis* use (ie the outdoor arena including use for live music performances, that does not fall within any defined Use Class category).

3.2.3. The existing pedestrian and cycle route that passes laterally through the centre of the site will be retained.

3.2.4. No development will take place outside of the site's red line boundary as part of these proposals, however, EPIL will work with the Council to secure future enhancements as part of the wider transformation of the local area.

3.2.5. An indicative opening year for the development has been given as spring 2024. The site is anticipated to be built over a 2-year period.

3.3 PROPOSED LAYOUT

3.3.1. The layout seeks to work with the opportunities and constraints of the site, working effectively with existing levels to ensure that the shell structures respond to the topography, views and neighbouring uses.

3.3.2. The Site Layout Plan (ref: A02 1003 Rev 3) identifies the various components of the scheme, which can be broadly categorised into the following elements:

- Four shell-like shaped buildings:
  - Rhythm Machine;
  - Natural Observatory;
  - Bay Glade (including Glade Café at first floor level);
  - Bay Hall;
- Four Seasons Garden;
- Tide Garden;
- Rhythm Gardens (including arena stage);
- Visitor Centre (including Eden Retail);
- Bay Restaurant with outdoor terrace (at first floor level);
- An 'Energy Field' in part of the southern landscaped area comprising Air Source Heat Pump (ASHP) energy pods;
- A canopy-like structure within part of the southern landscaped area, primarily to provide weather protection for visitors plus flexible spaces that will have the potential to accommodate food and beverage and retail outlets, house renewable energy technologies and/or provide sheltered cycle parking;
- Landscaped gardens to the south and far west of the site.

3.3.3. Eden Project North will comprise a cluster of four shell-like shaped buildings with an outdoor garden (Four Seasons Garden) providing a centrepiece to this cluster.

3.3.4. The Visitor Centre and main entrance to the venue will be located within an adjoining building immediately to the south of the shell cluster. This building, as well as adjoining link buildings to the shell-like structures and external areas, will take the form of a 'dunescape' with the shell-like structures rising above to create a striking and location-specific design.

3.3.5. The shells, the Four Seasons Garden and Visitor Centre will be flanked by the Tide Garden to the west and the Rhythm Gardens to the east. A substantial existing landscaped area in the southern portion of the site will be enhanced to create an attractive frontage and approach to the venue, as well as providing the main pedestrian and cycle thoroughfare from Marine Road Central to the

venue. Furthermore, an area of landscaping will be enhanced to the west of the Tide Garden and north of the Midland Hotel.

3.3.6. The Rhythm Gardens will function as both an outdoor landscaped feature and, on occasion, as an outdoor arena hosting live music events. A stage will be located to the south of the Gardens to facilitate this occasional use and the stage has been deliberately orientated to project noise out towards the Bay and away from the town and neighbouring uses.

3.3.7. The promenade along the northern boundary of the site will be retained. Soft landscaping proposals are being explored within this northern part of the site, within the flood defence easement, subject to Lead Local Flood Authority (LLFA) and City Council agreement.

3.3.8. Air Source Heat Pumps (ASHP) / Energy Pods are proposed within The Energy Field landscape area, on the approach to the main entrance of new built-form, have been designed as part of the surrounding landscape proposals, and their form and lattice timber structure is organic and of a quality in keeping with the rest of the proposed development. The Energy Pods also have potential to demonstrate both solar and wind harvesting, as well as integrating covered cycle parking and seating for visitors. The Energy Pods support a 'sea foam' shelter that extends southeast towards Marine Road Central, offering a sheltered route for visitors arriving from the park and ride and coach drop-off.

3.4 SCALE OF DEVELOPMENT

3.4.1. The scale and massing of the proposal respond to existing levels within the site and wider context.

3.4.2. The total building footprint which has been assessed in this ES is up to 18,000sqm (GEA).

3.4.3. The aforementioned shell-like structures feature a range of heights in order to break up the built form. Heights vary from 25 to 37 metres AOD, therefore in accordance with the maximum height parameter of 37.3m AOD, with the largest and tallest structures being positioned at the farthest point into the site to utilise the lowest areas of the site effectively and mitigate impacts on the Midland Hotel and Winter Gardens. The massing of the largest structure will be broken up by smaller structures in the foreground.

3.5 ACCESS

3.5.1. Eden Project North will be primarily accessed on foot with car parking provided offsite. On-site cycle storage and ancillary facilities for staff and visitors will further contribute to the use of a variety of sustainable transport options.

3.5.2. The Site Circulation Plan (ref: A02 1004 Rev 0) contained at **Figure 3.2 of Volume 4**, is based on the following access assumptions:

- The primary visitor entrance and exit points will be via the Visitor Centre to the south of the cluster of buildings;
- Secondary access points will be provided to the Tide Garden, Rhythm Gardens and landscaped areas proposed to the northern-most part of the development, where it interfaces with the promenade;
- The RNLI will continue to utilise the existing route off Marine Road Central passing between the Midland Hotel and area of public realm to reach the RNLI lifeboat station; with the following to be agreed via a S278 Agreement:

- Proposed pedestrian crossing to provide safe passage of pedestrians and cyclists across from the Goods Yard car park to the south of Marine Road Central and the main thoroughfare into and out of the site;
- The Park & Ride shuttle will utilise a stop to be provided on the north side of Marine Road Central, adjacent to the main thoroughfare into and out of the site; and
- Coaches will be able to pick-up and drop-off from the south side of Marine Road Central opposite the War Memorial.
- The primary visitor entrance and exit points will be via the Visitor Centre to the south of the cluster of buildings;
- Secondary access points will be provided to the Tide Garden, Rhythm Gardens and landscaped areas proposed to the northern-most part of the development, where it interfaces with the promenade;
- The RNLI will continue to utilise the existing route off Marine Road Central passing between the Midland Hotel and area of public realm to reach the RNLI lifeboat station.

3.5.3. The Site Access Plan contained at **Figure 3.3 of Volume 4** illustrates areas of the site where ticketed access applies as well as areas of the site with permissive access throughout the year (such as the landscaped areas to the south and west of the site and promenade) and also areas with permissive access at certain times of the year (such as the Rhythm Gardens).

3.5.4. All promenades surrounding the site will remain open to the public.

3.5.5. Finally, in terms of servicing, deliveries for the retail and café uses and servicing of the arena will utilise the existing route from Marine Road Central which forks off from the promenade and behind the War Memorial. However, the primary servicing point will be in the north east of the site utilising the promenade before turning into the development itself (between the Natural Observatory and Bay Glade). The Bay Restaurant will also be serviced via the promenade.

4 ENVIRONMENTAL IMPACTS, MITIGATION AND EFFECTS

4.1 OVERVIEW

4.1.1. This chapter summarises each technical assessment that has been undertaken as part of this Environmental Impact Assessment. Each assessment considers 'construction phase' and 'operational phase' impacts and, in the interests of robustness, are based on a 'worst-case' scenario of the impacts.

4.2 TOWNSCAPE, SEASCAPE AND VISUAL IMPACT ASSESSMENT

4.2.1. **Chapter 6** of the ES assesses to Townscape, Seascape and Visual Impact of the development.

4.2.2. The approach to the townscape, seascape and visual impact assessment (TSVIA), and the selection of assessment and photomontage viewpoints was determined during the process of assessment and takes account of Lancaster City Council's comments received in 2019 and 2021.

4.2.3. The layout and design of the proposed development has considered potential impacts on townscape, seascape, and landscape, and on views, in particular at the site and in its immediate surroundings, to minimise negative impacts, and to maximise positive impacts on townscape, seascape, and landscape character, and on views.

4.2.4. The Landscape General Arrangement is shown on Drawing EDNN-TEP-ZZ-ZZ-DR-LA-001 and is included as **Image 4.1** below. Landscape surrounding proposed built-form is designed as a series of external spaces with unique character and purpose that reflects the 'bayscape', and coastal environment present in the context of the proposed development and complements proposed built-form. Landscape design proposals are described in the DAS.

Image 4.1 – Extract from Landscape General Arrangement Drawing



Potential Effects on Townscape, Seascape and Landscape Character

During Construction

4.2.5. There would be a great scale of change on townscape character at the site and in its immediate surroundings during construction. The significance of effect would be **moderate adverse.**

4.2.6. Construction activity would introduce some disturbance to the western part of the Morecambe Conservation Area and would influence local townscape character within 1km of the site. It also would be perceptible beyond intervening built form seen from the edges of the West End Conservation Area to the south and southwest. The significance of the effect on the local townscape and on localised parts of the Morecambe and West End Conservation Areas, would be **minor adverse**.

4.2.7. The significance of effect on the wider Morecambe Conservation Area and on the wider townscape, (beyond 1km of the site), would be negligible, due to screening by intervening built form and mature trees, and due to distance.

4.2.8. Construction activity also would result in a **negligible** effect on the locally designated Heysham Coast to the southwest; Torrisholme Barrow to the east; and Williamson Park and Ashton Memorial to the southeast. There also would be a **negligible** effect on the marine and seascape character of Morecambe Bay; on the Arnside and Silverdale and Forest of Bowland AONB landscapes; and on national and county landscape character areas, excluding the Industrial Age Urban Landscape Type, where there would be a temporary and localised **minor adverse** significance of effect on townscape character.

During Operation

4.2.9. The proposed development would result in a complete alteration of townscape character within the site and its immediate surroundings. The significance of the effect would be **major beneficial**.

4.2.10. Beyond the immediate surroundings of the proposed development, the significance of effect on local townscape and the western part of the Morecambe Conservation Area would be **moderate beneficial**.

4.2.11. The significance of effect on the wider Morecambe Conservation Area and on the wider townscape, (beyond 1km of the site), would be **negligible**, due to screening by intervening built form and mature trees, and due to distance.

4.2.12. The proposed development also would have **negligible** effect on the locally designated Heysham Coast to the southwest; Torrisholme Barrow to the east; and Williamson Park and Ashton Memorial to the southeast. There also would be a **negligible** effect on the marine and seascape character of Morecambe Bay; on the Arnside and Silverdale and Forest of Bowland AONB landscapes; and on national and county landscape character areas, excluding the Morecambe Coast and Lune Estuary National Character Area, and the Industrial Age Urban Landscape Type, where there would be a localised **minor beneficial** significance of effect on townscape character.

Potential Effects on Views

During Construction

4.2.13. Temporary construction activity would result in adverse significances of effect on views for the short-term.

4.2.14. The greatest adverse significance of effect would be **moderate adverse**, on close, predominantly high sensitivity views where construction activity would affect a large proportion of the view for the short-term, including views experienced by:

- Persons on the Lancashire Coastal Way (LCA), running along the southern boundary of the site;
- Persons at the RNLI Morecambe Lifeboat Station;
- Persons at The Midland Hotel overlooking the site; and
- Persons at Morecambe War Memorial.

During Operation

4.2.15. The proposed development would result in both negative and positive impacts on affected views. Negative impacts would arise from the introduction of new large-scale built form into close open views. However, the unique character and high-quality design of the proposed development, and embedded mitigation measures, including landscape design proposals, would result in positive impacts on views. The proposed development also would introduce a unique and distinctive landmark into views from the surrounding area.

4.2.16. The proposed development would result in a **major** or **moderate beneficial** significance of effect on views from:

- Within the site of the proposed development;
- LCW along the southern edge of the proposed development and the LCW and Morecambe Promenade close to the site of the proposed development;
- National Cycle Route (NCR) 700 and Morecambe Promenade along the edges and close to the proposed development;
- NCR 69 southwest of the proposed development;
- Stone Jetty to the northwest;
- The Midland hotel;
- Morecambe Visitor Centre and Station Building;
- Winter Gardens;
- Morecambe War Memorial;
- Marine Road West along the southern edge of the proposed development; and
- Northern end of Northumberland Street looking northwest.

Additional Mitigation and Residual Effects during Construction and Operation

4.2.17. No mitigation is proposed in addition to mitigation embedded into the layout and design of the proposed development.

4.2.18. The significances of effects during construction and operation of the proposed development, would remain as summarised above, and as set out in section 6.5 and in Tables 6.8 and 6.11 of the TSVIA ES Chapter.

4.3 CULTURAL HERITAGE

4.3.1. The Cultural Heritage and Archaeology chapter (**Chapter 7**) assesses the built heritage assets potentially affected by the proposed development.

4.3.2. Archaeology has been scoped out of the assessment. Previous archaeological investigations of the application site found that it does not, or is very unlikely to, contain archaeological evidence of any value. Consequently, there would be no significant effects on the archaeology of the site.

4.3.3. Built heritage assets, which include Listed Buildings, Conservation Areas, Registered Parks and Gardens and Locally Listed Buildings, are scoped into the assessment. The study area for built heritage assets has been set at 500m from the site boundary.

4.3.4. The application site is entirely within the Morecambe Conservation Area. There are no heritage assets within the scheme boundary, however the Grade II listed War Memorial (NHLE 1292855) is located directly adjacent to the site's southern boundary and Grade II* listed Midland Hotel (NHLE 1208988) is located directly adjacent to the site's western boundary. The Winter Gardens (NHLE 1025280), a Grade II* listed theatre, is located on the southern side of Marine Road Central a short distance from the site's southern boundary.

4.3.5. In addition to the Conservation Area and three buildings detailed above, the following relevant Grade II listed buildings have been identified within 500m of the site boundary:

- Former Station Building and Lighthouse (NHLE 1207223)
- The Clock Tower (NHLE 1279837)
- Morecambe Railway Station Main Building (NHLE 1207224);
- 217, 219 and 221 Marine Road Central (NHLE 1207218); and
- Wall and 2 pairs of entrance piers enclosing south-east side of car park of Midland Hotel (NHLE 1292883).

4.3.6. There are two non-designated heritage assets within 500m of the site boundary:

- Former Woolworths Building, now occupied by B&M
- Former Littlewoods Building, now occupied by CB Warehouse

4.3.7. The assessment has been undertaken in the context of the Planning (Listed Buildings and Conservation Areas) Act 1990, national and local planning policy and national and local guidance. The assessment considers potential impacts arising from both the construction and operational phases of the proposed development.

4.3.8. All construction phase effects are considered to be short-term and temporary. Taking into account the short-term temporary nature of the construction phase activities there will be no significant adverse effects on built heritage assets.

4.3.9. Measures to reduce the impact of the operational phase of the proposed development on the setting of the identified built heritage assets have been incorporated into the design of the development. Taking into account the existing context of the site, the extent of change to the setting of the buildings and the design of the proposed development, it is considered that there are no significant adverse effects on built heritage receptors from the operational phase of the proposed development.

4.4 NATURE CONSERVATION AND BIODIVERSITY

BASELINE ECOLOGY CONDITIONS

4.4.1. The proposed development is adjacent to three protected sites internationally designated for bird populations and estuarine habitats. Winter bird surveys and extensive desk-based searches confirm that birds associated with these protected sites do not use the development site, however they use intertidal habitats near the site for feeding and roosting.

4.4.2. The site itself is of low ecological value, containing largely amenity habitats that are highly disturbed by current recreational usage. The three small structures within the site are not used by roosting bats and there is no suitable habitat for other protected species. The trees, scrub and shrub habitat

could provide nesting habitat for small numbers of birds. The invasive plant species Japanese rose is present in a few locations.

EFFECTS DURING CONSTRUCTION AND OPERATION OF THE DEVELOPMENT

4.4.3. **Chapter 8** of the ES, together with the Habitats Regulations Assessment (HRA) consider the potential ecology impacts associated with the construction and operational phases of the proposed development. The ES confirms that in the absence of mitigation, construction activities may cause the following impacts:

- Loss or degradation of designated nature conservation sites and the species they support;
- Killing or injuring of protected species, and spread of invasive plant species; and
- Disturbance or displacement of protected species or those of conservation concern, due to loss of habitat, noise, vibration, light and physical activity

4.4.4. The majority of impacts will be avoided or rendered insignificant through embedded mitigation measures which will prevent any direct impacts on protected sites or protected species during construction and prevent the spread of invasive species. Mitigation will also reduce indirect disturbance impacts on birds associated with the adjacent protected sites during construction. Additional mitigation measures can be enforced through planning condition, such as dust control, toolbox talks to contractors and a cold weather working protocol which will avoid noise or visual disturbance to the intertidal habitats.

4.4.5. The proposed landscape design will result in the creation of a range of habitats characteristic of priority habitats associated with protected landscapes within Lancashire and Cumbria. This will enhance habitat for birds and invertebrates and will result in a Biodiversity Net Gain of more than 30%.

4.4.6. The operation of the development may cause the following impacts:

- Operation of a new lighting regime across the site;
- Bird-strike arising from building heights and glazing;
- Movement of vehicles into, around and out of the site;
- Noise and disturbance associated with events;
- Movement of visitors into, around and out of the site including public open space areas;
- Recreational pressure impacts on nearby designated sites and birds through attracting increased numbers of visitors and dogs to the wider area;
- Pollution of surface waters and litter generated from operation of the site; and
- Air quality impacts associated with vehicle movements.

4.4.7. Embedded mitigation including minimising light spill and the control of surface water runoff will prevent any lighting or pollution impacts to adjacent protected sites during the operational phase and the design of the building will make bird strike extremely unlikely. Due to the low predicted increases in airborne pollutants during the operational phase as a result of the proposals and the low susceptibility of any habitats that could be affected to airborne pollutants, there will be no significant air quality impacts on ecological features.

4.4.8. Education delivered through the operation of the project will alleviate potential direct impacts and diffuse recreational impacts of the proposed development through increasing the understanding and awareness of large numbers of people of the sensitivities of nearby protected sites and particularly

the bird features associated with them. The development will deter visitors from visiting the most sensitive areas of Morecambe Bay.

4.4.9. The operational phase impacts of the proposed development are predicted to be negligible, and the associated effects will be not significant, therefore no further mitigation is required.

4.5 GROUND CONDITIONS AND GEOLOGY

4.5.1. **Chapter 9** of the ES assesses the impacts of the ground conditions and geology from the development itself but also the impacts on the development.

4.5.2. The site is located on a plot of infilled land, reclaimed from the sea progressively since around 1850. The western part of the reclaimed area was used for railway lines running to a jetty. The central part of the site was used as an outdoor swimming stadium and a more recent swimming pool complex. The eastern part of the site was reclaimed most recently and has been used for car parking. There is potential for contamination to be associated with the infill materials but the potential for historical contamination associated with previous uses of the site and adjacent sites is low.

4.5.3. The ground conditions assessment has considered the effects of the proposed development on the following ground contamination issues:

- Ground contamination that may already exist on site; for example, introducing / changing migration pathways and receptors;
- The potential for polluting substances used during construction / operation to cause new ground contamination; and
- The reuse of excavated soils or use of imported soils.

4.5.4. The qualitative assessment methodology is summarised as follows:

- Assess potential risks to receptors from contamination from baseline conditions;
- Re-assess baseline risks to receptors from contamination during the construction phase;
- Re-assess baseline risks to receptors from contamination during the operation phase; and
- Record changes in risk from baseline– these can be positive, negative or neutral effects.

4.5.5. The ground conditions assessment indicates that, on the basis of the information in the baseline study and assumed embedded mitigation during design / construction / operation, the effect of both the construction phase and operation phase is neutral. There will be no significant effects (positive or negative) as a result of contamination during either the construction phase or the operation phase of the proposed development.

4.5.6. It should be noted that the baseline risks have been generated qualitatively using desk-based information about the current ground conditions and potential for contamination to be present. The assessment will need to be reviewed when information becomes available about the actual ground conditions and contamination status of the site (using ground investigation information).

4.5.7. The assessment has been completed on the basis of a wide range of embedded mitigation being applied from design through construction and operation of the proposed development. The details of the embedded mitigation are not yet available since they will depend on the findings of the ground investigation, but it is assumed that current standards / guidance / legal restrictions / best practice will apply to all embedded mitigation measures.

4.5.8. There will be a requirement for a detailed geotechnical / structural assessment of the sea wall and implementation of stringently enforced embedded mitigation during design and construction to

prevent detrimental impacts on the sea wall arising from the construction or operation of the proposed development. It will need to be clearly demonstrated that the overall effect of the proposed development on the integrity / functionality of the sea wall will be neutral or positive in order for the proposed development to take place.

4.6 HYDROLOGY, DRAINAGE AND FLOOD RISK

4.6.1. **Chapter 10** of the ES reports the outcome of the assessment of likely significant effects arising from the proposed development on water resources, flood risk and drainage.

4.6.2. The Chapter reports the outcome of the assessment of likely significant effects arising from the proposed development on water resources, flood risk and drainage. The assessment has identified sensitive receptors that are most likely to be affected by changes in the water environment as a result of the proposed development. The potential impacts on the sensitive receptors during the construction and operation phases, and the significance of the impacts have been assessed in line with DMRB guidance.

4.6.3. The sensitive water receptors identified within 500m of the site are Morecambe Bay and the Kent coastal waterbodies, the culverted watercourse, the United Utilities Drainage Network, the Strategic Water Resource Zone and the groundwater bodies in the bedrock and superficial deposits.

4.6.4. In terms of flood risk, the proposed development itself has been defined as a receptor based on the type of development in accordance with the NPPF vulnerability classification. Construction workers, local residents, off-site third parties and nearby developments have been considered as a separate sensitive receptor in terms of flood risk.

4.6.5. Mitigation measures have been considered to address the effects of the proposed development on the key sensitive receptors. The embedded mitigation measures for the construction phase will include the key measures which will need to be implemented as part of the Construction Environment Management Plan. The embedded mitigation measures for the operation phase will include the implementation of the drainage strategy, both foul and surface water elements including rainwater harvesting and the coastal flood risk mitigation which will be further defined through the hydraulic modelling.

4.6.6. The effects which have been assessed for both construction and operational phases include the potential impacts from flooding, the potential for biological, chemical and physical contamination (sedimentation), and potential alterations to groundwater flow. The potential for a temporary increase in potable water supplies and temporary increase in pressure on foul drainage infrastructure during the construction phase was also assessed. The potential for a permanent increase in demand for potable water was assessed for the operational phase.

4.6.7. Provided that the proposed embedded mitigation measures are implemented, it is considered that the proposed development will have a neutral to slight effect on the sensitive receptors during both the construction and operational phases.

4.7 TRAFFIC, TRANSPORT AND ACCESS

4.7.1. The Traffic, Transport and Access Chapter of the Environmental Statement (ES) examines the environmental impact of the traffic and wider transport modes that will be *'attracted'* by the proposed development. It is built upon the Eden Transport Strategy, and the Transport Assessment (TA) and

Interim Travel Plan (ITP) that have been produced to accompany the planning application. Both documents can be found at **Appendix 11.1 and 11.2 of Volume 3**.

4.7.2. Extensive statutory and non-statutory stakeholder engagement that has been undertaken by WSP over the last 28 months, including the preparation of a series of key transport documents that have helped inform the production of this ES.

4.7.3. The ES chapter is framed by a review of relevant national, regional and local policy and a detailed assessment of the methodology used.

4.7.4. The ES Chapter also reviews the baseline conditions of the study area and the conditions of walking and cycling, public transport, and road safety.

4.7.5. Identification and valuation of key impacts (construction and operational) is followed by the cumulative effects identified caused by the proposed development. In particular, construction effects and operational effects are explored in detail, and its impact on:

- Construction: **minor to moderate negative** significance;
- Walking and cycling users and infrastructure: **minor negative** significance;
- Public transport users and infrastructure: **minor negative** significance;
- Road safety: **minor to moderate negative** significance; and
- Traffic: **minor to moderate negative** significance.

4.7.6. A series of mitigation measures, including the Transport Strategy, a booking system, the Construction Traffic Management Plan and the Travel Plan are identified and described.

4.7.7. The residual effects arising after the mitigation measures are implemented are then reviewed, in particular, construction and operational effects (walking and cycling users and infrastructure, public transport users and infrastructure, road safety and traffic).

4.8 NOISE AND VIBRATION

4.8.1. The Noise and Vibration chapter (**Chapter 12**), supported by a Noise Impact Assessment (**Appendix 12.1**) assesses the effect of construction noise and vibration, in addition to operational noise and development generated road traffic noise, of the Proposed Development on nearby sensitive receptors. These include residential premises and hotel accommodation located primarily along Marine Road Central. The effect of noise on nearby ecological receptors is considered within the Nature Conservation and Biodiversity chapter (Chapter 8).

4.8.2. A baseline environmental noise survey, including long-term unattended measurements at two locations in addition to short-term attended measurements at various other locations, has been undertaken. Road traffic along Marine Road Central is the dominant noise source affecting receptors near to the proposed development. Environmental noise limits have been proposed based on the results of this survey.

4.8.3. Due to the proximity of the proposed development to sensitive receptors, a temporary minor adverse construction noise and moderate adverse construction vibration impact is predicted at some receptors. This will be mitigated by the implementation of a Construction Environmental Management Plan (CEMP) and the adoption of best practicable means (BPM) to control construction noise and vibration to levels such that a significant effect does not occur.

4.8.4. Development generated road traffic, i.e. visitors to the proposed development, will increase the flow of traffic on the adjacent road network. However, the increase in traffic flow due to the proposed

development will result in a negligible noise impact, both in the short-term and long-term. The cumulative impact of road traffic noise associated with committed developments in the area has also been assessed and found to be negligible.

4.8.5. Operational noise sources that have been considered within the Noise and Vibration chapter (Chapter 12) include the following:

- Car parks and the Caton Road Park and Ride;
- Outdoor events (music concerts);
- Service/delivery vehicles; and
- Fixed items of building services plant.

4.8.6. The proposed development will not introduce any new car parking provision but instead will utilise existing capacity in a selection of car parks within Morecambe town centre, plus the Caton Road Park and Ride scheme. The change in car park generated noise as a result of the proposed development will be negligible and will not result in a significant effect. There is a predicted increase in noise level at the Caton Road Park and Ride scheme which would be inaudible above the noise from the adjacent M6 motorway and as such a significant effect is not identified.

4.8.7. Occasional concerts are proposed within the Rhythm Gardens area of the site, with a stage facing northeast into Morecambe Bay. Noise from concerts could result in a temporary, moderate adverse impact at nearby dwellings and hotels along Marine Road Central. Mitigation has been considered in the form of a temporary acoustic screen to the southern boundary of the Rhythm Gardens area; the use of a specialist sound system with highly directional speakers; and the implementation of a Noise Management Plan (NMP) during concerts. Subsequently, the effect will not be significant.

4.8.8. Noise from delivery vehicles to site is predicted to result in a minor adverse impact during the day which is not significant. There is the potential for a moderate adverse impact should the delivery of chilled goods occur at night, which could be significant. It is, therefore, recommended that the delivery of chilled goods is scheduled to avoid night-time periods. Separate to this planning application, a Traffic Regulation Order covering vehicular access to the site will need to be approved in due course.

4.8.9. Fixed items of building services plant have the potential to cause noise disturbance to nearby residents. The detailed design of building services plant has not yet been undertaken. However, noise limits applicable to future plant have been proposed to prevent a significant effect from occurring.

4.9 AIR QUALITY

4.9.1. **Chapter 13** of the ES considers the air quality impacts of the proposed development on sensitive receptors. It is supported by an Air Quality Assessment (**Appendix 13.1**).

BASELINE AIR QUALITY CONDITIONS

4.9.2. A review of the Lancaster City Council local authority air quality reports identified that the proposed development is not located within an Air Quality Management Area (AQMA). The closest AQMA to the proposed development is located approximately 4.7km south east of the site, in the city of Lancaster. Local council and site-specific air quality monitoring surveys demonstrate no monitored pollutant exceedances from monitors within 4km of the proposed development. Overall, air quality within and nearby the site is considered to be good.

EFFECTS DURING CONSTRUCTION AND OPERATION OF THE DEVELOPMENT

4.9.3. A qualitative assessment of the potential impacts on local air quality from construction activities has been carried out for this phase of the proposed development. Based on the outcomes of the demolition and construction phase assessment, appropriate mitigation measures have been recommended commensurate to the scale of the proposed development classed as having a 'high risk' of dust impacts, following the Construction Guidance.

4.9.4. Appropriate mitigation measures have been recommended commensurate to the level of risk of impact based on the outcome of the construction phase assessment. These mitigation measures are in line with the Construction Guidance and are detailed in **Appendix 13.5 of Volume 3**. Following the implementation of these mitigation measures, the residual construction effects are considered to be negligible.

4.9.5. The operational phase assessment has demonstrated that the proposed development would not result in any exceedances of the annual mean pollutant objectives (NO_2, PM_{10} or $PM_{2.5}$) in the opening year (2024) of the proposed development or a future year of 2039. Overall, the proposed development is predicted to have a negligible impact on pollutant concentrations at all modelled human receptors, with associated effects likely to be not significant.

4.9.6. An impact assessment of the proposed development on the Morecambe Bay designated site has been completed. The results of the impact assessment show that slight increases in pollutant concentrations are predicted at the majority of modelled ecological receptors within Morecambe Bay. Given slight increases are predicted, the potential significant effects of the proposed development on ecological receptors cannot be screened out. Therefore, the results of this air quality assessment have been provided to a suitably qualified ecologist (TEP) to facilitate a judgement on the overall significance in the Nature Conservation and Biodiversity ES chapter (Chapter 8).

MITIGATION AND MONITORING

4.9.7. Appropriate mitigation measures have been recommended commensurate to the level of risk of impact based on the outcome of the construction phase assessment. These mitigation measures are in line with the Construction Guidance and are detailed in **Appendix 13.5 of Volume 3**. Following the implementation of these mitigation measures, the residual construction effects are considered to be negligible.

4.9.8. The operational phase impacts of the proposed development are predicted to be negligible, and the associated effects will be not significant, therefore no further mitigation is required.

4.10 DAYLIGHT, SUNLIGHT AND OVERSHADOWING AND WIND

4.10.1. **Chapter 14** of the ES considers the daylight, sunlight and overshadowing impacts as well as the wind impacts of the proposed development.

DAYLIGHT, SUNLIGHT AND OVERSHADOWING

4.10.2. Advanced computer models were produced of the daylight, sunlight, and overshadowing around the proposed development and its neighbourhood. The assessment considered the effects of the development on both habitable rooms and public amenities.

4.10.3. Simulations showed that all the neighbouring habitable rooms and public amenities will continue to receive adequate levels of daylight, sunlight, and solar access. No negative effects were found, and no mitigation is necessary.

WIND

4.10.4. Advanced computer models were also produced of the wind around the proposed development and its neighbourhood, accounting for local wind data and local terrain.

4.10.5. As expected, simulations showed that Morecambe seafront is an exposed and windy location, but wind conditions will be significantly improved as a result of the proposed development. Some of the off-site existing windy conditions near the proposed development will remain, notably on the jetty and two of the pedestrian crossings on Marine Road Central.

4.10.6. There may be some regions on-site which are still windier than expected on occasion, but the trees and shrubs in the proposed landscaped gardens will help with most of these. This has influenced the final landscaping scheme, with the introduction of boundary treatments in the vicinity of affected areas to provide additional shelter, which would mitigate the limited number of windy regions. The detailed landscaping and planting proposals will also be secured by planning condition at which point further refinements to the landscape proposals could be provided.

4.10.7. Overall, as indicated above, the proposed development would deliver a significant improvement in terms of wind at what is presently an exposed and windy seafront location.

4.11 SOCIO-ECONOMICS

4.11.1. **Chapter 15** of the ES assesses the socio-economic impacts of the proposed development.

4.11.2. The main thematic areas considered within the baseline assessment are as follows:

- Population and demographic change;
- Economic activity;
- Education and skills;
- Health conditions; and
- Deprivation.

Construction Phase – Temporary Socio-economic Effects

4.11.3. During demolition and construction, the proposed development is estimated to generate 673 net additional person years of construction employment at the regional level. This net additional construction employment would generate gross value added (GVA) to the regional economy of around £47.3 million.

4.11.4. In addition, the construction of the proposed development will provide opportunities for local young people to gain training and practical experience in a range of construction and engineering trades, with the applicant working in partnership with Lancaster and Morecambe College to facilitate apprenticeships.

Operational Phase – Permanent Socio-economic Effects

4.11.5. Once complete and operational the proposed development will create an estimated 280 full-time equivalent (FTE) jobs at the local level and an additional 166 FTE net additional jobs at the regional

level. The applicant's own evidence also indicates that 28 gross, FTE staff would also be directly employed by the proposed development but would work remotely or in Cornwall, further increasing the employment associated with the proposed development.

4.11.6. It is estimated that the jobs to be supported by both the proposed development and the supply chain linkages could contribute approximate GVA to the North West economy of up to £21 million annually in perpetuity.

4.11.7. Based on the commercial floorspace in the proposed development, the total business rates to be generated each year could be approximately £116,000.

4.11.8. Information provided by the applicant indicates that the total annual overall spend in England by visitors to Eden Project North is estimated to be £233 million, based on approximately one million visitors annually.

4.11.9. All of the socio-economic effects identified in the assessment are anticipated to be beneficial and, as such, no mitigation measures are proposed.

4.12 POPULATION AND HUMAN HEALTH

4.12.1. **Chapter 16** of the ES assesses the impacts of the proposed development on population and human health.

4.12.2. The main thematic areas considered within the baseline assessment are as follows:

- Population and demographic change;
- Ethnicity and religion;
- Economic activity;
- Education and skills;
- Health conditions in Lancaster and within the local ward of Poulton; and
- Deprivation.

4.12.3. The Population and Human Health assessment has utilised the London Healthy Urban Development Unit's Rapid Health Impact Assessment Tool, Fourth Edition (October 2019).

4.12.4. The assessment has assessed the principal health benefits to the local community as:

- The creation of significant employment opportunities for local people through the construction and operation of the proposed development, in an area which suffers from high levels of unemployment. In addition, Eden is committed to training local people throughout both the construction and operation of the proposal.
- The proposed development seeks to improve education and skills among the local population, through collaborating with Lancaster University to devise and implement the innovative Morecambe Bay Curriculum for local primary schools. The curriculum seeks to achieve significant and lasting improvements to the lives of those living in the Morecambe Bay area and will ensure that the different stages of the education system provide the skills, knowledge and behaviours required for the future, helping to tackle the education inequality that exists in Lancaster district.
- The proposals will redevelop heavily underutilised and poor quality open space, leading to significant public realm improvements and the provision of two publicly permissible outdoor gardens.

- The provision of space in which temporary food, beverage and merchandise stalls can operate, helping to create opportunities for local businesses.
- The provision of a range of facilities to encourage the use of active travel for both staff and visitors, including secure cycle parking, showers and changing rooms, locker facilities and free e-bike battery charging while visiting Eden. In addition, active travel will be incentivised through benefits such as ticket discounts and Eden vouchers.
- An anticipated biodiversity net gain of approximately 31%.
- The creation of an exemplar net zero or net positive development.

4.12.5. The main potential negative health impacts are associated with construction phase air quality and noise. However, mitigation measures will be implemented to ensure any construction impacts are minimised. A Construction Traffic Management Plan (including shuttle transport for construction staff) and Construction Environmental Management Plan will be required by planning condition and will ensure the temporary impacts from construction are mitigated and managed as far as practicable.

4.13 CUMULATIVE EFFECTS

4.13.1. Overall, with the adoption of mitigation measures where recommended, there are no significant adverse cumulative effects predicted during the construction or operational phases of the development. Beneficial cumulative effects are anticipated to result from the development.

5 FURTHER INFORMATION

5.1 WHAT HAPPENS NEXT?

5.1.1. The Environmental Statement has been submitted together with other planning application documents and plans to Lancaster City Council to assist planning officers and consultees in making a decision on the planning application.

5.1.2. The planning officer will take the environmental impact assessment information contained in the Environmental Statement into account when considering whether to recommend approval of the planning application to elected Members that sit on the Planning Committee.

5.2 HOW CAN I ACCESS FURTHER INFORMATION?

5.2.1. Further information, along with the full suite of planning application documents, can be viewed on Lancaster City Council's online planning register: https://planning.lancaster.gov.uk/online-applications/



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