



UNIVERSAL DESTINATIONS & EXPERIENCES UK PROJECT

Former Kempston Hardwick Brickworks
and adjoining land, Bedford

Environmental Statement Volume 1

Chapter 2 - Description of the Proposed Development Description

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CONTENTS

2	DESCRIPTION OF THE PROPOSED DEVELOPMENT	1
2.1	INTRODUCTION	1
2.2	DEVELOPMENT PARAMETERS	5
2.3	ACCESS	12
2.4	UTILITY PROVISION AND RAIL WORKS REQUIRED TO SUPPORT THE PROPOSED DEVELOPMENT	14
2.5	SUPPORTING DESIGN STRATEGIES	19
2.6	APPROACH TO SUSTAINABLE DEVELOPMENT	22
2.7	MATERIALS	24
2.8	CONSTRUCTION PROPOSALS	24
2.9	HEALTH AND SAFETY	31

TABLES

Table 2-1 – Design Standard MH01 Maximum Height of Proposed Development Elements	6
Table 2-2 – Design Standard MH02 Maximum Height by Land Area	7
Table 2-3 - Land Areas for Articulated Skyline Calculations	11
Table 2-4 – Details of Service Provider Liaison for the Proposed Development	15
Table 2-5 – Construction Plant	26

IMAGES

Image 2-1 - Employment Headcount Projections	31
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2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 INTRODUCTION

- 2.1.1. This chapter sets out a description of the various elements of the Proposed Development including the development parameters, access arrangements and outline construction information. The Proposed Development comprises an Entertainment Resort Complex (ERC) and associated development.

OVERVIEW OF THE PROPOSED DEVELOPMENT

- 2.1.2. The Site for the Proposed Development comprises the land shown within the Site boundary presented in the **Site Location Plan (Document Reference 1.6.0)** and described in **Chapter 1: Introduction and Site Description (Volume 1)**. The Site is divided into four main zones referred to as the Core Zone, Lake Zone, West Gateway Zone, and East Gateway Zone as shown in the **Zonal Plan (Document Reference 1.8.0)**, and which have been used in this Environmental Statement (ES).
- 2.1.3. The Proposed Development is controlled by a series of Operative documents and Controlling documents. Other documents submitted, such as this ES, are for information only.
- 2.1.4. The Operative documents (**Site Location Plan (Document Reference 1.6.0)** and **Primary Access Plan (Document Reference 1.7.0)**) are intended to be part of the operative part of any planning permission granted for the Proposed Development.
- 2.1.5. The list of Controlling documents is provided in the **Proposed Operative and Controlling Documents (Document Reference 1.16.0)**. The Controlling documents, together with the **Proposed Conditions (Document Reference 1.5.0)** are proposed to secure the mitigation of the likely significant effects of the Proposed Development as identified in this ES and to achieve other planning policy aims. The Controlling documents include the following parameter plans which provide information on the spatial definition of the Proposed Development:
- Entertainment Resort Complex Land Use;
 - Access and Roadways (Redacted version available);
 - Active Travel;
 - Core Zone Transport Hub;
 - Utility Compound; and
 - East West Rail (EWR) Safeguarded Land.
- 2.1.6. The **Appendix 2.4: Description of Development for EIA and Examples (Volume 3)** sets out in detail the Proposed Development for which planning permission would be granted including the ERC, utilities, roads, rail-related development and construction.

- 2.1.7. **Appendix 2.1: Environmental Statement Basis for Assessment (Volume 3)** builds upon this information to document the basis for the Environmental Impact Assessment (EIA). This includes further information on the Proposed Development from Universal Destinations & Experiences (UDX) and reasoned assumptions and interpretations on how the Proposed Development will be constructed and operated. The intention being that **Appendix 2.1: Environmental Statement Basis of Assessment (Volume 3)** provides a common source of information for the EIA on a cautious worst case scenario for the Proposed Development. Where the phrase “*cautious worst case*” is used, it means “*a cautious worst case that provides a robust assessment of likely significant effects*”.

Proposed Development by Zone

- 2.1.8. A high level overview of the Proposed Development is described below by on a Zonal basis:
- The Theme Park will only be located within the Core Zone;
 - The Core Zone, West Gateway Zone and Lake Zone will provide a flexible range of complementary ERC uses such as retail, dining and entertainment, visitor accommodation and associated services for any operational or administrative functions of the ERC, such as office buildings and warehouse/storage facilities;
 - The Lake Zone also provides for the Utility Compound, and certain ERC uses that are only permitted in the Lake Zone such as the conference centre and/or convention centre, sports complex with indoor and/or outdoor playing fields, camping and caravanning accommodation and the Ecological Enhancement Area;
 - The East Gateway Zone provides for an expanded Wixams Railway Station along with works associated with the Manor Road level crossing, supporting uses and transportation hubs; and
 - The West Gateway Zone also includes a Highway Service Area.
- 2.1.9. An area of land is safeguarded for EWR Station as shown on **Parameter Plan – East West Rail Safeguarded Land Plan (Document Reference 1.15.0)**. If a station is brought on the safeguarded land, a transport hub and other rail related development will be developed within the Core Zone to facilitate the movement of passengers, in the location shown on the **Parameter Plan – Core Zone Transport Hub (Document Reference 1.13.0)**.
- 2.1.10. Given the nature of the Proposed Development, flexibility is required in the consent to allow for the Site to evolve and expand over time. This allows for two separate types of growth:
- Theme Park growth and evolution in the Core Zone to accommodate increasing visitors and new creative ideas and technology improvements, to ensure that the Theme Park is consistently offering innovative, thrilling and popular entertainment experiences; and
 - Build out of the non-Theme Park ERC elements, predominantly within the Lake Zone and West Gateway Zone, where visitor accommodation, retail, dining and entertainment venues will be developed and redeveloped over time.
- 2.1.11. Flexibility is also required for the rail elements within the East Gateway Zone the design of which are still evolving.
- 2.1.12. As such, the ES is based on development parameters and not a fixed design for the Proposed Development. More information is provided in Section 2.2 below.

PROPOSED DEVELOPMENT TIMESCALES

2.1.13. The Proposed Development will be delivered in two main phases – Primary Phase and Full Buildout.

Primary Phase

2.1.14. The Primary Phase of the ERC designed to accommodate 8.5M annual visitors and 55,000 visitors per peak day, consisting of:

- A "destination" (meaning "international" as opposed to "regional" or "local") Theme Park of at least 32.37 hectares in size (excluding guest parking) with emphasis on highly immersive storytelling and theming with an international draw, focused on providing a first-class guest experience;
- Dining and entertainment venues available to ticketed and non-ticketed visitors to the ERC;
- Visitor accommodation with a minimum of 500 hotel rooms;
- Associated services and uses for any operational or administrative functions, such as office buildings and warehouse/storage facilities;
- Vehicles and cycle parking, maintenance and servicing and transportation hubs, including a minimum of 7,106 car parking spaces, 100 coach parking spaces, and 250 cycle spaces;
- Access routes and circulation spaces;
- Green infrastructure including environmental enhancement areas to be provided at a combined minimum of 49.3 hectares and landscaping; and
- Active travel routes throughout the Site, which will facilitate connections from the ERC to the surrounding active travel network.

2.1.15. Associated infrastructure, including;

- Utility infrastructure, and utilities generation, storage, collection, treatment, and processing facilities;
- New A421 Junction and dual carriageway access road into the Core Zone;
- Realigned and upgraded Manor Road to a dual carriageway access road between Ampthill Road and the Marston Vale Railway Line;
- Public Road A, and Public Road B, segment 1 (as shown in **Parameter Plan – Access and Roadways (Document Reference 1.11.0)**);
- An expanded 4-platform Wixams Railway Station; and
- Shuttle bus service between the expanded Wixams Railway Station and the Theme Park.

2.1.16. The Primary Phase may consist of non-Theme Park elements such as visitor accommodation, and retail, dining and entertainment venues (and associated vehicle parking) in the West Gateway Zone and/or Lake Zone so long as the peak hour traffic counts do not exceed what has been assessed in the **Appendix 5.1: Transport Assessment (Volume 3)** and controlled by **Appendix 5.6: Travel Plan (Volume 3)**. For purposes of this ES and assessment of a cautious worst case scenario, it is assumed that the Primary Phase construction will take approximately five years and is assumed to occur by Primary Opening Year.

Full Buildout

- 2.1.17. Full Buildout consists of construction of the balance of the ERC, roads, utilities and rail-related development that was not completed during the Primary Phase (assumed to occur over a twenty year period following the Primary Opening Year, completing in 2051) and operation of same thereafter, including the evolution and expansion of the same over time in accordance with the planning permission.

DESCRIPTION OF UDX THEME PARK AND RESORT

- 2.1.18. The theme parks and resorts UDX creates and operates globally are very different to a typical amusement park and are unlike anything that currently exists in the UK. UDX takes guests to places that typically exist only in their imagination. To do this, UDX uses cutting-edge technology and partners with beloved storytellers to create fully immersive experiences where the attractions, placemaking, food, merchandise and costumes all work together.
- 2.1.19. A UDX theme park and resort is an integrated ERC under unified control (explained further below), including an assortment of uses beyond the theme park, including Entertainment Resort Complex Support uses, visitor accommodation, retail, dining and entertainment, together with other related and complementary uses, all described in more detail below.
- 2.1.20. As part of the Theme Park offering in the Core Zone, UDX invites guests to experience beloved stories and exhilarating adventures in immersive new ways. The rides and attractions UDX creates are only made possible by pairing innovation and technology with exceptional creative delivery. Each theme park is unique and allows guests to be fully immersed in different lands.
- 2.1.21. As well as exhilarating experiences, UDX theme parks provide spectacular live entertainment. This is hosted both within the resort and by the theme park entrance as part of the themed retail, dining and entertainment area (known as the Entry Plaza) which is proposed in the Core Zone. This restricted access area is outside of the 'ticketed' Theme Park gate but requires visitors to pass a security screening before entry. It is aimed at encouraging visitors to extend their visit by arriving earlier than the Park's opening time or staying longer after the Theme Park's closing time. Whilst these uses are designed primarily for Theme Park guests, they can also be used by the general public.
- 2.1.22. The uses that would be permitted in the ERC includes a range of other complementary uses including visitor accommodation, retail, leisure, restaurant and conference facilities which together provide customers with the full range of entertainment facilities and places to stay that will help to make this project a success.

UNIFIED CONTROL

- 2.1.23. UDX will exercise appropriate oversight over all aspects of development of the ERC, including initial planning and design, coordination of the infrastructure, construction and setting the framework for the long-term management of the ERC.

- 2.1.24. This unified control approach will allow UDX to (i) provide a comprehensive development strategy, from conception to completion, (ii) ensure quality and consistency by setting standards for development and overseeing their implementation to create a cohesive, high-quality project, and (iii) manage the complexities of delivering a large-scale development such as obtaining planning approvals, licences and consents, implementing site-wide habitat creation and mitigation and delivering master infrastructure, all while creating and maintaining a long-term vision for the development of the Site over time.
- 2.1.25. UDX will retain a level of control over the use and design of buildings and public realms across the whole area within the ERC. Further, UDX intends to work with Statutory Undertakers and Governmental bodies such as National Highways, Bedford Borough Council and Network Rail to encourage this look and feel to be coordinated and continue across the public realms that are within or proposed to be within their control upon completion, such as adopted highways and rail station development.
- 2.1.26. The unified control approach will bring benefits not only to the use and design of the Site, but also facilitates comprehensive security and emergency planning for the Site, and supports biosecurity through coordinated and consistent habitat management and maintenance.

2.2 DEVELOPMENT PARAMETERS

OVERVIEW

- 2.2.1. As touched on in the section above, the Proposed Development does not yet include fixed detail on the exact location or size of the buildings and structures because it is still at an early stage in the design process. Further, for the reasons set out below, additional flexibility is needed to accommodate the unique concept and characteristics of a UDX-style ERC and the current design stage of various works:
- **Core Zone:** Within the Core Zone, the Theme Park and ERC elements may evolve and expand over time to accommodate growth in visitor numbers and to adapt to new creative ideas and technology improvements, to ensure that the Theme Park is consistently offering innovative, thrilling and popular entertainment experiences;
 - **Lake Zone and West Gateway Zone:** In these zones, flexibility needs to be preserved to allow for a range of different ERC uses and support to be developed as market demand drives localised investment and development in response to the operation and growth of the Theme Park;
 - **East Gateway Zone:** It is necessary to provide flexibility for Network Rail design processes that are not yet complete for the expanded rail station proposed in the East Gateway Zone and also, therefore, for the detailed design of elements that need to integrate with the expanded station, such as pedestrian footbridges, station plaza and integrated transport hub. Flexibility is also required concerning the arrangements at the far west of the East Gateway Zone at the point Manor Road crosses the Marston Vale Railway Line where three options are provided as set out in Section 2.3; and
 - **West Gateway Zone:** There is currently uncertainty around the timing for the future phases of EWR to connect Bletchley/Milton Keynes to Cambridge. Therefore, flexibility is required to allow for either an EWR Station to be brought forward in the West Gateway Zone, or for that area to be developed for other ERC uses.

2.2.2. Given the need for flexibility, a parameters-based approach to assessment has been undertaken. A maximum physical envelope of the Proposed Development has been assessed in the ES and is informed by the above, maximum height parameters and the preliminary design of the proposed public road infrastructure.

MAXIMUM HEIGHT

2.2.3. As detailed in the **Design Standards (Document Reference 6.3.0)**, a development envelope for above ground physical structures has been set across the Site based on maximum height parameters.

2.2.4. The maximum height above ground level and above Ordnance Datum (AOD), and corresponding Zones for each key element of the Proposed Development are set out in **Table 2-1**.

Table 2-1 – Design Standard MH01 Maximum Height of Proposed Development Elements

Proposed Development Elements	Maximum Height AGL (m)	Location	Maximum Height AOD (m)
ERC (unless otherwise defined below)	75	Core Zone	117
		Lake Zone	110.5
		West Gateway Zone	111
Associated services and uses for any operational or administrative functions (Entertainment Resort Complex support)	25	Core Zone	67
		Lake Zone	60.5
		West Gateway Zone	61
Utility Compound	20	Lake Zone	55.5
Rail-related development (other than Transport Hubs)	22	East Gateway Zone	59.5
Transport Hubs	30	Core Zone	66.3
		East Gateway Zone	67.3
Car park (surface)	10	Core Zone	46.3
		Lake Zone	45.5
		West Gateway Zone	47.5
		East Gateway Zone	47.5

Proposed Development Elements	Maximum Height AGL (m)	Location	Maximum Height AOD (m)
Car park (multi-storey)	30	Core Zone	66.3
		Lake Zone	65.5
		West Gateway Zone	67.5
		East Gateway Zone	67.5
Roadways (other than Eastbound off-slip of A421 junction)	15	Core Zone	59.6
		Lake Zone	54
		West Gateway Zone	59.4
		East Gateway Zone	50.3
Ecological Enhancement Area (EEA)	10	Core Zone	45.7
		Lake Zone	39.5
		West Gateway Zone	43.7
Eastbound off-slip of the A421 Junction	25	West Gateway Zone	68

- 2.2.5. Maximum height limits are also proposed across the Site by specific location, to recognise those areas of the site that are adjacent to sensitive receptors or form important roadway corridors. These are controlled by **Table 2-2** below.
- 2.2.6. Both **Table 2-1** and **Table 2-2** should be used when setting the maximum allowable height for development. The lowest applicable height for any specified component in any given land area applies in each case.

Table 2-2 – Design Standard MH02 Maximum Height by Land Area

Rule No.	Zone or “Rule”	Location	Maximum Height AGL (m)	Maximum Height AOD (m)
1	ERC Expansion Areas	Core Zone	10	45.7
		Lake Zone	10	39.5
2	EEA	Core Zone	10	45.7
		Lake Zone	10	39.5
		West Gateway Zone	10	43.7

Rule No.	Zone or “Rule”	Location	Maximum Height AGL (m)	Maximum Height AOD (m)
3	Within 20m of the boundary of the EEA except for where adjacent to Roadways where this rule shall apply within 7m of the EEA. This rule does not apply for grade separated crossings (see defined terms) or where adjacent to watercourses (although other limitations may apply).	Lake Zone	10	44
4	Within 20m of both sides of the proposed adopted boundary of all Roadways (including the northern edge of the proposed adopted boundary of Manor Road) except where adjacent to the EEA where this rule will apply within 7m of a Roadway. This rule does not apply to grade separated crossings (see defined terms) and along Broadmead Road.	Lake Zone	10	39.5
		West Gateway Zone	10	43.7
		East Gateway Zone	10	47.5
5	Within 20m of both sides of the proposed adopted boundary of Roadways in the Core Zone, except along Railway undertakers’ operational land and grade separated crossings (see defined terms) where MH01 only applies, and the southern edge of the proposed adopted boundary of Manor Road where rule 6 applies.	Core Zone	10	45.7
6	Within 30m of the southern edge of the proposed adopted boundary of Manor Road along the northern edge of the Core Zone, unless the residential properties within the Site on Manor Road are no longer occupied for residential use.	Core Zone	10	45.7
7	Within 20m of all edges of the ERC, excluding Roadways and railway undertakers’ operational land.	Core Zone	10	45.7
		Lake Zone	10	39.5
		West Gateway Zone	10	43.7
		East Gateway Zone	10	47.5
8	Within 100m from the southernmost edge of the ERC.	Core Zone	10	45.7

Rule No.	Zone or “Rule”	Location	Maximum Height AGL (m)	Maximum Height AOD (m)
9	Development land area located south of the EEA and east of Roadway at the southern part of the Lake Zone.	Lake Zone	20m	55.3
10	Within 45m of the edge of height zones established by rules 4, 5 and 6.	Core Zone	30m	66.3
		Lake Zone	30m	65.5
		West Gateway Zone	30m	67.5
11	East West Rail Safeguarded Land	West Gateway Zone	30m	67.5
12	Attraction Overlay Zone (see definitions) - +40m in height in areas subject to a 75m height limit in the Core Zone pursuant to Table 2-1 MH01 .	Core Zone	115	157
13	Attraction Overlay Zone Limit of Deviation (see definitions) – +40m in height in the area 45m north of the area subject to a 75m height limit in the Core Zone pursuant to Table 2-1 MH01 , unless the residential properties in ERC expansion areas A-C are no longer occupied for residential use and have either been demolished or planning permission has been granted and implemented for a change to a non-residential use. The area 45m north to which this rule applies are those covered by the 30m height limit pursuant to rule 10 in this table.	Core Zone	70	106.3
14	Attraction Overlay Zone Limit of Deviation Broadmead Road – +40m in height in areas 45m south of those areas subject to a 75m height limit in the Core Zone pursuant to Table 2-1 MH01 , unless the residential property in ERC expansion area D is no longer occupied for residential use and has been demolished, or planning permission has been granted and implemented for a change to a non-residential use. The area 45m south to which this rule applies is within the area covered by the 30m height limit in the	Core Zone	70	106.3

Rule No.	Zone or “Rule”	Location	Maximum Height AGL (m)	Maximum Height AOD (m)
	Core Zone pursuant to rule 10 in this table.			

- 2.2.7. A daylight study (**Appendix 2.7: Daylight Assessment Results (Volume 3)**) was undertaken for the dwellings on Manor Road and Broadmead Road. The daylight study was conducted to inform the proposed offsets of tall structures/buildings, specifically in relation to the potential for overshadowing of residential properties. The assessment tested two highly conservative cautious worst case scenarios based on the maximum heights set out in **Table 2-1** and **Table 2-2** and concluded that through optimisation during detailed design, suitable daylight and sunlight levels can be achieved for all of the windows of the dwellings on Manor Road and Broadmead Road within the Site boundary.
- 2.2.8. The final component of the overall height strategy is an Open Sky Concept Articulated Skyline standard as described below and supported by the land areas set out in **Table 2-3** below.
- 2.2.9. The Proposed Development will achieve an articulated skyline by implementing the following key design principles:
- Variety in building and structure heights: Differentiating building heights as defined below;
 - Urban design and architectural features: Incorporating diverse architectural elements such as varied forms, spacing, and setbacks. These features break up the mass of buildings and provide focal points within the urban landscape; and
 - Context sensitivity: Ensuring that the skyline design responds to the surrounding context, including topography. Where appropriate using existing or new landscape features and shrub or tree lines to mitigate views of development. This helps integrate the master plan harmoniously with the existing context.
- 2.2.10. Definitions:
- Low Components: buildings or structures with a maximum height up to and including 10 metres;
 - Medium Components: buildings or structures with a maximum height over 10 metres up to and including 20 metres;
 - Tall Components: buildings or structures with a maximum height over 20 metres up to and including 75 metres; and
 - Maximum Height Structures: uninhabitable portions of structures with a maximum height over 75 metres up to 115 metres.
- 2.2.11. The Proposed Development will implement an articulated skyline with varying heights throughout the Site as follows:
- Core Zone**
- 2.2.12. Development will be limited to Low Components, except:
- Up to 30% of the land area within the Core Zone as identified in **Table 2-3** may have components that are higher than Low Components, with up to 10% of the land area being Tall Components and the remainder being Medium Components;

- Up to 3% of the land area within the Core Zone as identified in **Table 2-3** may have Maximum Height Structures (up to 115m);
- The height of the Maximum Height Structure(s), which may be independent or extended up from the roof of another facility, will vary depending on the structure and no more than 0.2 hectare of each structure may extend beyond 75m; and
- Each Maximum Height structure will be a minimum 20 metres from any other Maximum Height structure.

Lake Zone

2.2.13. Development will be limited to Low Components, except:

- Up to 40% of the land area within the Lake Zone as identified in **Table 2-3** may have components that are higher than Low Components, with up to 15% being Tall Components and the remainder being Medium Components.

West Gateway Zone

2.2.14. Development will be limited to Low Components, except:

- Up to 40% of the land area within the West Gateway Zone as identified in **Table 2-3** may have components that are higher than Low Components, with up to 15% being Tall Components and the remainder being Medium Components.

East Gateway Zone

2.2.15. Development will be limited to Low Components, except:

- Up to 20% of the land area within the East Gateway Zone as identified in **Table 2-3** may have Medium Components.

2.2.16. The land areas in **Table 2-3** will be used for the purposes of calculating the percentages of the land area as set out in the articulated skyline rules above, although the final applicable land areas will be fixed at the time of approval of the Zonal Masterplans or Core Zone Perimeter Masterplan.

Table 2-3 - Land Areas for Articulated Skyline Calculations

Zone	Applicable Land Area (sqm)
Core Zone (excluding roads and EEA)	835,155
Lake Zone (excluding roads and EEA)	457,325
West Gateway Zone (excluding roads)	179,700
East Gateway Zone (excluding roads and rail)	62,903

Urban Design and Architectural Features

2.2.17. Buildings on the Site will consist of a variety of architectural styles, materials and treatments, creating a varied skyline. Building massing will vary, and architectural focal points will punctuate the skyline, providing a degree of variety and interest. The design of the Proposed Development will be refined, within the parameters set out above, through the detailed design process.

Landscaping

- 2.2.18. Boundary landscape and greenery are key to mitigating and softening articulated skyline impacts by providing a degree of masking of the development. The Site will make use of this approach including a combination of landscape, bunding and planting as part of the boundary edge treatment.

A421 JUNCTION AND ACCESS ROADS

- 2.2.19. Initial engineering design has been undertaken for the A421 Junction and other public road infrastructure to be delivered as part of the Proposed Development to demonstrate that a technically acceptable solution is achievable within the parameters shown on **Parameter Plan - Access and Roadways (Document Reference 1.11.0)**. This work identified highway access arrangements which have been deemed to be suitable and deliverable with the relevant highway authorities (National Highways and Bedford Borough Council) and illustrative general arrangement drawings are provided in the **Appendix 5.1: Transport Assessment (Volume 3)**, with detailed design to be approved pursuant to the post-decision approval process. If the detailed design varies from the illustrative general arrangement drawings, sensitivity testing would be carried out as required to demonstrate that the impact on the highway network is acceptable and that the alternative design would not result in greater significant effects.

OTHER DESIGN PARAMETERS

- 2.2.20. In addition to the maximum design envelope for the Proposed Development, further information on the design parameters is set out in **Appendix 2.1: Environmental Statement Basis for Assessment (Volume 3)**.

2.3 ACCESS

- 2.3.1. The proposed access points into the Proposed Development are shown on the **Primary Access Plan (Document Reference 1.7.0)**. Details on staff and visitor arrival times are in **Appendix 2.1: Environmental Statement Basis for Assessment (Volume 3)**.

VEHICULAR

- 2.3.2. The **Parameter Plan - Access and Roadways (Document Reference 1.11.0)** shows the proposed access routes within the Site, which are described below.
- 2.3.3. The main access routes for visitors and staff travelling to the Proposed Development by car will be from the A421 to the west of the Site, via the new A421 Junction and dual carriageway access road through the West Gateway Zone. The road will cross the Marston Vale Railway Line by bridge into the Core Zone. Visitors and staff departing the Proposed Development and heading west or south will join the A421 via a new southbound slip road at the new A421 Junction. Those heading north or east will use the existing Woburn Road and Marsh Lees interchange with the A421.
- 2.3.4. Local vehicular access to the Proposed Development will also be possible via Manor Road which will be realigned and upgraded to a dualled access between Ampthill Road and the Marston Vale Railway Line.
- 2.3.5. A new dualled access road "Public Road A" will be built within the Core Zone parallel to the Marston Vale Railway Line. This will connect the new access from A421 to Manor Road.
- 2.3.6. A new access road "Public Road B" will be built within the Lake Zone connecting Manor Road to Ampthill Road (B530).

2.3.7. Separate to the Proposed Development, Network Rail proposes to replace the Manor Road level crossing of the Marston Vale Railway Line with a grade separated crossing (i.e. a road bridge over the railway). It is not yet definite that the grade separated crossing will be delivered and therefore the Proposed Development includes three options to retain flexibility to adapt to Network Rail's proposals:

- Option A includes elevated highways east of the Marston Vale Railway Line to tie into the new grade separated crossing to be delivered by Network Rail;
- Option B recognises that Network Rail may close the level crossing and Manor Road and instead provide an active travel bridge to connect the platforms at Kempston Hardwick Station. The Proposed Development would therefore provide active travel connections to the new active travel bridge, while the highways to east and west of the Marston Vale Railway Line would be delivered at grade; and
- Option C recognises that the level crossing may be retained. This option therefore retains the at grade highway connection to the level crossing and provides a new active travel bridge over the Marston Vale Railway Line.

2.3.8. All new roads provided as part of the Proposed Development will accord with standards agreed with the overseeing highway authority.

RAIL

2.3.9. Visitors and staff will also arrive at the Site via the following potential rail options:

- An expanded Wixams Station will be built on the Midland Main Railway Line within the East Gateway Zone. This is capable of being serviced by East Midlands Railway (EMR) and Thameslink trains currently operating on the line, which will in the future be able to stop at the expanded station. Shuttle buses will run between the western plaza of Wixams Rail Station along Manor Road and into the Core Zone via Public Road A; and
- The Proposed Development safeguards an area of land for a new EWR Station on the Marston Vale Railway Line between the West Gateway and Core Zones. Visitors arriving via the EWR Station would be provided direct access to the Core Zone as part of the design of the Station to ensure that there is a safe, convenient and efficient means of separating modes of transportation between the Station and Core Zone from Public Road A. If the EWR Station does not come forward, it is assumed that the EWR line is completed from Oxford to Milton Keynes by Primary Opening Year and buses accommodate the demand for rail-based movement from Milton Keynes station to and from the Site.

PUBLIC RIGHTS OF WAY

2.3.10. As shown on **Parameter Plan - Active Travel (Document Reference 1.12.0)** Public Rights of Way (PRoW) 1 and 2 will be permanently stopped up prior to construction commencing. Following construction, there will be a new Public Road A together with an active travel network as shown on the above-mentioned Parameter Plan, which denotes which routes will be adopted as public rights of way and which will remain within the control of UDX (private control). Public Rights of Way A1 and 8 will be temporarily closed before construction commences. Following construction, it is assumed that PRoW A1 and 8 will revert to existing conditions (as at 2025).

2.4 UTILITY PROVISION AND RAIL WORKS REQUIRED TO SUPPORT THE PROPOSED DEVELOPMENT

- 2.4.1. Other than the safeguarding of land for a new EWR Station, any utilities and/or rail infrastructure within the Site and serving (or being modified in connection with) the Proposed Development will be consented as part of this planning proposal. Such works are therefore assessed in this ES as part of the Proposed Development. Further detail is provided below and in **Chapter 3: Approach to EIA (Volume 1)** on the various classes of such works and the approach to their assessment.
- 2.4.2. Construction of utilities infrastructure outside of the Site will be required to support the Proposed Development. It is currently anticipated that these services will include some or all of those outlined below:
- Electricity supply circuits from UK Power Networks (“UKPN”);
 - A gas supply connection from Cadent Gas and/or Indigo Pipelines Ltd;
 - Potable and foul water connections from Anglian Water Services (“AWS”); and
 - Telecommunications connections from Openreach, Virgin Media and/or Mobile Broadband Network Limited (MBNL).
- 2.4.3. The **Utilities Statement (Document Reference: 6.10.0)** describes preliminary indicative connections identified for the utility connections proposed outside of the Site boundary. As is usual as this stage in a project, detailed information is not available as to where new sources of utilities would be available and how the utilities would be conveyed, as a result all routing is currently, and will remain, inchoate awaiting further investigation and design development and will be subject to further discussions and agreement with the utility providers.
- 2.4.4. Discussions are ongoing with utility providers in respect of a range of initial potential options for the connections and servicing locations. An agreement has been entered into with UK Power Network confirming and reserving capacity, but the routing is not finalised and the detailed design phase has not started. It is possible that services may come from different locations at different points in time. No formal agreements have been entered into with any other utility providers and further design studies will be required to formalise connection points and routes. It is expected that agreements for design and construction of the various utilities’ infrastructure will take nearly a year following the date of this ES.
- 2.4.5. It is therefore not possible to confirm at this stage where, when and how those utilities will be provided. Such utilities are likely to also support other third-party schemes and general programmes of system upgrade and improvement by the relevant Statutory Undertakers.
- 2.4.6. In respect of utility connections, further detail on the position in respect of liaison with the relevant service providers is set out in **Table 2-4**.

Table 2-4 – Details of Service Provider Liaison for the Proposed Development

Class of Works	Utility Provider	Current Position	Anticipated Timescale for Conclusion of Discussions
Electricity	UKPN	<p>UKPN have provided optioneering and feasibility studies which identifies connection options to their network and a potential lowest cost option.</p> <p>UKPN have provided some indicative connection route options based on UKPN initial desktop studies and further work will be required by UKPN and the project team to confirm routing and existing infrastructure upgrade/reinforcement requirements.</p> <p>Following planning permission being issued for the Proposed Development, route identification will be carried out by UDX in conjunction with UKPN taking into account a range of factors. Additional surveys and investigation will be undertaken to identify preferred routes and support the design development and detail of selected final routes.</p> <p>Routes are likely to involve a railway crossing that may require the permission of Network Rail (usually in the form of Basic Asset Protection Agreement (“BAPA”).</p> <p>A formal new supply offer for 37MVA from UKPN has been accepted by UDX (August 2024 reference 8600030926). Detailed design studies will be undertaken by UKPN to confirm requirements including works associated with the point of connection, existing infrastructure upgrade/reinforcement and routing to the location of the new assets.</p> <p>Discussions on diversion requirements have been initiated (August 2024) for assets within the Site and also those which are likely to be impacted by proposed highway works. These discussions also include requests for capacity review and points of</p>	<p>Detail on UKPN design studies is expected in 2026.</p> <p>BAPA agreement timeframe TBC with Network Rail, with final detail expected in 2026.</p> <p>UKPN confirmation on additional local TBS supplies and diversionary/protection requirements estimated in 2026.</p> <p>Connections, infrastructure upgrade/reinforcement and diversion/protection requirements will be determined with the Statutory Undertaker’s through further supply design studies.</p> <p>Route identification will be carried out by UDX in conjunction with UKPN taking into account a range of factors. It is estimated that reasonable certainty on the Statutory Undertaker’s headline works and routes to the Site would be identified in 2026. However, there will be ongoing discussions as the designs are progressed and finessed through to construction and, as such, determination of routes and required works should be viewed as being under ongoing development.</p>

Class of Works	Utility Provider	Current Position	Anticipated Timescale for Conclusion of Discussions
		connection for temporary connections to the local network to support early construction works ahead of the main TBS and full connection.	
Gas	Cadent Gas	<p>A Detailed Analysis Study (“DAS”) has been received from Cadent (DAS/EX/095 March 2024). The study provides a point of connection to their network.</p> <p>Cadent have provided an indicative connection route only based on Cadent initial desktop studies and further work will be required by Cadent and the project team to confirm existing infrastructure upgrade/reinforcement requirements should a Connection Request be submitted, which is dependent on the final decisions on requirements of the Site for gas supply.</p> <p>Following planning consent, and determination of any Cadent Gas supply requirement, route identification will be carried out by UDX in conjunction with Cadent taking into account a range of factors. Additional surveys and investigation will be undertaken to identify preferred routes and support the design development and detail of selected final routes.</p> <p>The proposed gas route involves a railway crossing that may require the permission of Network Rail (again, usually in the form of a BAPA).</p>	<p>Requirement for new Cadent Gas supplies are to be confirmed by project team. It is unlikely that the Cadent Gas connection will be required if the Proposed Development moves forward as fully electric, and minor supplies are locally available from Indigo Pipelines Ltd (in Manor Road).</p> <p>BAPA agreement timeframe is to be confirmed with Network Rail, with final detail expected in 2026.</p> <p>Connections, infrastructure upgrade/reinforcement requirements will be determined through the Statutory Undertaker new supply design studies dependent on developing project needs for gas supply.</p> <p>Route identification will be carried out by UDX in conjunction with Cadent taking into account a range of factors. It is estimated that reasonable certainty on the Statutory Undertakers’ headline works and routes to the Site would be identified in 2026. However, there will be ongoing discussions as the designs are progressed and finessed through to construction and, as such, determination of routes and required works should be viewed as being under ongoing development.</p>
Gas	Indigo Pipelines Ltd	Asset records were received in February 2024. A possible option for a more local (in respect to the Cadent Gas point of connection) connection for gas supplies (likely for special effects only) has been identified in Manor Road.	Assuming successful engagement, diversion/protection estimates expected to be received in 2026.

Class of Works	Utility Provider	Current Position	Anticipated Timescale for Conclusion of Discussions
		<p>An NDA has been signed (September 2024) to allow investigation of this option and also to initiate discussions on diversion or protection requirements for stakeholder assets that may impacted by works within the Site.</p> <p>There are currently no agreements in place regarding new supplies or diversion/protection requirements. At this point in time, point of connection and any existing infrastructure upgrade/reinforcement requirements and routing to the location of the new assets are unknown, and development of designs, should they be required, will follow engagement with the relevant Undertaker.</p>	<p>New supply budget/desktop study information estimated to be received in 2026.</p> <p>Should a new supply application be made to Indigo Pipelines Ltd, infrastructure upgrade/reinforcement requirements will be determined through the relevant Undertaker's new supply design studies.</p> <p>Route identification will be carried out by UDX in conjunction with Indigo taking into account a range of factors. It is estimated that reasonable certainty on the Statutory Undertakers' headline works and routes to the Site would be identified in 2026. However, there will be ongoing discussions as the designs are progressed and finessed through to construction and, as such, determination of routes and required works should be viewed as being under ongoing development.</p>
Potable water	AWS	<p>AWS provided a Pre-Planning Assessment Report (February 2024 reference PPE-0200598). The report identified points of connection to the AWS foul and potable networks.</p> <p>AWS have provided indicative connection routes only is based on AWS initial desktop studies and further work will be required by AWS and the project team to confirm routing and existing infrastructure upgrade/reinforcement requirements. Following planning consent for the Proposed Development, route identification will be carried out by UDX in conjunction with AWS taking into account a range of factors. Additional surveys and investigation will be undertaken to</p>	<p>Detail on AWS design studies is expected in 2026.</p> <p>Connections, infrastructure upgrade/reinforcement and diversion/protection requirements will be determined through the Statutory Undertaker new supply design studies.</p> <p>Route identification will be carried out by UDX in conjunction with AWS taking into account a range of factors. It is estimated that reasonable certainty on the Statutory Undertakers' headline works and routes to the Site would be identified in 2026. However, there will be ongoing discussions as the designs are progressed and finessed</p>

Class of Works	Utility Provider	Current Position	Anticipated Timescale for Conclusion of Discussions
		<p>identify preferred routes and support the design development and detail of selected final routes.</p> <p>Routes are likely to involve a railway crossing that may require the permission of Network Rail (likely in the form of a BAPA).</p> <p>A letter of support to meeting the needs of the Proposed Development was received from AWS in April 2024.</p> <p>AWS have also been requested to review diversionary and/or protection works for their assets that may be affected by works (including highway works) within the Site; to review local points of connection for temporary supplies for early construction works and compounds; and to review additional resilience connections for the Site.</p>	<p>through to construction and, as such, determination of routes and required works should be viewed as being under ongoing development.</p> <p>AWS confirmation on additional local TBS supplies and diversionary/protection requirements estimated in 2026.</p> <p>BAPA agreement timeframe TBC with Network Rail, with final detail expected in 2026.</p>
Foul water	AWS	As per potable water above.	As per potable water above.
Telecommunications	Openreach	<p>An NDA is to be requested to initiate discussions on diversion or protection requirements for both stakeholder assets that may be impacted by the works within the Site and for new supplies to the Proposed Development.</p> <p>There are currently no agreements in place regarding new supplies or diversion/protection requirements.</p>	<p>Diversion/protection estimates expected in 2026.</p> <p>Assuming successful engagement, budget diversion/protection estimates expected in 2026. These will then be incorporated into the project with designs estimated to be developed in 2026.</p>
Telecommunications	Virgin Media	<p>An NDA has been signed (August 2024) to allow investigation into diversion or protection requirements for both stakeholder assets that may be impacted by the works within the Site and for new supplies to the Proposed Development.</p> <p>There are currently no agreements in place regarding new supplies or diversion/protection requirements.</p>	<p>Diversion/protection estimates expected in 2026.</p> <p>Assuming successful engagement, budget diversion/protection estimates expected in 2026. These will then be incorporated into the project with designs estimated to be developed in 2026.</p>

Class of Works	Utility Provider	Current Position	Anticipated Timescale for Conclusion of Discussions
Telecommunications	MBNL	<p>An NDA is to be requested to initiate discussions on diversion or protection requirements for both stakeholder assets that may be impacted by the works within the Site and for new supplies to the Proposed Development.</p> <p>There are currently no agreements in place regarding new supplies or diversion/protection requirements.</p>	<p>Diversion/protection estimates expected in 2026.</p> <p>Assuming successful engagement, budget diversion/protection estimates expected in 2026. These will then be incorporated into the project with designs estimated to be developed in 2026.</p>

- 2.4.7. In respect of rail works, the Site boundary has been determined by the change required to the existing network to allow the required train service to serve the Proposed Development via Wixams Rail Station. Other off-Site wider enhancements or amendments which Network Rail may need to make to existing rail-related infrastructure will serve current and future development far beyond the Site and benefit the broader rail network. Network Rail is considering how to consent and progress these off-Site works (once the design is finalised). It is appropriate that these works, which are still in the design phase and which will improve the operational efficiency of the Midland Main Railway Line, are subject to a separate planning consent as they constitute a separate project.
- 2.4.8. Planning permission is not sought for any off-Site utility or rail-related works and **Appendix 2.4: Description of Development for EIA and Examples (Volume 3)** and the Site boundary have been prepared accordingly. The Site boundary has been set at a meaningful location and cannot be extended further due to the lack of clarity in respect of the scope, location or design of those off-Site works.
- 2.4.9. No off-Site utility or rail-related works are therefore assessed in EIA terms as part of the “project” forming the Proposed Development because at this stage those works are insufficiently choate. Based on reasonable assumptions, however, their likely effects have been assessed at a commensurably high level as part of the cumulative assessment of the effects in combination with those from the Proposed Development. This follows the suggested approach set out in the EIA legislation and case law in a proportionate manner.
- 2.4.10. **Chapter 3: Approach to EIA (Volume 1)** and **Chapter 18: Cumulative Effects (Volume 1)** set out further detail on how this position is reflected in the contents of this ES.

2.5 SUPPORTING DESIGN STRATEGIES

- 2.5.1. The following design strategies have been prepared and form part of the Proposed Development which has been assessed in this ES where relevant. In addition, the planning proposal includes **Design Standards (Document Reference 6.3.0)** which control the way in which the Proposed Development is delivered to secure a well-designed, high quality new urban environment for the ERC centred around the Theme Park.
- 2.5.2. High level information on each of the design strategies assessed and presented in the technical topic chapters and appendices of this ES is given below.

LANDSCAPE

- 2.5.3. The landscaping strategy for the Proposed Development presented in **Chapter 7: Landscape and Visual Impact Assessment (Volume 1)** and illustrated in **Figure 7.9: Landscape Mitigation Plan (Volume 2)** has been developed in a manner meant to enhance the Site and includes the following measures:
- Creation of new landscape areas and enhancement of selected existing landscape areas which uplift the aesthetic quality of the Site and surrounding area;
 - Use of green infrastructure to contribute to local ecological networks, enhance biodiversity and improve the local microclimate;
 - Use of landscape elements and planting mixes which tie in with and enhance local landscape character; and
 - Create dynamic landscapes internal to the park for the immersive experiences that UDX is known for worldwide.
- 2.5.4. The provision of landscape along improved footpath, cycle and sustainable transport networks across the Site will support connections which are safe, legible, sympathetic, and complementary to the surrounding landscape character.

DRAINAGE STRATEGY

- 2.5.5. A Drainage Strategy that maintains current run-off rates has been developed based on cautious worst case impermeable area rates across the West Gateway Zone, Core Zone, Lake Zone and East Gateway Zone.
- 2.5.6. The Drainage Strategy shows that both the West and East Gateway Zones have connections to nearby watercourses, controlled run-off rates and local attenuation.
- 2.5.7. A combined approach to water run-off and storage has been taken in the drainage strategy for the Core and Lake Zones. This includes conveyance and storage in the Core Zone along its eastern and northern boundary, with an outflow under Manor Road into the Lake Zone. The Lake Zone includes water treatment and storage volumes for both Core and Lake Zones, and a connection into Elstow Brook.
- 2.5.8. The Drainage Strategy is presented in more detail in **Chapter 12: Water Resources (Volume 1)** and **Appendix 12.3: Drainage Strategy (Volume 3)**.

ENERGY STRATEGY

- 2.5.9. An **Energy Statement (Document Reference 6.9.0)** has been prepared and is submitted in support of the planning proposal. The **Energy Statement (Document Reference 6.9.0)** outlines the energy strategy and efficiency measures required to be implemented for the operational phase of the Proposed Development.
- 2.5.10. The Proposed Development will include energy efficiency measures to support achieving Leadership in Energy and Environmental Design (LEED) Gold Certification, including reducing emissions, improving efficiency and incorporating clean energy sources.

- 2.5.11. Energy-demand reduction measures will include principles such as ‘designing-in’ high performance building fabric and glazing, low energy lighting, good levels of air tightness, highly efficient technologies, natural ventilation, heat recovery, energy storage systems and demand based intelligent controls.
- 2.5.12. It is proposed that an all-electric ready energy centre will be delivered, comprising heat-pumps for heating and cooling, supported by electric boilers, high efficiency chilled water plant, and heating and cooling thermal stores. There may be a need for limited use of gas for delivery of heating and hot water needs for completion of the Primary Phase to ensure the Proposed Development can be served in the unlikely scenario that power for full electrification of heat is not available. Gas would only be used for heating and hot water during the Primary Phase Construction Phase and for no more than one year after the Primary Opening Year.
- 2.5.13. The energy strategy accords with zero-carbon and future building standards. This strategy demonstrates that energy efficiency and reduction in carbon emissions will be implemented within the Proposed Development lifecycle.
- 2.5.14. The power and energy elements of the Proposed Development that have informed the Environmental Impact Assessment are set out in the Utilities section of **Appendix 2.1: Environmental Statement Basis of Assessment (Volume 3)**.

ECOLOGY STRATEGY

- 2.5.15. **Appendix 6.4: Outline Habitat Creation and Enhancement Plan (Volume 3)** and **Appendix 6.5: Outline Landscape and Ecology Management Plan (Volume 3)** detail the ecology mitigation strategy. Construction related ecological mitigation measures are set out in **Appendix 2.3: Outline Construction Environmental Management Plan (OCEMP) (Volume 3)**.
- 2.5.16. **Appendix 6.4: Outline Habitat Creation and Enhancement Plan** outlines the strategy for the creation and establishment of habitats at the Site. **Appendix 6.5: Outline Landscape and Ecology Management Plan (Volume 3)** sets out habitat management, monitoring, and maintenance measures.
- 2.5.17. The ecology strategy aims to deliver the following landscape and ecological principles:
 - To retain, protect and enhance existing vegetation whenever practicable and appropriate;
 - To retain, protect and enhance existing landscape features where practicable;
 - To create new compensatory habitats of high ecological value;
 - To provide soft landscaping and new planting where practicable; and
 - For all proposed planting to use native species of local provenance, where appropriate.
- 2.5.18. General principles to help guide long-term management include:
 - On-site ecology and landscape mitigation, compensation and enhancement to be focused within the Ecological Enhancement Areas and the landscape areas of the Proposed Development;
 - Environmental gain is to be promoted as an intrinsic part of the design;
 - Provide mitigation/compensation for legally protected and notable species;
 - Using a palette of species resilient to drought and disease that are less reliant on irrigation measures; and

- Reusing materials such as logs, rocks, rubble and earth during the creation of species-specific mitigation features.

2.5.19. The retention of habitats includes those for existing trees, hedgerows and vegetation where practicable, without impinging on the operation of the Proposed Development.

2.5.20. The creation of habitat includes:

- The creation of new woodland and perimeter planting;
- The creation and enhancement of a variety of habitats across Ecological Enhancement Areas;
- The provision of woodland planting, hedgerow planting and grassland to replace any lost terrestrial habitats for species (e.g. reptiles and invertebrates);
- The planting of native hedgerows to integrate roads with the surrounding landscape and compensate for the loss of hedgerows;
- The planting of trees and shrubs at various locations to integrate such features into the surrounding landscape;
- Where new perimeter planting is required, this may be planted onto a bund/berm to lift ground levels locally and therefore increase the overall height of screening; and
- Woodland planting will be provided on Site at strategic locations, to reduce visual amenity impacts and impacts on setting, and to compensate for the loss of woodland during construction and to help maintain potential bat corridors.

2.5.21. For watercourse ecology, the design principles include:

- Where the Proposed Development crosses existing watercourses, bridges (or culverts, if necessary) of varying lengths and dimensions will be designed and installed to maintain hydrological connectivity; and
- Ensuring mitigation structures such as oversized culverts, crop kerb, and filter drains/underpasses remain functional and provide safe crossing points for protected species.

2.5.22. The landscape planting and ecological features will be maintained, managed, and monitored as appropriate throughout the operational phases of the Proposed Development.

LIGHTING CONTROLS

2.5.23. The Site lighting will be consistent with delivering a well-designed, high quality new urban environment that is mindful of light spill and light sensitive fauna and flora. Lighting controls will be delivered by the **Design Standards (Document Reference 6.3.0)**.

2.6 APPROACH TO SUSTAINABLE DEVELOPMENT

2.6.1. A **Sustainability Statement (Document Reference 6.8.0)** has been prepared and is submitted in support of the planning proposal, which outlines the sustainability measures to be reflected in the design of the Proposed Development, considering national and local policy requirements.

- 2.6.2. For those elements of the Proposed Development to be undertaken by UDX, it is anticipated that LEED Gold Certification for Cities and Communities and LEED Building Design and Construction for specific flagship buildings will be used as a framework for embedding sustainability principles in the design and operation of the Proposed Development. Additionally, UDX's own internal design standards for sustainability will be applied to the Proposed Development, consistent with the themes covered by the LEED framework. LEED provides a comprehensive certification program (similar to the UK equivalent BREEAM), requiring developments to meet specific criteria and targets to improve sustainability and reduce environmental impacts, relating to the following aspects:
- Integrated Process;
 - Natural Systems and Ecology;
 - Transportation and Land Use;
 - Water Efficiency;
 - Energy and Greenhouse Gas Emissions;
 - Material and Resources; and
 - Quality of Life.
- 2.6.3. UDX has elected not to follow BREEAM as application of the LEED framework is a UDX company policy that is pursued worldwide. UDX's experience and proven track record attaining LEED Certification for other developments mean that they are well placed to achieve the same for the Proposed Development and will also allow UDX to compare sustainability metrics across sites globally.
- 2.6.4. UDX will seek to achieve LEED Gold Certification for Cities and Communities and LEED Building Design and Construction for specific flagship buildings, for the aspects of the Proposed Development to be undertaken by UDX, with a focus on:
- Site: Selecting sites with access to public transit and amenities and develop sites with minimal impact to local ecosystems;
 - Water: Conserving freshwater resources through reduction and recycling of non-potable water;
 - Energy: Reducing emissions, improving efficiency, and shifting to clean energy;
 - Materials: Prioritising circular, low-carbon, and healthy materials;
 - Waste: Strive to limit waste in facility construction and operations; and
 - Health and Wellbeing: Create healthy, vibrant spaces that promote wellbeing.
- 2.6.5. Additionally, the following relevant Undertakers¹ have sustainability strategies in place that would be applied to the aspects of the Proposed Development for which they are responsible.
- 2.6.6. For National Highways this includes:

¹ The persons (corporate or otherwise) who are permitted to carry out the Proposed Development (including their contractors and other persons appointed by them in connection with the carrying out of the Proposed Development).

- The National Highways Environmental Sustainability Strategy, which focuses on enhancing climate resilience, biodiversity, and community wellbeing through holistic land management, pollution reduction and innovative solutions;
- Key commitments from National Highways include achieving net zero emissions across its own operations by 2030, achieving net zero for maintenance and construction by 2040, and enabling net zero for road user emissions by 2050, while supporting local communities and preserving natural and cultural heritage; and
- National Highways are also the first road organisation in the world to achieve the PAS2080 accreditation, a global standard for managing carbon in infrastructure.

2.6.7. For Network Rail this includes:

- The Network Rail Sustainability Strategy, presenting its vision to provide the cleanest, greenest mass transport system, focusing on low emissions, climate resilience, biodiversity, and minimal waste;
- Network Rail aims to achieve net zero carbon emissions by 2050 for its operations in England and Wales (2045 in Scotland), improve air quality, and enhance biodiversity while integrating environmental sustainability into all aspects of its operations; and
- Additionally, BREEAM and/or CEEQUAL assessment and predicted performance will be commissioned during the delivery of the projects commissioned by Network Rail.

2.7 MATERIALS

- 2.7.1. The predominant materials by cost to construct the Proposed Development include concrete, steel, metal insulation panels, electric cables and galvanised steel ducts.
- 2.7.2. Further details on the types of materials expected to be used are presented in the **Design and Access Statement (Document Reference 6.2.0)** and **Sustainability Statement (Document Reference 6.8.0)** submitted as supporting planning proposal documents.
- 2.7.3. Priority consideration will be given to the selection of construction materials with low environmental impact.

2.8 CONSTRUCTION PROPOSALS

CONSTRUCTION PHASING STRATEGY

- 2.8.1. The Proposed Development will be built out in phases as explained in Section 2.1 of this chapter.
- 2.8.2. The anticipated Primary Phase construction activities and access arrangements are presented in **Annex 3: Construction Access & Phasing Strategy of Appendix 2.3: OCEMP (Volume 3)**.
- 2.8.3. During the Primary Phase, in addition to the delivery of certain components in the Lake Zone such as the Utility Compound and the Ecological Enhancement Area, the Lake Zone will be utilised for temporary construction activities including materials sorting and storage, temporary laydown areas and car parking. It may also be used for temporary worker accommodation if required.
- 2.8.4. The Primary Phase will require the demolition of Vine Cottages 1 and 2 and their respective outbuildings, as well as the derelict building currently located within the Lake Zone.

- 2.8.5. Due to the nature of the Proposed Development, the ERC will evolve over time. Therefore, in addition to defined construction phases, there will be ongoing maintenance and alteration work to support the operation of the ERC which will include the maintenance, inspection, repair, adjustment, alteration, removal, demolition, clearance, extension, refurbishment, reconstruction, replacement, reinstatement, redevelopment, expansion and/or improvement of any part of the ERC authorised and built pursuant to the planning permission provided that such development is of a type authorised by the planning permission (and thereafter the same ongoing permission in respect of any further such works). Any such changes would take place within the envelope of the parameters assessed by this ES as described further in **Chapter 3: Approach to EIA (Volume 1)** and would be managed in accordance with the environmental management provisions outlined below.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

- 2.8.6. An Outline Construction Environmental Management Plan (OCEMP) (**Appendix 2.3: OCEMP (Volume 3)**) is submitted that describes generic and detailed site-specific measures to avoid, reduce and mitigate demolition and construction phase effects, including information on the following:
- Description of the Site and construction proposals;
 - Proposed approach to community engagement during construction;
 - Management of construction traffic and travel planning for construction personnel;
 - Approach to manage waste; and
 - Environmental mitigation and monitoring relating to environmental construction phase effects.

CONSTRUCTION MANAGEMENT

- 2.8.7. Areas of construction will be secured (for security and public safety) via suitable fencing for construction of temporary works during the Primary Phase. Details will be specified by the Principal Contractor(s) in a detailed CEMP that will be submitted for approval prior to works starting on-Site.
- 2.8.8. The following working hours will be adhered to during the construction of the Proposed Development:
- 07:00 – 19:00 (Monday to Friday);
 - 07:00 – 13:00 (Saturday); and
 - No Sunday, Bank Holiday or Public Holiday working unless by prior approval for specific works.
- 2.8.9. The first hour of any working day (07:00 – 08:00) is to consist of mobilisation works to include, but not be limited to, deliveries, movement to place of work, unloading, maintenance and general preparation works.
- 2.8.10. Undertaking certain construction activities may require extended working hours. The provisions for extended working hours are explained in **Appendix 2.1: Environmental Statement Basis for Assessment (Volume 3)**.

- 2.8.11. As noted above, there will be ongoing maintenance and alteration work to support the operation of the Proposed Development. Such works will be managed in accordance with the approach set out in the **Appendix 2.3: OCEMP (Volume 3)** and will be mindful of the effects of the environment at the time such works are undertaken and the people using the Proposed Development and site neighbours. This will be informed by UDX's experience of delivering such maintenance and alteration work within operational theme parks and doing so in manner that enables the smooth operation of parks whilst works are undertaken.

PLANT AND EQUIPMENT

- 2.8.12. At this stage, the precise equipment which may be used in the construction of the Proposed Development cannot be fully determined. For the purposes of this ES, it has been assumed that the machinery and equipment identified in **Table 2-2** would be used.
- 2.8.13. For the construction of the elements within the Core Zone, East Gateway Zone and West Gateway Zone, piling may be required for bridges, roadway and rail components, select buildings and theme park ride foundations. It has been assumed that a combination of concrete cast pile, sheet piles or other similar appropriate piling system would be used.

Table 2-5 – Construction Plant

Construction Phase	Estimated Time Period	Plant Type	Amount
1a) Advanced Works, 1b) Enabling Works & Grading, and 1c) Infrastructure Works	Q4 2025 – Q4 2027	Cranes	Fewer than 10
		Excavators, Backhoes and Front Loaders	Fewer than 100
		Dozers	Fewer than 100
		Graders and Compactors	Fewer than 100
		Misc. Small Equipment	Fewer than 500
		Off Road Dump Trucks	Fewer than 100
		Concrete Batch Plant	Setup and use for less than 25% of duration
		HGV Deliveries	Fewer than 500 per day
1d) Property Infrastructures	Q3 2027 – Q2 2030	Cranes	Fewer than 10
		Excavators, Backhoes and Front Loaders	Fewer than 100
		Dozers	Fewer than 100
		Graders and Compactors	Fewer than 100
		Misc. Small Equipment	Fewer than 500
		Off Road Dump Trucks	Fewer than 100

Construction Phase	Estimated Time Period	Plant Type	Amount
		Concrete Batch Plant	Setup and use for less than 25% of duration
		HGV Deliveries	Fewer than 100 deliveries per day
1e) Roadway Works	Q3 2026 – Q2 2030	Cranes	Fewer than 20
		Excavators, Backhoes and Front Loaders	Fewer than 100
		Dozers	Fewer than 100
		Graders and Compactors	Fewer than 100
		Misc. Small Equipment	Fewer than 500
		Off Road Dump Trucks	Fewer than 100
		Concrete Batch Plant	Setup and use for less than 25% of duration
		HGV Deliveries	Fewer than 500 deliveries per day
1f) Railway Works	TBC	Cranes	Fewer than 5
		Excavators, Backhoes and Front Loaders	Fewer than 100
		Dozers	Fewer than 100
		Graders and Compactors	Fewer than 100
		Misc. Small Equipment	Fewer than 500
		Off Road Dump Trucks	Fewer than 100
		Concrete Batch Plant	Setup and use for less than 25% of duration
		HGV Deliveries	Fewer than 100 deliveries per day
1g) Theme Park Construction	Q3 2027 – Q4 2030	Vertical Construction (Q3 2027 – Q3 2029)	
		Cranes	Fewer than 50
		Excavators, Backhoes and Front Loaders	Fewer than 250
		Dozers	Fewer than 100

Construction Phase	Estimated Time Period	Plant Type	Amount
		Graders and Compactors	Fewer than 100
		Misc. Small Equipment	Fewer than 2500
		Off Road Dump Trucks	Fewer than 100
		Concrete Batch Plant	Use for entire duration
		HGV Deliveries	Fewer than 500 deliveries per day
		Fit Out & Installation (Q3 2029 – Q4 2030)	
		Mobile elevated work platforms	Fewer than 50
		Excavators, Backhoes and Front Loaders	Fewer than 50
		Dozers	Fewer than 10
		Graders and Compactors	Fewer than 10
		Misc. Small Equipment	Fewer than 2500
		Off Road Dump Trucks	Fewer than 100
		Concrete Batch Plant	Use for entire duration
		HGV Deliveries	Fewer than 100 deliveries per day
		Ride Installation and Show Installation	
		Cranes	Fewer than 50
		Excavators, Backhoes and Front Loaders	Fewer than 250
		Dozers	Fewer than 10
		Graders and Compactors	Fewer than 10
		Misc. Small Equipment	Fewer than 2500
		Dump Trucks	Fewer than 100
		Concrete Batch Plant	Use and dismantle for less than 50% of duration
		Heavy Goods Vehicle Deliveries	Fewer than 100 deliveries per day

DEMOLITION AND CONSTRUCTION VEHICLE NUMBERS AND ROUTING

- 2.8.14. As set out in the Outline Construction Traffic Management Plan (OCTMP) (Section 3.3 of **Appendix 2.3: OCEMP (Volume 3)**) all contractors appointed as part of the construction will be required to adhere to the freight management measures.
- 2.8.15. There are two key elements of construction traffic that need to be managed, namely:
- Management of construction material deliveries; and
 - Management of Abnormal Indivisible Loads (AILs).
- 2.8.16. The above elements need to be managed in terms of quantum and profile of deliveries as well as routing of the deliveries.

Capping of Heavy Duty Vehicles (HDV) Movements

- 2.8.17. The number of HDV movements that are permitted as part of the Site works will be capped prior to the delivery of the new Woburn Road Roundabout, the West Gateway Roads, the new bridge over the Marston Vale Railway, and necessary aspects of Public Road A. The proposed cap is set out as follows:
- A cap of 500 HDV deliveries per day (or 1,000 movements two way) is proposed (other than in exceptional circumstances as defined in OCTMP (Section 3.3 of **Appendix 2.3: OCEMP (Volume 3)**), in total, to/from all construction access points into the Site from the public highway which is the assessed number plus 10%; and
 - On Manor Road, east of the Marston Vale Railway Line, a cap of 3,035 passenger car unit movements is proposed, in total, based on the current (2023) level of vehicles on Manor Road.
- 2.8.18. This cap shall no longer be applicable when the new Woburn Road Roundabout, the West Gateway Roads and the new bridge over the Marston Vale Railway are complete and construction traffic for the Core Zone and the West Gateway Zone can route this way via Woburn Road.
- 2.8.19. The monitoring of this cap and default mechanisms should this cap be breached are set out in the OCTMP.

Delivery Management System

- 2.8.20. A Delivery Management System (DMS) will be used to achieve the following objectives:
- Regulate flow of HDVs to and from the Site; and
 - Ensure HDV arrivals do not exceed the HDV upper limit (other than in exceptional circumstances as defined in OCTMP (Section 3.3 of **Appendix 2.3: OCEMP (Volume 3)**)).
- 2.8.21. Such systems have proven effective in controlling the flow of traffic on construction projects by reducing the number of vehicles that arrive at any given time, especially at peak times. In addition, they have reduced the element of vehicle queuing at sites that is associated with the “*arrive anytime*” scenario.
- 2.8.22. The relevant Undertaker(s) through their Principal Contractor(s) will procure and implement a web-based DMS in advance of the construction works commencing.

HDV Routes

- 2.8.23. The relevant Undertaker(s) through their Principal Contractor(s) and sub-contractor(s) will adhere to the key elements as follows:
- Wherever possible HDVs should use the strategic road network; and
 - Suppliers of materials will make use of the strategic road network.
- 2.8.24. The routing phasing is as follows:
- Route via Ampthill Road (to access East Gateway Zone), via Ampthill Road and Manor Road East (to access Lake Zone) and Broadmead Road (via Woburn Road to access West Gateway and Core Zone) in the initial phases;
 - Route via Ampthill Road (to access East Gateway Zone), via Ampthill Road and Manor Road East (to access Lake Zone) for the remaining phases;
 - Once the new Woburn Road Roundabout, the West Gateway Roads and the new bridge over the Marston Vale Railway are complete, all construction traffic for the Core Zone and the West Gateway Zone will route this way via Woburn Road, Manor Road will remain as a secondary access; and
 - Once the A421 junction is complete, all construction traffic for the Core Zone and the West Gateway Zone will route this way via the A421. Manor Road will remain as a secondary access.
- 2.8.25. In the event that there is a delay to the A421 junction, construction vehicles will continue to route as detailed in bullet three above.
- 2.8.26. Contractor agreements will include provisions securing that all commercial vehicles, including HDVs and light goods vehicles (LGVs), will be required via a routing agreement, to enter and leave the construction Site in accordance with the above Paragraph 2.8.17 (except in abnormal circumstances).

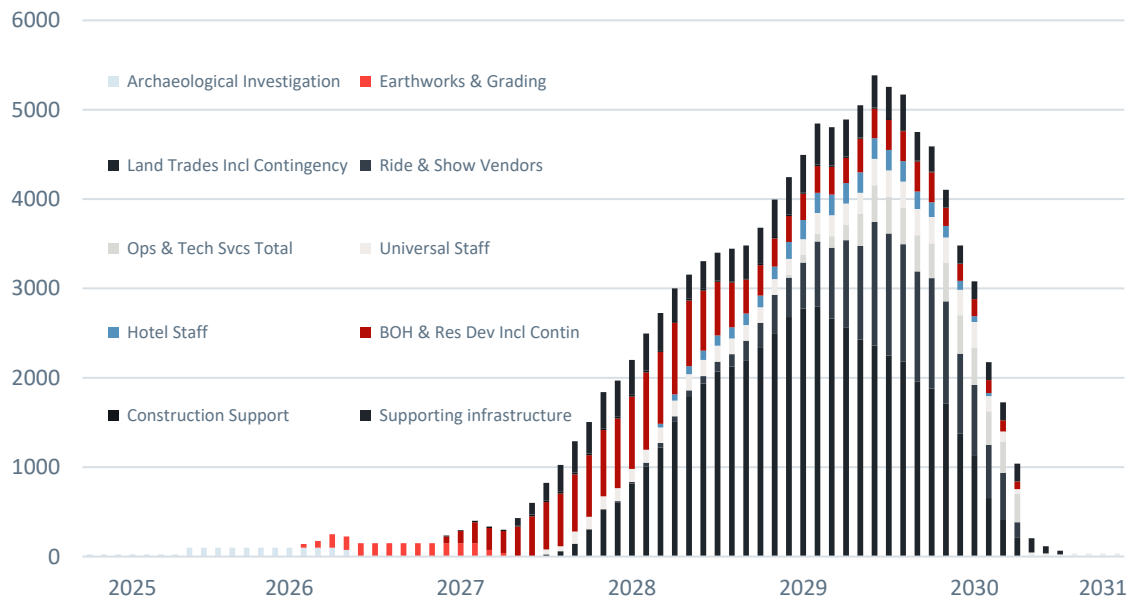
Abnormal Indivisible Load Management

- 2.8.27. If and when there is a requirement for AILs then the routes will be agreed in advance.
- 2.8.28. The law requires the haulier to give 'in excess of two days' notice to the police, highway authorities and Road and Bridge authorities before moving the load.
- 2.8.29. The notification process will be initiated in order to avoid any potential complications and delays to the work programme.
- 2.8.30. Further information on construction traffic routing and route monitoring is set out in the OCTMP (Section 3.3 of **Appendix 2.3: OCEMP (Volume 3)**).

EMPLOYMENT DURING THE CONSTRUCTION PHASE

- 2.8.31. The demand for labour during the construction of the Primary Phase would provide valuable opportunities for a variety of construction workers directly, as well as indirectly through the supply chain. It is estimated that the Proposed Development would support approximately 5,380 direct jobs at its peak in winter 2029, and a total of approximately 9,850 direct job years during construction, along with approximately 10,680 indirect jobs years due to supply chain and worker expenditure impacts. The overall headcount curve projection is shown in **Image 2-1**.

Image 2-1 - Employment Headcount Projections



CONSTRUCTION WASTE

- 2.8.32. Principles relating to the approach to waste management are set out in the **Appendix 2.3: OCEMP (Volume 3)**. The Principal Contractor(s) will be required to prepare a Construction Site Waste Management Plan in accordance with the requirements set out in Section 3.15 of the **Appendix 2.3: OCEMP (Volume 3)** as part of their detailed Construction Environmental Management Plan submission and implement the waste hierarchy (i.e. prevention, preparing for re-use, recycling, other recovery and disposal as set out in the *Waste (England and Wales) Regulations 2011 (as amended from time to time)* to ensure that material resources are used to their maximum efficiency.

2.9 HEALTH AND SAFETY

- 2.9.1. Health and safety issues are a primary factor in influencing the demolition and construction methods. In accordance with the *Construction (Design and Management) Regulations 2015 (as amended from time to time)* the construction teams will be required to prepare detailed written health and safety plans, specific fire and emergency procedures, risk assessments and method statements for each phase of demolition or phase of construction.
- 2.9.2. Any work being performed in proximity to the rail tracks are to be assessed for safety measures and covered under a safety management plan prepared by the Principal Contractor(s).
- 2.9.3. Compliance with UDX health and safety requirements, and all relevant health and safety legislation will be enforced including:
- *Health and Safety at Work Act 1974 (as amended from time to time);*
 - *Management of Health and Safety at Work Regulations 1999 (as amended from time to time);*
 - *Construction (Design and Management) Regulations 2015 (as amended from time to time);*
 - *Control of Asbestos Regulations 2012 (as amended from time to time);*
 - *Air Quality Standards Regulations 2010 (as amended from time to time);*

- *The Contaminated Land (England) Regulations 2006 (as amended from time to time);*
- *Special and Hazardous Waste (England and Wales) Regulations 2005 (as amended from time to time);*
- *Confined Spaces Regulations 1997 (as amended from time to time);*
- *Control of Substances Hazardous to Health Regulations 2002 (as amended from time to time);*
- *Lifting Operations and Lifting Equipment Regulations 1998 (as amended from time to time);*
- *Manual Handling Operations Regulations 1992 (as amended from time to time);*
- *Control of Noise at Work Regulations 2005 (as amended from time to time);*
- *Personal Protective Equipment at Work Regulations 2002 (as amended from time to time);*
- *Provision and Use of Work Equipment Regulations 1998 (as amended from time to time);*
- *The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (as amended from time to time);*
- *Control of Vibrations at Work Regulations 2005 (as amended from time to time); and*
- *Work at Height Regulations 2005 (as amended from time to time).*



WSP House
70 Chancery Lane
London
WC2A 1AF

wsp.com

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