

## 10.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

### 10.1 INTRODUCTION

Art Data Centres is seeking Planning Permission for a Data Centre, Vertical Farm, and associated infrastructure on a c. 60 ha site at Tulla Road, Spencilhill, to the northeast of Ennis, as described in more detail in Chapter 2. Figure 1 *Site Extents* maps the site location. The site is allocated in the adopted *Clare County Development Plan 2017 - 2023 (As Varied)*. Figure 10.1 illustrates the extents of the site boundary.

This Landscape and Visual Impact Assessment (LVIA) has been prepared to identify potential landscape and visual impacts arising from the development of this site. The assessment of the landscape and visual impact arising from the proposal has taken account of the proposed built form together with the landscaping proposals. The findings of this Assessment will inform Clare County Council (the Council) in determining the Application for the site.

The EIAR, including this LVIA, was submitted as part of Planning Application No. 21757 on 16<sup>th</sup> July 2021. Since then, the detailed design of the corresponding SID Application has been progressed resulting in updates to the design of the substation and the drop-down towers for the electric cable undergrounding. Consequently, the assessment within this LVIA has been revised to reflect the new larger substation and the lattice work drop-down towers in place of wood pole drop-down towers. Where text is superseded it has been retained but marked with the 'strikethrough' symbol, so it is clear what has been removed. Where new text has been added this has been done in a red font so that it is readily evident. Figures 10.7-10.10 and 10.13a-b have also been updated as part of these revisions.

### 10.2 METHODOLOGY

The methodology of this LVIA follows the Guidelines for Landscape and Visual Impact Assessment (3rd Edition, 2013) (GLVIA) published by the Landscape Institute and the Institute of Environmental Management and Assessment<sup>1</sup>.

#### 10.2.1 Study Area

An approximate extent of visibility was initially determined through OS mapping, online mapping, and aerial imagery. The findings of this desktop study were later followed up and confirmed by a field study on 3<sup>rd</sup> March 2021. As a result of these initial studies a preliminary 10km LVIA Study Area was identified. The 10km distance was based on a combination of the desktop analysis and previous professional experience in relation to the distance within which significant impacts can potentially occur for a proposal of this type.

Zone of Theoretical Visibility (ZTV) mapping has been prepared to aid in the assessment process and to confirm the extent of the study area for the LVIA. The ZTVs have been generated using the digital terrain modelling (DTM) data of the existing landform. DTM data does not take cognisance of the height of intervening

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<sup>1</sup> Landscape Institute and Institute of Environment Management and Assessment, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, 2013

built form or vegetative cover and is based purely on a bare ground surface. The ZTV defines the extent from which the proposal will be theoretically visible (the extent of land/sea from which it may be possible to see any part of the proposal). It is correct in so much as it confirms where the proposal will not be visible. As the DTM used was for the existing landform it does not take account of the proposed bunds, which will further reduce actual visibility to some degree. The ZTV is used to gauge the anticipated effects of the proposal upon the wider visual amenity.

A Preliminary ZTV was generated to cover the preliminary 10km LVIA Study Area to confirm the likely extent of visibility as a result of the proposal. A draft layout of the proposals dated 1<sup>st</sup> March 2021 was used as the basis for the generation of the Preliminary ZTV.

The Preliminary ZTV indicated that the extents of potential visibility beyond 5km from the proposed development were relatively limited and broken. As such actual visibility, given intervening built forms and vegetation, will be very limited. It was therefore decided to reduce the LVIA Study Area to a 5km radius from the Site Boundary in order to ensure a focused LVIA. This LVIA Study Area is illustrated in Figure 10.3.

## 10.2.2 Planning Context

A review of policy comprising the *Clare County Development Plan 2017 - 2023 (As Varied)* has been carried out. This identifies the policies and designations of relevance to the production of an LVIA. The designations set by the *Landscape Designations* map for the adopted County Development Plan are shown in Figure 10.5.

## 10.2.3 Establishing the Baseline

The visual character and amenity of the Study Area is assessed to establish the baseline against which landscape and visual effects can be quantified. This process is informed by the ZTV and allows appropriate receptors to be identified. These receptors represent a range of views and viewer types from where the proposed development is likely to be visible. In addition, this process allows specific receptors to be identified that are particularly sensitive and accordingly, require special consideration.

### 10.2.3.1 Landscape Baseline

The landscape baseline addresses the site within its wider landscape context and describes the landscape character, condition, and value, including any landscape designations or sensitivities within the Study Area.

### 10.2.3.2 Landscape Fabric

The landscape fabric comprises the separate components that when combined form the overall landscape of the site. These components include:

- Location and Access
- Boundaries
- Landform and Hydrology
- Land Use and Land Cover

The elements that form these components are described in Section 10.4.1 of this report. The main landscape features of the site are illustrated in Figure 10.1.

### 10.2.3.3 Landscape Character

The *Landscape Character Assessment of County Clare*, carried out in 2004 by ERM Ireland Ltd, is reviewed to identify the baseline character of the site and the wider landscape. The Landscape Character Areas for the site and the Study Area are illustrated in Figure 10.4.

### 10.2.3.4 Landscape Designations

The review of the relevant planning policy identifies the designations and classifications which should be taken into account in this LVIA. A review of other relevant sources is also carried out to identify any further classifications that may be of relevance. The designations and classifications within the Study Area are mapped in Figure 10.5.

### 10.2.3.5 Visual Baseline

Visual receptors include users of public footpaths and cycle ways, users of roads and railways and views of or from within valued landscapes. Potential receptors were identified through desk study using OS mapping, aerial imagery and the ZTV. The key routes within the Study Area are mapped in Figure 10.6.

An initial list of representative viewpoint locations was prepared based on a desktop exercise. The selection of the viewpoints was based on the extent of visibility illustrated by the ZTV and the landscape and visual receptors identified within the Study Area. This initial list of viewpoint was then analysed on site to identify if actual views were feasible.

Table 10.1 below sets out the final list of the six LVIA viewpoints. Three visualisations are provided for each viewpoint illustrating the proposed development:

1. Upon completion of Phase 1 (after minimum 1 year establishment of the structure planting)
2. Upon full completion (after minimum 5 years establishment of the structure planting)
3. After minimum 15 years establishment of the structure planting (approx. 10 years after completion of the proposed development).

**Table 10.1 Agreed LVIA Viewpoints**

No.	Viewpoint Name	Representative of
1	R352 South of Site	Users of the regional road, Residential dwellings, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the South
2	West of R352-M18 roundabout	Users of the regional road, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the Southwest
3	M18 (Adjacent service track) West of Site	Users of the motorway, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the West
4	L4608 North of Site at Cappagh More	Users of the local road, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the North
5	L4608 at Ballymacahill	Users of the local road, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the northwest
6	R352 at TII Depot to west of M18	Users of the regional road, Settlement, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the Southwest

A number of secondary potential viewpoints were identified. However, as potential visibility from these locations is very limited or unlikely, it was decided to include single image views, rather than montages. Two views from the motorway are also included and as these are not safely accessible locations, images from Google Streetview have been included instead. These secondary views help to demonstrate that visibility of the proposed development will be unlikely from these locations. These secondary views are listed in the following table and included in Appendix 10.1.

**Table 10.2 Agreed Secondary Viewpoints**

No.	Viewpoint Name
A	R352 at Tullyvaghan junction
B	R352, at entrance to Rath Ban Housing Development
C	Junction of L 4608 (Ballymacahill Road) and R352, and opposite side of R352
D	Within Rath Ban Housing Development - centre section, at the eastern extreme of the development
E	Within Rath Ban Housing Development - Northern end section, at the eastern extreme of the development
F	Ballymachill Road
G	Gort Leamhain Housing Development, Eastern extreme of the development
H	Knockanean National School
I	Cappagh Beg
J	M18, at Ballymachill Road Passover
K	M18, at Rail line Passover
L	R469 (Quin Road), at Fergus River
M	N85, at Railway Line

The locations of all the viewpoints are identified on Figure 10.9.

#### 10.2.4 Nature of Receptor

The sensitivity of a receptor is defined by GLVIA3 as the combination of *...judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor*. Susceptibility is defined by GLVIA3 as *...the ability of defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences*. The baseline analysis considers the existing elements and their character, condition, and value to determine sensitivity.

A breakdown of this analysis is shown in the following table:

**Table 10.3: Landscape Sensitivity**

Sensitivity	Landscape Effects	Visual Effects
High	Landscape value recognised by existing or proposed designation. Sense of tranquillity or remoteness specifically noted in Landscape Character Assessment. High sensitivity to disturbance specifically noted in Landscape Character Assessment. The qualities for which the landscape is valued are in a good condition, with a clearly apparent distinctive character. This distinctive character is susceptible to relatively small changes.	Viewers' attention very likely to be focused on landscape e.g., users of strategic recreational footpaths and cycle ways, and people experiencing views from important landscape features of physical, cultural, or historic interest, beauty spots and picnic areas. Residents experiencing views from dwellings.

Medium	Landscape value is recognised locally, but not designated; the landscape is relatively intact, with a distinctive character; and the landscape is reasonably tolerant of change.	Viewers' attention may be focused on landscape, such as road or rail users, users of secondary footpaths, and people engaged in outdoor sport or recreation (other than appreciation of the landscape) e.g., fishing, water sports, golf
Low	Landscape value is low (e.g., industrial landscapes) with no designations; landscape integrity is low, with a landscape in poor condition and a degraded character; and the landscape has the capacity to potentially accommodate significant change.	Viewers' attention not focused on landscape e.g., workers or people engaged in outdoor recreation whose attention may be focussed on their activity rather than the landscape. Views from heavily industrialised areas.

### 10.2.5 Nature of Effects

This relates to the effect of the proposal on each landscape or visual receptor and considers the magnitude of change as a result of the proposal. The effect on each receptor will be assessed in terms of its size and scale, the geographical extent of the area influenced, and its duration and reversibility. Effects can be negative (adverse), positive (beneficial) or neutral in quality. Effects in this Assessment are considered to be negative (adverse) unless otherwise stated. Effects can also vary in duration or even be reversible. Effects in this assessment are considered to be 'long term' unless otherwise stated.

In accordance with GLVIA3, informed professional judgement is made to determine the magnitude of change. In order to maintain a consistency and transparency to the assessment process, the following table provides a guide to the determination levels of magnitude of change.

**Table 10.4 Magnitude of Change**

Magnitude of Change	Landscape	Visual
High	Total loss or considerable alteration / interruption of key elements, features or characteristics of the landscape character / designation resulting in a fundamental change to baseline conditions.	Dominant / Prominent Highly noticeable change, affecting most key characteristics and dominating the experience of the landscape. The introduction of incongruous development. A large proportion of the view is affected.
Medium	Partial loss or alteration to one or more key elements, features or characteristics of the baseline, resulting in localised change to the landscape character and composition within a broader unaltered context.	Conspicuous Noticeable, partial change to a proportion of the landscape affecting some key characteristics and the experience of the landscape. The introduction of some uncharacteristic elements. Part of the view is affected.
Low	Minor loss or alteration to one or more key elements, features or characteristics of the baseline landscape so that the change arising from the loss / alteration would be discernible, but the underlying landscape character and composition would be similar to baseline.	Apparent Apparent minor change, affecting some characteristics and the experience of the landscape to an extent. The introduction of elements that are not uncharacteristic. A small proportion of the view is affected.

Negligible / No Change	Very limited or imperceptible loss or alteration to one or more key elements, features or characteristics of the baseline. The change will be barely distinguishable. No aspect of the proposed development will be discernible. No aspect of the proposed development will be discernible.	Inconspicuous Little perceptible change. The proposal will result in no appreciable change to the view. May go unnoticed.
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### 10.2.6 Level of Effect and Significance

The likely level of the landscape and visual effects are assessed through a combination of the sensitivity to change and the magnitude of change. The diagram below defines categories for likely levels of effect. However, formulaic conclusions cannot be drawn directly from the categories for the levels of effect of effect and the significance. Conclusions are therefore qualified by the professional judgement of the landscape architect.

**Table 10.5: Level of Effect**

Significance of Effect	Magnitude of change			
	High	Medium	Low	Negligible / No Change
Sensitivity				
High	Major			
Medium		Moderate		
Low			Minor	
				Negligible / No Change

In line with the recommendations in GLVIA3 the above matrix is not used as a prescriptive tool or arithmetically, and the methodology and analysis of potential effects at any particular location must allow for the exercise of professional judgement. Descriptions of effects, especially those considered significant in EIA terms, are described in narrative text.

In accordance with the EPA guidelines the Significance is determined as per Table 10.6 below.

**Table 10.6 Level of Significance**

Term	Description
Imperceptible	An effect capable of measurement but without noticeable consequences
Not significant	An effect which causes noticeable changes in the character of the environment but without noticeable consequences
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging trends
Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
Profound	An impact which obliterates sensitive characteristics

### 10.2.7 Methodology for the Photomontages

The photomontages model representations of the proposal. The digital modelling used for the photomontages is verifiable. The photomontages for this assessment were prepared by Innovision, Sligo Airport Business Park, Strandhill, Co. Sligo. Where applicable, Innovision adheres to the guidelines as set out by the British Landscape Institute Technical Guidance Note 06/19 - "*Visual Representation of Development Proposals*". Using professional cameras and tripod set-up, and with a selection of lenses, Innovision will carry out the field work at the best available weather opportunity. All necessary additional information is captured on-site including camera position, date and time, as well as locations of any key objects which can aid accurate placement of the proposal. The above information is recorded using mapping-grade professional GPS equipment.

Once the field work has been carried out and photography processed, the proposed development will be "placed" into the existing photography using professional GIS and 3D modelling software. Once placement has been achieved, a photo-realistic render is output depicting what the proposed development will look like if built. At this point, any landscape mitigation can be added to the image if necessary. The resulting output is a highly accurate, verifiable photomontage. This methodology and modelling process renders an accurate representation of the proposal.

### 10.2.8 Approach to Mitigation

Mitigation measures are designed to avoid, reduce, or offset adverse effects arising from the proposal. By taking a flexible approach to design and building a degree of mitigation into the design through an iterative process from the outset, the overall scale of adverse effects can be reduced, and optimum environmental fit of the proposal can be achieved.

Mitigation falls into two main categories: primary and secondary.

Primary mitigation is comprised of fundamental measures undertaken as part of the iterative design process. This includes aspects such as the spatial organisation of the site, used to avoid or reduce adverse effects on either the landscape or visual resource. These are based on principles of good design and also emerge in response to technical assessment. This is part of an iterative design process and seeks to develop the site in the most effective way possible, taking account of all relevant considerations. Section 3.6.3 *Alternative Layouts/Designs* of Chapter 3 sets out the alternative building layouts that were considered and the reasons for the selection of the chosen option.

Secondary mitigation measures are designed to address any remaining adverse effects of the final development proposals following primary mitigation. These could include mounding or planted buffer zones for screening effect. However, there may also be no requirement for secondary mitigation measures if both the design approach and primary mitigation measures have already removed any significant adverse effects and the optimal environmental fit has been achieved.

Residual effects are those remaining following primary and secondary mitigation.

Screening of a development is not always the best or most appropriate option. In many circumstances it is better to provide a framework and principles to create an appropriate balance of built development and open space. This improved balance helps integrate with existing patterns of development within the surrounding context.

The proposal can therefore contribute positively to the landscape and visual character of the area.

For the purposes of this project, mitigation was embedded in the design of the proposal. As such there is no pre-mitigation scenario to assess. Therefore, as the mitigations measures were inherent to the design of the proposal, and not part of a separate design process, the LVIA assess the residual effects directly.

## 10.3 PLANNING CONTEXT

### 10.3.1 Introduction

The site is zoned and designated for the use and development of data centres and power generating infrastructure in the *Variation No.1* to the Clare County Development Plan 2017-2023. This variation to the Development Plan was adopted on 11th March 2019.

The variation provides the following summary of the changes:

**(1) Volume 1 - Written Statement of the Clare County Development Plan 2017-2023:**

- *To incorporate the use and development of data centres and power generating infrastructure into the enterprise zoning definition, the following additional text has been added into the zoning objective for enterprise as set out in Chapter 19*

*Lands zoned for 'enterprise' shall be taken to include the use and development of land for high end research and development, business science and technology-based industry, financial services, call centres/telemarketing, software development, data centres, enterprise and incubator units, small/medium manufacturing or corporate office in high quality campus/park type development.*

*It is intended that such developments will have high quality architectural design and landscaping. This zoning allows for 'walk to' support facilities such as canteen, restaurant or crèche services which are integrated into employment units and are of a nature and scale to serve the needs of employees on the campus.*

*This zoning also allows for associated power generating infrastructure as well as transportation infrastructure such as car and bicycle parking and bus stop shelters. This zoning excludes general retail, retail park outlets, motor sales/servicing activities and heavy industrial undertakings.*

*Lands zoned for 'enterprise' in large villages and small villages shall be taken to include the use and development of land for small-scale business and enterprise development such as incubator units, craft centres/workshops, small-scale manufacturing, local digital/technology business etc. Retail use on these sites shall only be considered where it is ancillary to the main activity taking place.*

*Enterprise developments in large villages and small villages must have a high standard of architecture and landscaping and must be relative and appropriate to their scale, size and character.*

### 10.3.2 Planning Policy

#### 10.3.2.1 Variation No.1 to the Clare County Development Plan 2017-2023

The variation sets out the following in relation to planning policy for the zoned lands:



### **Site ENT3 Toureen**

*Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Ireland's Enterprise Strategy. Having regard to the Government Statement on The Role of Data Centres in Ireland, which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Enterprise (45ha) and Buffer (10ha) with a specific use for a Data Centre Campus due to; its proximity to the electricity sub-station; its proximity to the M18 motorway and adjoining regional road network; the location of the site relative to the Gas Pipeline; the availability of Dark Fibre and the proximity of the site to Shannon International Airport and Ennis Town.*

*This site is zoned to accommodate a Data Centre campus which consists of one or more than one structure, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure. Development proposals for this site shall include the following;*

- A Traffic Management Plan for the construction and operation phase of development.*
- Any proposed development shall adopt sustainable practice in terms of building design, materials, construction and operation.*
- A Hydrological Assessment to determine the effects of the development on groundwaters and groundwater quality shall be submitted with development proposals for the site.*
- At the southern boundary of the site is a mesotrophic lake, which will require protection through the provision of a buffer incorporating the dense clump of trees to the west of the lake and shall be included in an overall Landscape Management Plan for the site.*
- A Construction and Environmental Management Plan shall be submitted as part of development proposals on site. This shall include a Flood Risk Assessment, a Surface Water Management Plan for the construction and operation phase of the development, a Pollution Prevention Plan and shall incorporate principles of Sustainable Urban Drainage Systems. During the construction phase of developments on site where applicable all relevant best practice guidelines shall be adhered to.*
- An Air Quality Impact Assessment with reference to potential impacts on European Sites and the surrounding area within the zone of influence of the proposed development shall be submitted, this shall inform an Appropriate Assessment Screening report and/or Natura Impact Report.*
- The hedgerows and scrub area on this site provide a potential foraging and commuting area for wildlife including Lesser Horseshoe bats. Future development proposals must be informed by a series of bat surveys to record the known usage of the site by in particular Lesser Horseshoe bats and ensure that there is no net loss of supporting habitat. The surveys must include a full light spill modelling study. Any habitat loss must be offset by additional landscape planting to ensure connectivity across the landscape.*
- Impacts of development of the site on conservation interest bird species of surrounding SPAs and breeding birds should be avoided, through protection and retention of breeding bird habitat in accordance with the Wildlife Acts. Development proposals for the site shall be accompanied by bird surveys (to include a winter bird survey) to assess the use of the site by bird species and where disturbance and/or displacement are predicted appropriate mitigation*

*measures shall be identified. Hedgerow and treeline pruning or removal shall be conducted outside the breeding bird season (March 01st through August 31st).*

- *An Ecological Impact Assessment (designed by an appropriately qualified landscape architect and ecologist) and a Habitat Survey shall form part of development proposals for the site.*
- *A Landscape and Biodiversity Management plan shall be submitted to provide landscape, visual and environmental screening and enhancement measures through planting and design.*
- *An Invasive Species Survey and Management plan (if required) shall accompany development proposals for the site.*
- *Development proposals shall also include an Otter Use Survey of the site, and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified.*
- *A buffer will be required to be provided with regard to the location of a National Monument (CL-034-007) on site.*
- *Adequate wastewater treatment and disposal measures shall accompany development proposals for this site to ensure that there is no impact to water quality in the area.*

Of particular note to the preparation of this LVIA are the following elements:

- Provision of a buffer around the mesotrophic lake at the southern boundary of the site;
- Provision of a Landscape and Biodiversity Management plan to provide landscape, visual and environmental screening and enhancement measures through planting and design; and
- Provision of a buffer to the Recorded Monument (CL-034-007) (This is mistakenly referred to as a 'National Monument' in the Variation).

#### 10.3.2.2 Clare County Development Plan 2017 - 2023 (As Varied)

There are a range of development management policies that are of relevance in the determination of a planning application for the proposal. These include Development Plan Objectives, setting out design requirements, and those policies related to safeguarding and improving the environment.

The following *Development Plan Objectives* are most relevant to the appraisal of landscape and visual effects:

##### **CDP13.3 Development Plan Objective: Western Corridor Working Landscape**

The Development Plan designates the landscape within which the site is located as a *Working Landscape*. These are ...*areas within Settled Landscapes that contain pockets of concentrated development or a unique natural resource*. The following *Development Plan Objective* is of relevance to development within the area of this landscape designation:

*It is an objective of the Development Plan:*

- A. To permit development in these areas that will sustain economic activity, and enhance social well-being and quality of life - subject to conformity with all other relevant provisions of the Plan and the availability and protection of resources;
- B. That selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design, are directed towards minimising visual impact;
- C. That particular regard should be given to avoiding intrusions on scenic routes and on ridges or shorelines. Developments in these areas will be required to demonstrate:
  - i. That the site has been selected to avoid visually prominent locations;
  - ii. That site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, public amenities and roads;
  - iii. That design for buildings and structures reduce visual impact through careful choice of form, finishes and colours and that any site works seek to reduce visual impact of the development.

#### **CDP14.17 Development Plan Objective: Woodlands, Trees and Hedgerows**

*It is an objective of Clare County Council:*

- A. To preserve and conserve individual or groups of trees identified in Volume 2 of this Plan as 'Trees for Preservation' which will enhance the character and appearance of an area;
- B. To carry out tree survey work during the lifetime of this Plan to identify future trees of importance in the County and facilitate their future protection;
- C. To protect individual or groups of trees within the Plan area which are important for environmental, recreational, historical, biodiversity and/or aesthetic reasons or by reason of contribution to sense of place, including groups of trees which correspond with protected habitats, or which support protected species, under the Habitats Directive;
- D. To work with landowners, local communities and other relevant groups to promote the retention and conservation of existing trees and hedgerows and encourage development proposals that enhance the landscape through positive management and additional planting/ sensitive replanting of native tree species;
- E. To protect woodlands and hedgerows from damage and/or degradation and to prevent disruption of the connectivity of woodlands and hedgerows of the County;
- F. To ensure, where required, applications for development include proposals for planting / leave a suitable ecological buffer zone, between the development works and areas/ features of ecological importance;
- G. Where hedgerows are required to be removed in the interests of traffic safety or where breaches to hedgerows occur due to river drainage/maintenance works and flood repair, to require the applicant/developer to replace the hedgerows with suitable native species to the satisfaction of the Council;
- H. To require each large green space in new residential developments to have at least one native oak tree, or other naturalised tree species of similar stature and lifespan, integrated into the agreed planting/ landscaping scheme;

- I. To require, where possible, that all trees felled as a result of development proposals be replaced at a minimum ratio of 10 new native species per 1 tree felled.*

#### **CDP14.27 Development Plan Objective: Green Infrastructure**

*It is an objective of Clare County Council:*

- A. To create an integrated and coherent green infrastructure network to enhance biodiversity and quality of life, provide sustainable water management and a green setting for urban areas;*
- B. To facilitate the on-going development and improvement of green infrastructure in the Plan area, including green networks, green amenities and linked green corridors which ensure the provision of recreational amenities, natural areas for the growth of wildlife and biodiversity, and a network of infrastructure which results in a better quality of life for visitors and inhabitants alike;*
- C. To implement the adopted green infrastructure plan for Shannon town and its environs;*
- D. To prepare green infrastructure plans for Ennis and Kilrush during the lifetime of this Plan;*
- E. To work with community groups to access funding for appropriate and beneficial green infrastructure projects including parks, woodlands, sports facilities, green areas, playground/play facilities, river corridors, walkways, cemeteries, churchyards, paths, seating and amenities;*
- F. To require the preparation and assessment of all planning applications associated with amenity and/or recreational uses under the heading of green infrastructure to have regard to the information, data and requirements of the Natura Impact Report, SEA Environmental Report and Strategic Flood Risk Assessment Report contained in Volume 10 of this Development Plan;*
- G. To require projects to be fully informed by ecological and environmental constraints at the earliest stage of project planning and any necessary assessment to be undertaken, including assessments of disturbance to species, where required;*
- H. To ensure compliance with all relevant legislation as outlined in Objective CDP2.1.*

#### **10.3.3 Planning Context Summary**

Compliance with the above policies needs to be assessed at the time of determination of the Application. However, the development principles and criteria within these policies, are of relevance in assessing the landscape and visual impact of the proposal.

The level of design detail presented in this Application reflects the status of the proposal. It is adequate to assess the landscape and visual impacts arising from the proposal.

The development process, particularly in relation to greenfield development, will inevitably result in a change to the site resulting from the transformation in land use, with a consequential alteration to the character of the site.

Evaluating the proposal in terms of how well green infrastructure and green networks are incorporated, allows an assessment to be made of how appropriate the proposed design solution is within its landscape and visual context.

The consideration of green infrastructure considers the key elements of landscape setting; habitat and biodiversity; flooding and drainage; and contribution to the existing green network.

## 10.4 LANDSCAPE BASELINE

### 10.4.1 Landscape Fabric of the Site

The landscape fabric comprises the physical elements which make up the landscape, such as location, landform, and land cover. These physical elements are described below. The existing landscape context of the site is shown in Figure 10.1.

#### 10.4.1.1 Location

The site is located to the northeast of the settlement of Ennis, on the opposite side of the M18 motorway. The R352, Tulla Road abounds the southern boundary of the site. An electricity substation is located to the southwest of the site, at the junction between the M18 and the R352 (M18, Junction 13). Pastoral farmland generally abounds the boundary to the north, with woodland to the east.

The main existing access to the site is a track that enters the site off the R352 Tulla Road along the eastern section of the southern boundary. This track provides access to a couple of houses and a farmyard within the site as well as a second farmyard beyond the site to the north.

A second access is located off the R352 to the south of Tooreen Lough. This entrance provides access to two further houses and associated farmyards. A further third access is located in the southwest of the site and provides access to the more southern of the two motorway SuDS ponds.

#### 10.4.1.2 Landform and Hydrology

The landform is undulating in nature as a result of the drumlins that cover the site. Over and above the drumlins the landform generally falls from the east to the west. The most elevated location is the summit of a larger hill in the southeast of the site, at an elevation of approximately 47.5m AOD. The lowest point, in the west of the site, is adjacent to the motorway SuDS ponds at an elevation of approximately 7m AOD.

A number of small seasonal waterbodies are located towards the northern and eastern boundaries with the larger permanent mesotrophic lake of Tooreen Lough located towards the southern boundary. A development exclusion buffer is required around Tooreen Lough incorporating the dense clump of trees to the west of the lake.

A small watercourse runs along the northern half of the western site boundary before heading westwards through a culvert under the M18 motorway. The watercourse passes between two motorway SuDS ponds before passing under the motorway. These SuDS ponds feed into the watercourse. The southern of the two SuDS ponds is located within the site boundary.

### 10.4.1.3 Land Use and Land Cover

The existing land use of the site essentially comprises average quality drumlin farmland, characterised by the undulating landform associated with the drumlins. This rolling landform has also resulted in an irregular agricultural field pattern defined by mature hedgerows. As this is a farming landscape, the well-defined hedgerow system is one of its main characteristics.

To the east and west, larger blocks of woodland form bookends to the site. The western woodland and surrounding area extending to 10ha has been zoned as Buffer Space by the Council in the Variation.

The landscape structure within the site is complemented by a wooded ring fort in the north of the site which is recorded as a Recorded Monument (CL-034-007). A development exclusion buffer of 30m is required by the Council from the outer edge of the ringfort.

Several buildings are located within the site, including three houses and associated farmyards and farm buildings as well as fourth house with an associated large shed. A further farmyard, and associated buildings, is located just outside the site to the north. Access to this farmyard is through the site, using the access road to the house with the shed. Beyond the house the access road continues outside the site following the site boundary along the northern edge for a stretch before reaching the farm buildings.

The wider landscape adjoining the site to the north, east and south is namely pastoral farmland with some blocks of woodland and forestry. The R352 Tulla Road also passes along the southern boundary. To the west the site is cut off from the surrounding landscape by the M18 motorway and the associated landforms. Beyond the motorway is some pastoral farmland before transitioning into the built forms of the settlement of Ennis that extends out along the northern side of the Tulla Road.

A number of three cable electricity lines pass through the site, mounted on both large twin wood poles and lattice work pylons.

The following factors have been taken into determination in considering the sensitivity to change of the landscape fabric of the site:

- The well-established hedgerow network, the large woodland areas, and the waterbodies such as Tooreen Lough,
- The presence of the Recorded Monument within the site,
- The generally pastoral grassland nature of the remainder of the site,
- The four houses and three farmyards located within the site,
- The presence of electrical infrastructure passing through the site, and
- The undulating nature of the site.

The sensitivity to change of the landscape fabric of the site is therefore considered to be **Medium**, as the landscape is relatively intact with a distinct character. There are high quality parts of the landscape within the site, but there are also areas of existing development and high voltage electricity lines crossing the site.

## 10.4.2 Landscape Character

### 10.4.2.1 Landscape Character Assessment of County Clare

The *Landscape Character Assessment of County Clare* (Character Assessment) was carried out in 2004 by ERM Ireland Ltd<sup>2</sup>. This Character Assessment identified the area within which the site is located as being located the *Ennis Drumlin Farmland Landscape Character Area* (LCA). The 5km Study Area is also covered by a number of other LCAs, the locations of which are all visible on Figure 10.4. However, as identified on the ZTVs the Tulla Drumlin Farmland LCA, will experience very little theoretical visibility of the proposed development. As such, this LCA is highly unlikely to experience levels of significance over and above Slight as result of the proposal. Furthermore, the Slieve Aughty Uplands LCA, as identified by the ZTV, will experience very little theoretical visibility at almost 5km away, resulting in a likely level of significance of Not Significant or lower. Therefore, in the interests of providing a focused assessment the Tulla Drumlin Farmland LCA and the Slieve Aughty Uplands LCA are not considered further in this LVIA.

### 10.4.2.2 Ennis Drumlin Farmland LCA

The *Ennis Drumlin Farmland LCA* radiates out from the settlement of Ennis at its centre. The LCA is composed of numerous drumlins orientated in the direction of the former ice flow. The predominant landcover is agricultural grassland with a number of broadleaf forests and transitional woodland and scrub.

The key characteristics of the *Ennis Drumlin Farmland LCA* are:

- *Settlement of Ennis is the focal point of the area where both historical and modern development is apparent.*
- *Ennis situated within drumlin farmland, drumlins oriented northeast to southwest punctuated by small loughs.*
- *Area can be disorientating due to many small winding roads and limited views.*
- *Communication centre for the region with Ennis as county town, with Fergus River running through the town.*

The condition of this LCA is variable, poor development has degraded landscape quality in some areas. Linear development along the roads near to Ennis frequently detracts from the landscape and reflects the housing pressures within this area. Large scale electrical infrastructure is also visible along the skyline northeast of Ennis. However, the more remote drumlin hinterland, away from the main roads, remains quite rural and intact. The County Development Plan designates the banks of the Fergus as a feature of high amenity.

The sensitivity to change of the *Ennis Drumlin Farmland LCA* is considered to be **Medium**. This is due to the contrast between the more developed areas and the more intact hinterlands and the presence of a locally designated landscape.

### 10.4.2.3 Fergus Loughlands LCA

This LCA is highly diverse and rich in terms of ecology with numerous loughs and woodlands.

<sup>2</sup> <https://www.clarecoco.ie/services/planning/publications/landscape-character-assessment-of-co-clare-2004-26526.pdf>

The key characteristics of the *Fergus Loughlands LCA* are:

- *Undulating lowland mosaic of loughs, farmland and wooded limestone pavements.*
- *Loughs and rivers are oriented predominantly northeast to southwest reflecting historical glacial movements.*
- *Characteristic lowland limestone pavement in parts are vegetated with hazel scrub and is of high ecological value, e.g. Dromore Lough nature reserve.*
- *Important historical features include Dysert O’Dea.*
- *Area is largely rural in character dissected by quiet minor roads.*
- *Scattered settlement aside from the villages of Crusheen and Ruan.*

The Character Assessment describes the *Fergus Loughlands LCA* as a ...*highly attractive and well-maintained landscape. The natural vegetation affords significant screening and can create an intimate landscape in many areas. This contrasts with the more open exposed character around larger loughs and limestone pavement. It is a highly distinctive landscape with the variety of landscape forms, specifically loughs, low drumlins and limestone pavement combining to create an intact landscape area.*

The sensitivity to change of the *Fergus Loughlands LCA* is considered to be **High**. This is due to the high quality of the landscape. The character assessment also describes it as being ...*very sensitive to large scale and unsympathetic development and changes.*

#### 10.4.2.4 Fergus Estuary LCA

This LCA is a low lying, distinctive, estuarine landscape situated on either side of the Fergus Estuary.

The key characteristics of the *Fergus Estuary LCA* are:

- *Flat estuarine farmland divided by drainage ditches, post and wire fences and degraded thorny hedgerows.*
- *Open expansive views are afforded across the estuary to the River Shannon, though these are limited in places due to flood defence embankments.*
- *Settlement is sparse reflecting the areas past tendency to flood, some settlement on higher ground. On eastern boundary, increased settlement due to proximity to Shannon Airport and town.*
- *Scattered holy wells with a number of graveyards and standing stones.*
- *Newmarket-on-Fergus and Killadysert are both designated ACA (Architectural Conservation Area).*

The Character Assessment describes the *Fergus Estuary LCA* as being ...*generally of variable condition. The degradation of hedgerows and low quality barbed wire and post and wire fencing gives the hinterland a slightly degraded quality. Increased residential development on the eastern side can be highly visible and newer houses are not always appropriate to this estuarine setting. On the western side of the estuary, it is generally undeveloped with a strong remote sense. This is punctuated by the villages of Killadysert and Ballynacally.*

The sensitivity to change of the *Fergus Estuary LCA* is considered to be **Medium**. This is due to the variable condition of the landscape as described by the Character Assessment.



#### 10.4.2.5 Local Landscape Character

The undulating drumlin farmland nature of the site and surrounding area is in keeping with the *Ennis Drumlin Farmland LCA* key characteristics for the area.

The local landscape character of the site and surrounding area is influenced by its rural context on the edge of the settlement of Ennis and adjacent to the M18 motorway and a substation. The character is strongly influenced by the industrial infrastructure, such as the pylons, associated with the substation. The motorway along the western boundary, as well as the road bounding the southern boundary of the site further diminish from the rural character of the area.

Established hedgerows from a well-defined field pattern which is influenced by the rolling landform, whilst blocks of woodland and scrub are interspersed across the landscape. Three farmyards are located within the site area whilst a fourth is located just to the north of the site.

The judgement of sensitivity to change is influenced by the following factors:

- the semi-rural / suburban context,
- the existing water features and the drumlin style landscape,
- the farmyards located within the landscape,
- the manmade infrastructure such as the surrounding road network, the substation, and the pylon lines,
- the hedgerows forming the agricultural field pattern, and
- the large woodlands.

The sensitivity to change of the local landscape character to the type of development proposed is therefore considered to be **Medium**. Although there are elements of the landscape that are of good quality, the proximity to the settlement and key infrastructure take away from this.

### 10.4.3 **Landscape Designations and Classifications**

#### 10.4.3.1 Living Landscapes - Working Landscapes' Designation

The Clare County Development Plan states that ... *County Clare comprises a number of areas that have similar characteristics for which similar planning policies are applicable*. As such it divides the county into three different landscape types:

- I. Settled landscapes – areas where people live and work;*
- II. Working Landscapes – intensively settled and developed areas within Settled Landscapes or areas with a unique natural resource;*
- III. Heritage Landscapes – areas where natural and cultural heritage are given priority and where development is not precluded but happens more slowly and carefully.*

The site is located within the Western Corridor Working Landscape designation as illustrated on Figure 10.5. The County Development Plan provides the following description of the Western Corridor Working Landscape:

*This part of the County contains the highest concentrations of population and employment and the strongest transport links and connectivity. It includes the Linked Gateway of Shannon and the County Town/Hub Town of Ennis. It is the economic driver of County Clare and an important area of the Mid-West Region.*

The County Development Plan Objective CPD13.4, as set out in section 10.3.2.2 of this report, relates to this designation.

The sensitivity to change of the Western Corridor Working Landscape to the type of development proposed is considered to be **Low** due to the nature of this designated area.

#### 10.4.3.2 Buffer Space Woodland

The Clare County Council's Zoning Map PLP-18-0001-2 (12/03/2019) designates two areas of woodland within the site as 'Buffer Space'. The extents of these Buffer Spaces is illustrated in Figure 10.1. These areas have been considered as part of the design and have been kept free of development. As the extents of these Buffer Spaces is not altered the effect upon them is not assessed further.

#### 10.4.3.3 Natural Heritage Areas

There are no *Natural Heritage Areas* (NHA) located within the site or within the 5km LVIA Study Area.

#### 10.4.3.4 Proposed Natural Heritage Areas

There are no *proposed Natural Heritage Areas* (pNHA) located within the site. There are a number of blocks of pNHAs located within the wider Study Area. The proposal will not impact upon these pNHAs due to their distance from the site at over 1km away. Therefore, these are not considered further in this LVIA.

#### 10.4.3.5 Ancient Woodland

There are no areas of Ancient Woodland located within the site or within the 5km LVIA Study Area.

#### 10.4.3.6 Protected Landscapes

There are no other Protected Landscapes of relevance within the LVIA Study Area.

### 10.5 VISUAL BASELINE

#### 10.5.1 Roads

The M18 motorway passes north to south through the LVIA Study Area. There are also a number of national, regional, and local class roads within the LVIA Study Area. These are shown in Figure 10.6 *Key Routes*.

The sensitivity to change of roads is considered to be **Medium** (in accordance with the methodology set out in Section 10.1).

### 10.5.2 Railway Lines

The *Limerick to Galway Railway Line* runs roughly south to north through the LVIA Study Area. This is shown on Figure 10.6.

The sensitivity to change of railway lines is considered to be **Medium** (in accordance with the methodology set out in Section 10.2).

### 10.5.3 Scenic Routes and Protected Views or Prospects

County Clare contains a number of views and prospects, many of which are located along Scenic Routes. These Scenic Routes are designated within the Clare County Development Plan. However, there are no designated scenic routes located within the LVIA Study Area.

### 10.5.4 Viewpoints

Six representative viewpoints were identified. The locations of the ten representative viewpoints are shown in Figure 10.9 *Zone of Theoretical Visibility with Viewpoint Locations*. The sensitivity to change of each viewpoint is summarised in Table 10.7 *Summary of Viewpoint Sensitivity* below and the existing views are described in Table 10.8 *Representative Viewpoints – Baseline*.

A field survey was carried out on 3<sup>rd</sup> March 2021 and again on 15<sup>th</sup> April 2021. The purpose was as follows:

- to walk over and understand the components, characteristics and context of the site;
- appraise the landscape character and visual amenity of the Study Area;
- consider viewpoint locations; and
- to confirm the theoretical visibility and confirm likely actual visibility of the proposal.

The viewpoints are illustrated in Figures 10.11a to 10.16b. Table 10.7 lists the selected representative viewpoints used to inform the assessment of the landscape and visual impacts of the proposal:

**Table 10.7 Summary of Viewpoint Sensitivity**

VP	Name	Representative of	Sensitivity
1	R352 South of Site	Users of the regional road, Residential dwellings, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the South	High
2	West of R352-M18 roundabout	Users of the regional road, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the Southwest	Medium
3	M18 (Adjacent service track) West of Site	Users of the motorway, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the West	Medium
4	L4608 North of Site at Cappagh More	Users of the local road, Residential dwellings, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the North	High

5	L4608 at Ballymacahill	Users of the local road, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the Northwest	High
6	R352 at TII Depot to west of M18	Users of the regional road, Settlement, 'Ennis Drumlin Farmland' LCA, 'Working Landscape' designation, Views from the Southwest	Medium

Table 10.8 describes the context of the existing views and justifies the sensitivity assigned to each of the representative viewpoints.

**Table 10.8 Representative Viewpoints – Baseline**

Viewpoint	Sensitivity
Viewpoint 1 R352 South of Site (Figure 10.11a)	<p>This view looks northwards across the R352, Tulla Road, towards the site form the entrance to a property on the southern side of the road. The farm buildings located behind the two properties on the other side of the road are visible on the left hand (west) edge of the view. The two properties themselves are just out of view.</p> <p>The western hedgerow of the existing main access to the site is visible in the right-hand edge of the view. The properties this access services are just visible behind intervening vegetation in the middle to far distance.</p> <p>This view helps to demonstrate how the existing hedgerows and rolling landform absorb the existing built elements within the landscape. The farm buildings in the north of the site, like the two properties are just visible behind intervening vegetation. This view also demonstrates how the landscape slopes from the high ground in the right (east) to the lower ground in the left of the view (west).</p> <p>Three separate sets of twin pole electricity lines are visible running across the view at varying distances.</p> <p>The sensitivity to change is considered to be <b>High</b>, as per the methodology, as the view is representative of residents.</p>
Viewpoint 2 West of R352-M18 roundabout (Figure 10.12a)	<p>This view looks northeast across the roundabout for the Junction 13 slip road of the M18 southbound. It is representative of views that would be experienced by road users on the R352, Tulla Road, heading east as they approach the roundabout. The road infrastructure including all the signage makes up much of the foreground of the view.</p> <p>Mature hedgerows beyond the roundabout screen much of the wider landscape from view. With just the hill in the southeast of the site rising up above the vegetation.</p> <p>Pylons and twin wood pole electricity lines are visible scattered across the view as they approach the electricity substation which is just out of view to the left (northwest).</p> <p>The sensitivity to change is considered to be <b>Medium</b>, as per the methodology, as the view is representative of road users.</p>
Viewpoint 3 M18 (Adjacent service track) West of Site (Figure 10.13a)	<p>This view is representative of users of the M18 motorway heading southbound. The view is taken from the service track on the eastern edge of the motorway at a point where it is at a similar elevation to that of the motorway and where views are available through the adjacent hedgerow.</p> <p>The view looks southeast across rolling pastoral farmland. Visible beyond the fields is the woodland in the west of the site, designated 'Buffer Space' on Clare County Council's Zoning Map PLP-18-0001-2 (12/03/2019). The lands of the site are hidden from view behind this block of woodland.</p>

	<p>Three sets of twin wood pole supports for electricity lines are visible in the centre of the view at varying distances.</p> <p>The sensitivity to change is considered to be <b>Medium</b>, as per the methodology, as the view is representative of road users.</p>
Viewpoint 4 L4608 North of Site at Cappagh More (Figure 10.14a)	<p>This view looks south towards the site from a field gate access on the L4608. It looks out across a rolling landscape covered by a mix of pastoral farmland and woodland. Hedgerows tend to follow the ridgelines shaping the horizon.</p> <p>The roof of an existing farm building is just visible in the distance to the left of centre of the view. A twin wood pole electricity line is visible running through the view with poles and pylons of other lines also visible in the distance.</p> <p>The sensitivity to change is considered to be <b>High</b>, as per the methodology, as the view is representative of residents of the properties on the northern side of the L4608.</p>
Viewpoint 5 L4608 at Ballymacahill (Figure 10.15a)	<p>This view looks southeast towards the site from a field gate access on the L4608 at Ballymacahill. The foreground is largely occupied by a pastoral field, whilst woodland occupies much of the far distance.</p> <p>Two twin wood pole electricity lines are visible passing through the view whilst the electricity substation to the southwest of the site is also just visible in the distance above the right-hand wall in the foreground.</p> <p>The sensitivity to change is considered to be <b>High</b> as per the methodology as the view is representative of a residential dwelling as well as users of the L4608. This view was also chosen to demonstrate the type of view from the eastern edge of the settlement of Ennis as there were no reasonably open views available from publicly accessible areas.</p>
Viewpoint 6 R352 at TII Depot to west of M18 (Figure 10.16a)	<p>This view looks eastwards from the R352, close to the entrance to the TII depot, on the eastern edge of the settlement of Ennis. It looks along the road to the roundabout for the Junction 13 slip road of the M18 northbound. The rising form of the road up to the motorway overpass foreshortens the overall view.</p> <p>A mast associated with electricity substation is clearly visible beyond the roundabout whilst the tops of pylons, also associated with the substation, are just visible on the horizon.</p> <p>The sensitivity to change is considered to be <b>Medium</b>, as per the methodology, as the view is representative of users of the R352.</p>

## 10.6 DESCRIPTION OF PROPOSAL

The proposal is illustrated in Figure 10.7 Proposed Development. It is described in detail in Chapter 2 of this EIAR, and as such the description is not repeated here. In summary the key components of the proposal in relation to the preparation of a Landscape and Visual Impact Assessment are as follows;

- 6 no. two storey data centre buildings, each measuring 86x105m by 18m high, accompanied by 84 no. back-up generators with associated stacks of 8m high;
- An Energy Centre on a plot measuring 110x100m with buildings of 12m high and flues of 25m high;

- An Above Ground Installation (AGI) for a gas supply;
- An Electrical Substation Compound measuring c. 15m high;
- A two storey Vertical Farm Building measuring c. 50x50m by 12m high;
- Undergrounding of two of the existing overhead 110kV circuits and associated drop-down lattice work pylons; and
- Associated landscaping, including bunds, woodlands, hedgerows and meadows.

The proposed development includes the removal of 30 trees, approximately 2,715 linear metres of hedgerow and approximately 1,525m<sup>2</sup> of scrub/woodlands. However, the proposed landscape proposals include for the introduction of 57 new specimen trees, approximately 4,860 linear metres of hedgerow and approximately 58,565m<sup>2</sup> of woodlands. This greatly increases the hedgerow and woodland extents onsite, over and above what will be removed.

This additional structure planting (hedgerows and woodlands) strengthens the landscape framework and habitat connectivity of the site as well as providing an aesthetic setting to the built form and screening it from view from the wider landscape. Approximately 54,810m<sup>2</sup> of land will also be turned into meadow grasslands, thereby improving the biodiversity of the existing grasslands.

As set out in the Landscape Design Strategy report, accompanying this EIAR as part of the planning application, perimeter vegetation for the most part has been retained. Woodland belts of approximately 30m depth are proposed around the edges of the site where woodlands do not exist. In some sections in the north and south of the site, these woodland belts are located on top of landscape berms, increasing the level of screening provided by the planting. This comprehensive landscaping strategy around the peripheral environs of the site will provide a visual foil for those receptors on close proximity to the site.

The six Data Centre buildings have been located centrally to the site in order to reduce visibility from the Tulla road and the residences located there. As such, the buildings are located in the generally lower elevations of the site. The buildings have been carefully situated to avoid ecological and archaeological buffer zones around the site. This siting also ensures the peripheral vegetation is retained.

The ancillary buildings of the Energy Centre, Substation and Vertical Farm are located in the east of the site at the base of the larger hill, from which the ground level increases significantly. This siting ensures that there will be no potential for views of these buildings from the east and limits the visual impact on views of the horizon from the north and west.

The Data Centre buildings have been orientated so that the mechanical and electrical equipment -such as flue stacks, water and fuel storage, and generators are all located centrally between buildings. This allows building frontages to address key locations such as the roundabout to the southwest of the site, losing the mechanical equipment behind the more aesthetic office elevations.

The building elevational treatments consist of architectural metallic wall panels that graduate from dark blue to light blue as the façade rises. This effect helps to lose the building into the sky, reducing the massing of the building. External mechanical plant areas are treated with louvres which provide required airflow while screening

equipment. The office elevation combines the graduated façade with large areas of curtain walling, providing natural daylight and visual relief.

The site will be a dark sky site, with night-time lighting restricted. This ensures that there is no potential for the proposed development to result in a negative visual impact at night.

The following sections assess the potential impacts as a result of these components upon the landscape visual receptors of the 5km LVIA Study Area.

Following the finalisation of the layout, for the proposal, a final ZTV was generated (Figure 10.9). This updated ZTV is a more accurate representation of the extent of theoretical visibility within the Study Area as it is based on the finalised layout. However, as with the Preliminary ZTV, actual visibility of the proposal is still likely to be less than the theoretical visibility illustrated. This is due to the further filtering and screening effects of localised landforms, built form and intervening vegetation such as hedgerows and tree belts, including proposed bunds and vegetation.

### 10.6.1 Do-Nothing Scenario

The site is currently predominantly greenfield agricultural land. The 'do nothing scenario' would result in the lands continuing to be farmed as they are. Any potential changes to the site would likely be limited to new farm buildings relating to the evolution of the existing farmyards and the continued growth of existing trees and hedgerows. This would result in a likely **Negligible** effect upon the landscape and visual receptors of the LVIA Study Area and an **Imperceptible** level of significance.

However, given the site is located in lands zoned for enterprise with a specific use for a Data Centre Campus, it is likely that the lands would be similarly developed as proposed rather than remaining greenfield. Consequently, given the zoned nature of the lands, the do-nothing scenario would result in a similar level of landscape and visual effect as that resulting from the proposed development.

## 10.7 ASSESSMENT OF CONSTRUCTION EFFECTS

The proposed development will be constructed in a phased manner over a period of approximately 7 years, and as described in Chapter 3 of this EIAR. Figure 10.8 illustrates the different construction phases of the proposed development.

Potential landscape and visual effects will arise from:

- Site establishment and preparation works;
- Formation of the proposed site access onto the R352;
- Establishment of construction compound and construction staff facilities;
- Erection of site hoarding and permanent security fencing;
- Site clearance;
- Site levelling, and excavation for foundations and underground utilities;
- Formation of landscape berms and attenuation areas;

- Provision of landscaping and planting etc.;
- Access and egress of construction traffic for material import and export;
- Erection and operation of tower cranes;
- Construction traffic movement on site;
- General construction activity, including construction and security personnel, and construction machinery;
- Gradual emergence of the proposed buildings on the site; and
- Completion and commissioning of the development.

It is proposed that the woodland belts, and some hedgerows, will be implemented prior to the construction of the buildings. This will be carried out in two stages as part of pre-construction works and the post cut and fill groundworks. This ensures that the bunds and key structure planting are in place prior to the commencement of any building construction. This will provide early establishment of landscape screening around the site as demonstrated by the Viewpoint photomontages (Figures 10.11a to 10.16b). As such the two elements of the construction that will the greatest potential for landscape or visual effects are the tower cranes and the gradual emergence of the buildings.

The landscape and visual effect during the initial ground works stage (Pre-Phase 1c) is assessed to be **Moderate, temporary/short term (approx. 1 year)** and the significance is **Moderate**. These works will be readily visible along the R352, and potentially from the L4608 to the north until the bunds area created and as the proposed early landscaping establishes. These works will generally be limited to earth moving and shaping equipment.

The landscape and visual effect during the main remaining phases of the construction (Post-Phase 1b) is generally assessed to be **Minor, short term (approx. 7 years)** and the significance is **Slight** given the current landscape planning context and policy and the screening capability of the existing vegetation and proposed early establishment planting. These elements of vegetation will both combine to screen the majority of construction activity in views from the surrounding landscape, leaving only the cranes and emerging buildings visible above the tops of the vegetation.

Construction works will not have longer-term landscape or visual effects.

## 10.8 LANDSCAPE ASSESSMENT

### 10.8.1 Approach

In accordance with the methodology for assessing landscape and visual impacts, this assessment reviews the magnitude of change of the operational proposal against the baseline characteristics to establish the level of the effect and the corresponding significance. Reference is made to viewpoints as required to inform the assessment. As stated previously, the effects are considered to be negative unless stated otherwise.



In assessing the updated SID design of the substation compound and the associated addition of the lattice work drop-down pylons in place of the twin wood poles it was identified that the revised ZTV differed very little from the original ZTV. In terms of Viewpoints, it was identified and confirmed that the only Viewpoint to experience an alteration to the proposed views is that of Viewpoint 4, L4608 North of Site at Cappagh More (Figures 10.14a & 10.14b). Consequently, the only part of this assessment to be updated resulting from the revised built form elements is the assessment of Viewpoint 4 and the L4608 along which Viewpoint 4 is located. The remainder of the assessment remains relevant and unaltered.

### 10.8.2 Potential Effects on the Landscape Fabric of the Site

Development of the site will result in the loss of pastoral agricultural farmland, including hedgerows. This will be replaced with a mix of hard surfaces (roofs, driveways, roads, footways) and greenspace (amenity greenspace, meadow grasslands and SuDS measures).

There will be re-grading of the site to create development platforms for the proposed built forms and suitable gradients for roads, footways, and services. Although large flat platforms will be created for the development these work with the overall slope of the landscape reducing in elevation from east to west. The proposed development is located in the centre of the site with the majority of the existing landscape around the edges of the site retained. Once completed, there will not be a readily perceivable change in landform across the majority of the site.

The proposal results in the loss of existing pastoral grassland habitat of low ecological value, along with approximately 2,716 linear metres of hedgerow, 1,525m<sup>2</sup> of scrub/woodland and 30 trees. However, the proposal includes the addition of approximately 4,859 linear metres of new hedgerow, 58,567m<sup>2</sup> of new woodland and 57 new amenity trees. This not just replaces the extents removed, but considerably increases them. Further to this approximately 54,813m<sup>2</sup> of meadow grassland is also proposed. These elements provide the opportunity to greatly enhance the diversity and connectivity of the habitats within the site. These habitat improvements will increase and result in a positive improvement to the biodiversity of the overall site as a consequence of the proposed development.

Two of the high voltage power lines crossing the site will be undergrounded as part of the works.

The following key landscape feature within the site will remain unaltered and will be integrated into the new landscape proposals:

- The western block of woodland, designated as 'Buffer Space' on Clare County Council's Zoning Map PLP-18-0001-2 (12/03/2019);
- Tooreen Lough and surrounding planting; and
- The wooded ring fort in the north of the site which is a Recorded Monument (CL-034-007).

All the waterbodies within the site will also be retained.

The magnitude of change to the landscape fabric of the site is assessed to be **Medium** as although the proposed development will alter the landscape fabric, this will be restricted to the centre such that much of the area will appear the same from outside of the site, the key features will remain unaltered and the proposed

landscaping will greatly increase the extents of the woodland, hedgerows and meadow grassland on site, thereby improving the habitats and biodiversity of the site.

The effect of the proposal on the landscape fabric of the site is therefore assessed to be **Moderate** and the significance is **Moderate**. Although the proposal will alter a large area of the existing fabric of the site, it will create a greater range of habitats and biodiversity across the site and retains the key landscape features, whilst also being consistent with the land use zoning for the area.

### 10.8.3 Potential Effects on the Landscape Character

#### 10.8.3.1 Ennis Drumlin Farmland LCA

The ZTV (Figure 10.10) illustrates that the LCA will experience relatively extensive theoretical visibility of the proposed development. However, intervening vegetation, the built form of the settlement of Ennis and the proposed landscaping will greatly reduce the actual extents of visibility as evidenced by the photomontages from the six viewpoints (Figures 10.11a-10.16b).

The proposed development is located in the context of existing development in terms of the adjacent substation and associated infrastructure, the M18 motorway and the nearby settlement of Ennis. Ennis is acknowledged as a focal point of development within this LCA, so the proposed development's location is in keeping with this characteristic.

Although, the central landform of the site will be platformed for development the drumlin nature to the edges will be retained, whilst the proposed bunding will blend in with this rolling landform character. As such the proposed development will barely alter the drumlin character of the LCA. A large part of the site will also be retained as pastoral farmland in keeping with the farmland nature of this LCA. As demonstrated by the photomontages the visible character of the LCA will largely be retained.

The magnitude of change experienced by the Ennis Drumlin Farmland LCA, as a result of the proposed development is assessed to be **Low** as the proposed development result is largely in keeping with the characteristic of the LCA and will only result in a slight alteration.

The effect of the proposal on the Ennis Drumlin Farmland LCA is therefore assessed to be **Minor** and the significance is **Slight** as the character of the overall LCA will remain largely as it is.

#### 10.8.3.2 Fergus Loughlands LCA

The ZTVs (Figures 10.2 & 10.10) indicate that this LCA will experience broken patches of theoretical visibility at distances of over 3km away. Actual visibility will be further reduced by intervening vegetation, built forms and the proposed landscaping. This is further backed up by Character Assessment for this LCA which states *...the natural vegetation affords significant screening and can create an intimate landscape in many areas.*

The proposed development will not affect any of the key characteristics for this LCA.

The magnitude of change experienced by the Fergus Loughlands LCA, as a result of the proposed development is assessed to be **Negligible** for the following reasons:

- The proposed development will not affect any of the key characteristics of the LCA;

- The distance from the development; and
- The limited potential for actual visibility of the proposed development from within this LCA.

The effect of the proposed development on the Fergus Loughlands LCA is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.8.3.3 Fergus Estuary LCA

The ZTVs (Figures 10.2 & 10.10) indicate that this LCA will experience larger blocks of theoretical visibility at distances of over 3.5km away. Actual visibility will be further reduced by intervening vegetation, built forms and the proposed landscaping with the motorway located between the site and much of this LCA.

The proposed development will not affect any of the key characteristics of this LCA with the focus of views within the LCA out over the estuary away from the location of the proposed development.

The magnitude of change experienced by the Fergus Estuary LCA, as a result of the proposed development is assessed to be **Negligible** as the proposed development will not affect any of the key characteristics of the LCA and the distance from the proposed development.

The effect of the proposed development on the Fergus Estuary LCA is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.8.3.4 Local Landscape Character

The location of the site relates to the infrastructure of the adjacent electricity substation and M18 motorway as well as the nearby built form of the settlement of Ennis. Given this relationship and that the proposed development is set within a landscaped setting it is in keeping with semi-rural / suburban context of the local landscape character.

The proposed landscape planting increases the extent of hedgerows and woodland on the site and introduces new habitats such as permanent meadow grassland.

The undulating landform of the local landscape provides a sense of enclosure to much of the local area, foreshortening views much of the time, with the potential for longer range views limited to the higher elevations of the taller drumlins. Furthermore, the landform generally dips in the centre of the site restricting visibility into the site from the wider landscape. Views into the site from the east are obstructed due to the topography of the larger hill in the east of the site and the area of woodland located below the hill on its eastern side.

The existing woodland in the northwest of the site, combined with the proposed bunds and structural landscaping contribute to reduce views of the proposed development from much of the surrounding landscape to the east and north. Where views are available from wider landscape these are often restricted to glimpse views of parts of the site with visibility of the full site area from one view limited.

Although the landform in the centre of the site will be platformed and altered to suit the building and road layouts, this change will not be noticeable from the surrounding landscape. The appearance of a drumlin landscape is thereby retained from the surrounding context.

This generally restricted visibility of the proposed development is evidenced in the photomontages for the representative viewpoints (Figures 10.11a – 10.16b).

The magnitude of change experienced by the local landscape character, as a result of the proposed development is assessed to be **Low** as the overall local landscape character will remain largely unaltered with the proposed development in keeping with the man-made influence of the surrounding area.

The effect of the proposed development on the local landscape character is therefore assessed to be **Minor** and the significance is **Slight**.

#### 10.8.4 Potential Effects on Landscape Designations and Classifications

##### 10.8.4.1 County Development Plan - Living Landscapes

##### 10.8.4.2 Working Landscapes

The location of the proposed development within this designation is in keeping with the description of this designation as ...*intensively settled and developed areas within Settled Landscapes...* and ...*the highest concentrations of population and employment and the strongest transport links and connectivity*. As such the site being located within the extents of this designation contributed to the zoning of the site for a Data Centre in *Variation No.1 to the Clare County Development Plan 2017-2023*.

The Development Plan Objectives for this designation are as follows:

- A. *To permit development in these areas that will sustain economic activity, and enhance social well-being and quality of life - subject to conformity with all other relevant provisions of the Plan and the availability and protection of resources;*
- B. *That selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design, are directed towards minimising visual impact;*
- C. *That particular regard should be given to avoiding intrusions on scenic routes and on ridges or shorelines. Developments in these areas will be required to demonstrate:*
  - iv. *That the site has been selected to avoid visually prominent locations;*
  - v. *That site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, public amenities and roads;*
  - vi. *That design for buildings and structures reduce visual impact through careful choice of form, finishes and colours and that any site works seek to reduce visual impact of the development.*

The proposed development will contribute to sustaining economic activity. This LVIA assesses the visual impact arising from the proposed development and demonstrates that the visual impact will be minimal given the scale of the proposed development. The site location does not relate to any scenic routes or shorelines. The site layout makes use of the existing landscape to set the proposed development into the lower central part of the site, whilst relating to the overall east-west slope. This setting combined with the proposed bunds and planting ensure visibility from the wider landscape is minimal. The colour scheme of the data centres has been selected so that where the upper parts of the buildings are visible these will partially blend with sky.

The magnitude of change, experienced by the Working Landscape designation, as a result of the proposal is assessed to be **Negligible** as the proposed development takes account of the Development Plan objectives for the designation and is also in keeping with the overall designation description.

The effect of the proposal on the Working Landscape designation is therefore assessed to be **Negligible** and the significance is **Not Significant**.

## 10.9 VISUAL ASSESSMENT

This section addresses the likely effects of the proposal on the visual resource of the Study Area. The ZTV (Figures 10.9 and 10.10) has been used to illustrate the parts of the Study Area that have the potential to experience visual effects of the proposal. The potential for visibility has also been verified through field studies and the representative viewpoints.

### 10.9.1 Roads

The locations of the roads are illustrated in Figure 10.6 Key Routes. The effects and impacts upon all motorways, national roads, and regional roads within the LVIA Study Area have been assessed. However, in order to provide a focussed assessment, in terms of local roads, only those within approximately 1km of the site have been assessed. Local roads are generally lined by mature hedgerows and tree lines which prevent longer distance views. This is evidenced in the assessment of the local roads in the paragraphs below and the viewpoints which demonstrate that views to the site are generally only available from occasional field gates.

#### 10.9.1.1 M18

The ZTV illustrates that users of the M18 will experience theoretical visibility of the proposal mainly for a 5km stretch to the west of the site. There are also some smaller areas further to the south. Actual views from the motorway will be restricted by localised roadside embankments and associated vegetation as well as intervening vegetation and built forms.

The majority of views will be experienced by users heading southbound along the motorway. As such Viewpoint 6 (Figures 10.13a & 10.13b) is representative of views for southbound users of the motorway. This view is taken from the service track adjacent to the motorway where it is at a similar location. It is also located where there is a break in the hedgerow that allows more open views to the site that are not so readily visible elsewhere.

The photomontages for this view demonstrate that visibility of the development will be limited to part of the proposal and will be a glimpse view whilst receptors are travelling at speed along the motorway.

Viewpoints J and K in Appendix 10.1 are also representative from location further northwards of users heading southbound on the motorway. These views demonstrate that the intervening woodland will screen much of the proposed development. Although Viewpoint J is in proximity to Viewpoint 4 (Figures 10.14a & 10.14b), the difference in angle will result in a greater level of screening by both existing and proposed intervening woodlands.

The magnitude of change experienced by users of the M18, as a result of the proposed development is assessed to be **Low to Medium**. Actual visibility will be limited and where views will be experienced these will mostly be partial and glimpsed views in nature due to the speed of travel.

The effect of the proposed development on the M18 is therefore assessed to be **Minor** and the significance is **Slight**.

#### 10.9.1.2 N85

The ZTV illustrates that users of the N85 will experience theoretical visibility of the proposal for two stretches of approximately 3km and 1km at distances of over 3.5km distance from the site. Actual visibility from these stretches is actually unlikely due to the intervening built form of the settlement of Ennis and associated vegetation. Viewpoint M in Appendix 10.1 demonstrates that actual views are generally not feasible.

The magnitude of change experienced by users of the N85, as a result of the proposed development is assessed to be **Negligible**.

The effect of the proposed development on the N85 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.3 R352

The ZTV illustrates that users of the R352 will experience extensive extents of theoretical visibility of the proposed development. However, to the west of the M18 motorway, the intervening built form of the settlement of Ennis and intervening vegetation along with the embankments and associated vegetation of the motorway screen actual views of the proposed development. This is demonstrated by Viewpoint 6 (Figures 10.16a & 10.16b) and in Appendix 1, Viewpoints B & C.

Viewpoint A in Appendix 10.1 demonstrates views from the R352 to the east of the proposed development. This view demonstrates that intervening vegetation and landform largely screen views towards the site. Views may be visible of the southern part of the site. However, there are no proposed buildings in this part of the site.

Viewpoints 1 and 2 in Appendix 10.2 (Figures 10.11a to 10.12b), illustrate the views from along the R352 to the south of the site. Viewpoint 1 demonstrates that due to the placement of the proposed buildings set back over 100m from the road along with the proposed bunds and associated woodland planting only filtered views will be available initially (Figure 10.11b). As the proposed structure planting establishes the proposed development will become completely screened from view as per the montage for the view after 15 years establishment of the structure planting on Figure 10.11a.

The photomontages for Viewpoint 2 show that the part of the proposed development will be clearly visible from this motorway junction roundabout. In discussion with the Council, they requested that the proposed development actually address the motorway junction and that it be visible in order to acknowledge its presence in some form. As such the proposal has been designed so that the front of one of the data halls is visible from the roundabout with other halls either screened behind the front most building or by vegetation to either side of it. The proposed development will also be viewed in the context of existing electricity infrastructure such as a lattice work pylon, with the existing electricity substation visible outside the illustrated views to the left.

The magnitude of change experienced by users of the R352, as a result of the proposed development is assessed to be **Low to Medium**. For the most part the visibility of the proposed development will be filtered or screened for road users. Where readily available views are available these address the road.

The effect of the proposed development on the R352 is therefore assessed to be **Minor** and the significance is **Slight**.

#### 10.9.1.4 R458

The ZTV illustrates that users of the R458 will experience continuous theoretical visibility of the proposal for part of the length in the south of the LVIA Study Area. However, as the road passes through the settlement of Ennis for all of this stretch, actual views of the proposal will be screened by the intervening built form of the settlement. Further north, users of the R458 will only experience small stretches of theoretical visibility with the majority of actual views highly likely to be completely screened in reality due to intervening vegetation.

The magnitude of change experienced by users of the R458, as a result of the proposed development is assessed to be **Negligible** due to the low potential for actual views of the proposed development.

The effect of the proposed development on the R458 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.5 R469

The ZTV illustrates that to the west of the motorway users of the R469 will experience extensive theoretical visibility of the proposal. To the east of the motorway only small stretches of theoretical visibility will be available and these will largely be limited to potential views of the Energy Centre and/or the Vertical Farm, most likely only the flues of the Energy Centre which extend above the buildings.

Viewpoint L (Appendix 10.1) demonstrates the view experience from along this road and was selected due the absence of roadside vegetation. As can be seen any potential for views towards the site are screened by intervening vegetation beyond the viewpoint location.

The magnitude of change experienced by users of the R469, as a result of the proposed development is assessed to be **Negligible** as the potential for actual views is limited.

The effect of the proposed development on the R469 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.6 R474

The ZTV illustrates that users of the R474 will experience continuous theoretical visibility of the proposal for most of its length within the LVIA Study Area. However, as the road passes through the settlement of Ennis for all of this stretch, actual views of the proposal will be screened by the intervening built form of the settlement. Furthermore, the road, at its closest, is located over 4km for the proposed development.

The magnitude of change experienced by users of the R474, as a result of the proposed development is assessed to be **Negligible** as the potential for actual visibility is very limited.

The effect of the proposed development on the R474 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.7 R475

The ZTV illustrates that users of the R475 will experience theoretical visibility of the proposed development over two stretches for approximately two thirds of its length within the LVIA Study Area. However, as the road passes through the settlement of Ennis for all of this stretch, actual views of the proposal will be screened by the intervening built form of the settlement. Furthermore, the road, at its closest, is located over 4km for the proposed development.

The magnitude of change experienced by users of the R475, as a result of the proposed development is assessed to be **Negligible** as the potential for actual visibility is very limited.

The effect of the proposed development on the R475 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.8 R871

The ZTV illustrates that users of the R871 will experience theoretical visibility of the proposed development for approximately half its length at a distance of almost 3km from the proposed built forms. The road for its length is located within the settlement of Ennis and as such the associated built forms and vegetation will more than likely screen any actual views.

The magnitude of change experienced by users of the R871, as a result of the proposed development is assessed to be **Negligible/None** as the potential for actual views is unlikely.

The effect of the proposed development on the R871 is therefore assessed to be **Negligible/None** and the significance is **Not Significant**.

#### 10.9.1.9 L4076

The ZTV illustrates that users of the L4076 will experience theoretical visibility of the proposed development for much of the route. Viewpoint I in Appendix 10.1 was taken from a location with an open outward view from the road and demonstrates that actual views towards the site are screened by intervening vegetation. For much of the route views outwards are screened by roadside planting or properties located along the road.

The magnitude of change experienced by users of the L4076, as a result of the proposed development is assessed to be **Negligible** as the potential for actual views of the proposed development is limited.

The effect of the proposed development on the L4076 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.10 L4608

The ZTV illustrates that users of the L4608 will experience theoretical visibility of the proposed development for its entire length. Viewpoints 4 and 5 (Figures 10.14a to 10.15b) and Viewpoint F demonstrate the type of views that will actually be experienced along this road. All three viewpoints are taken from field gateways off



the road providing open views whereas much of the rest of the route is lined by roadside hedgerows screening views outwards.

As evidenced by Viewpoints 5 and F intervening landform and vegetation will screen much of the proposed development only the upper parts of the proposed data halls likely to be visible on the horizon. The colouring of the buildings will help to blend the buildings with the skyscape, and they will also be seen in the context of the electricity substation and associated infrastructure such as pylons and twin wood poles.

Viewpoint 4 is representative of the closest most open views of the proposed development from this road. Although the data halls will be visible, the Vertical Farm, the Energy Centre and the **majority of the** associated new substation will all be screened from view with the exception of the Energy Centre flues following establishment of the structure planting. Although the flues break the horizon they are similar in vertical scale to existing trees on the nearby ridgeline.

Following 15 years establishment of the structure planting (approximately 10 years post completion of the proposed development), visibility of the proposed development will mainly be limited to two data halls with only the top of one of these visible.

The magnitude of change experienced by users of the L4608, as a result of the proposed development is assessed to be **Low to Medium** as actual views of the proposed development will be relatively limited overall along this route, with more open views only experienced by the stretch closest to the site.

The effect of the proposed development on the L4608 is therefore assessed to be **Minor** and the significance is **Slight**.

#### 10.9.1.11 L4100

The ZTV illustrates that users of the L4100 will experience broken stretches of theoretical visibility of the proposed development along this route. Actual views will be filtered/screened by roadside hedges, and intervening built forms and vegetation, especially the block of woodland on the opposite side of the L4068 road at the southern end of this route. Viewpoint F illustrates a view from the L4608 in proximity to the southern end of the L4100. It demonstrates that intervening vegetation will screen/filter the majority of the proposed development if views are available from the road.

The magnitude of change experienced by users of the L4100, as a result of the proposed development is assessed to be **Negligible** as the potential for actual views is unlikely due to roadside and intervening vegetation.

The effect of the proposed development on the L4100 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.12 L8168 (Kilfielim Road)

The ZTV illustrates that users of the L8168 will experience theoretical visibility of the proposed development along the northern stretch of this road. However due to a combination of roadside vegetation, intervening hedgerows, and the proposed landscaping along the R352 actual visibility of the proposed development is unlikely.

The magnitude of change experienced by users of the L8168, as a result of the proposed development is assessed to be **Negligible** as actual views are unlikely.

The effect of the proposed development on the L8168 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.13 L8172

The ZTV illustrates that users of the L8172 will experience theoretical visibility of the proposed development from much of the route with only a couple of broken stretches along its length. However, roadside hedgerows, the built form of the houses along the eastern side of the northern end of the road and intervening vegetation will likely screen any actual views of the proposed development.

The magnitude of change experienced by users of the L8172, as a result of the proposed development is assessed to be **Negligible** as actual views are unlikely.

The effect of the proposed development on the L8172 is therefore assessed to be **Negligible** and the significance is **Not Significant**.

#### 10.9.1.14 Knockanean Road

The ZTV illustrates that theoretical visibility of the proposed development experienced by users of the Knockanean Road will largely be limited to the stretch of road west of Knockanean National School where Viewpoint H is located. For the stretch on the eastern side of the motorway, mature roadside hedgerows combined with the woodland block situated between the road and the R352 will screen any actual views of the proposed development. West of the motorway, mature hedgerows combined with the built forms of Knockanean and Ennis, will once again screen any potential views.

The magnitude of change experienced by users of the Knockanean Road, as a result of the proposed development is assessed to be **Negligible** as actual views are unlikely.

The effect of the proposed development on the Knockanean Road is therefore assessed to be **Negligible** and the significance is **Not Significant**.

### 10.9.2 Rail

The location of the railway line is illustrated in Figure 10.6 Key Routes.

#### 10.9.2.1 Limerick to Galway Railway Line

The ZTV illustrates that users of the Limerick to Galway Railway Line will experience theoretical visibility of the proposed development for two long, largely unbroken stretches, one in the north and one in the south of the LVIA Study Area.

For the stretch in the south, views to the proposed development are likely screened by the large blocks of vegetation located between the railway and the motorway and also in places by the built form of the settlement of Ennis.

In the north, actual views will be screened by localised cuttings through which the railway line passes and intervening vegetation.

Although Viewpoints K and M are located along these two stretches respectively they are raised up on the road over passes and as such the visibility experienced by users of the railway line will be even more restricted than that demonstrated by these two views.

The magnitude of change experienced by users of the Limerick to Galway Railway Line, as a result of the proposed development is assessed to be **Negligible** as actual visibility of the proposed development will be relatively limited and if seen will be likely to appear as part of the settlement of Ennis.

The effect of the proposed development on the Limerick to Galway Railway Line is therefore assessed to be **Negligible** and the significance is **Not Significant**.

### 10.9.3 Viewpoints

The baseline description and assessment of sensitivity of the viewpoints is presented in Table 10.8. The visual assessment of the viewpoints is described in Table 10.9 below. The viewpoints are illustrated in Figures 10.11a to 10.16b.

**Table 10.9 Representative Viewpoints – Assessment**

Viewpoint	Viewpoint Assessment
Viewpoint 1 R352 South of Site (Figures 10.11a & 10.11b)	<p>The photomontages demonstrate that even after the completion of Phase 1 (Figure 10.11b), views of the proposed development will be strongly filtered by the proposed woodland planting and associated bund along the roadside. Upon completion of the entire development at Phase 3, the planting will have grown to such a level that the majority of the development will be screened from view, and it will be barely noticeable.</p> <p>After 15 years establishment of the structure planting (Figure 10.11a), approximately 10 years after completion of the proposed development (Phase 3), the proposed development will be screened from view, even in the winter months when the trees are bare of leaves.</p> <p>The proposed hedgerow provides an appropriate, aesthetically pleasant boundary between the proposed footpath along the R352 and the site boundary and woodland bund beyond.</p> <p><b>Magnitude of Change</b> The magnitude of change, as a result of the proposed development, is assessed to be <b>Low</b> for the following reasons:</p> <ul style="list-style-type: none"> <li>• The proposed woodland planting and bund will heavily filter views of the proposed development from the outset;</li> <li>• The hedgerow and woodland planting are in keeping with the existing landscape character of the area and as such are not uncharacteristic elements; and</li> <li>• Although the introduction of the landscaping is a noticeable change to the viewpoint, the actual built forms will not be visible.</li> </ul> <p><b>Effect</b> The effect is therefore assessed to be <b>Minor</b>, and the significance is <b>Slight</b>.</p>
Viewpoint 2 West of R352-M18 roundabout (Figures 10.12a & 10.12b)	<p>The photomontage illustrating the proposed development upon completion of Phase 1 (Figure 10.12b) shows that the proposed development will occupy a small proportion of the view with the lower part of the building screened from view by the existing intervening hedgerow. Upon completion of the entire proposed development (Phase 3), the photomontage (Figure 10.12b) demonstrates that the proposed development will occupy approximately a third of the horizontal extents of view with the existing planting screening the lower parts of the buildings.</p> <p>After 15 years establishment of the structure planting (Figure 10.12a), approximately 10 years after completion of the proposed development (Phase 3), the proposed structure planting will have grown such that it frames the main building in the view on either side and screening the other buildings from view.</p> <p>In all views the frontages of the buildings positively address the view, facing directly onto the receptor. It should be noted that in discussion with the Council during the design phase the Council requested that the proposed development address this motorway junction in some form in order to acknowledge the presence of the Data Centre.</p>

	<p><b>Magnitude of Change</b> The magnitude of change, as a result of the proposed development, is assessed to be <b>Medium</b> for the following reasons:</p> <ul style="list-style-type: none"> <li>• The proposed built form will be a noticeable change to the existing view whilst also being an uncharacteristic element in the view;</li> <li>• The proposed buildings will ultimately occupy less than a third of the horizontal extents of view and due to the setback and the intervening hedgerow will not be dominant; and</li> <li>• The proposed buildings positively address the viewpoint.</li> </ul> <p><b>Effect</b> The effect is therefore assessed to be <b>Moderate/Minor</b> and the significance is <b>Moderate</b>. The viewpoint is generally transient in nature and seen in the wider context of the electricity substation and the motorway junction and associated signage. Although there are residences in proximity to the roundabout, their windows are not orientated towards the proposed development.</p>
Viewpoint 3 M18 (Adjacent service track) West of Site (Figures 10.13a & 10.13b)	<p>Upon completion of Phase 1, the photomontage (Figure 10.13b) demonstrates that the proposed development will occupy less than a sixth of the horizontal extents of the view, visible in a dip in the landform and existing vegetation. Two existing twin wood pole electricity structures are removed from the view as a result of the undergrounding of the two high voltage electricity lines within the site.</p> <p>Upon completion of the entire proposed development, the photomontage (Figure 10.13b) illustrates that the built forms will have expanded to occupy just under a third of the horizontal view, but still contained to the dip in the landscape.</p> <p>After 15 years establishment of the structure planting (Figure 10.13a), approximately 10 years after completion of the proposed development (Phase 3), the proposed woodland planting will have established to such a point that it will screen/heavily filter the two righthand buildings that were partially visible. As a result, open visibility is restricted to the one more readily visible building. Much of this building that is visible is the frontage of the building, providing a more positive appearance.</p> <p>The proposed development is seen in the portion of the view containing existing electricity infrastructure, containing development to the one part of the view. It should also be noted that this view is representative of users of the motorway consequently travelling at high speeds. As such, given the proposed development occupies a small proportion of the view and is located in a dip in the landscape this will be limited to a glimpsed view.</p> <p><b>Magnitude of Change</b> The magnitude of change, as a result of the proposed development, is assessed to be <b>Low to Medium</b> for the following reasons:</p> <ul style="list-style-type: none"> <li>• The proposed development occupies a small proportion of the view, visible through a break in the existing hedgerow planting, located in a dip in the landscape and at an oblique angle to the motorway;</li> <li>• Although the proposed buildings, given their scale are uncharacteristic elements within the view, they occupy the same proportion of the view as other man-made electricity infrastructure; and</li> <li>• Given the proportion of the view occupied and the high-speed nature of the receptor, the proposed development will be apparent rather than conspicuous in nature.</li> </ul> <p><b>Effect</b> The effect is therefore assessed to be <b>Minor/Moderate</b>, and the significance is <b>Slight</b>.</p>

<p>Viewpoint 4 L4608 North of Site at Cappagh More (Figures 10.14a &amp; 10.14b)</p>	<p>Upon completion of Phase 1, the photomontage (Figure 10.14b) illustrates that the upper sections of two data halls and the substation will be visible with the lower sections screened by a mix of the existing vegetation and the proposed landscaping. The substation will for the most part be backclothed by the existing landform. The two drop-down pylons will also be visible behind one another on the horizon, in place of the two existing twin wood poles currently visible on the horizon.</p> <p>The photomontage for the completion of Phase 3 and the entire development (Figure 10.14b) illustrates that although the Vertical Farm and Energy Centre have now also been constructed, the only elements of these built forms that will be readily visible will be the flues of the Energy Centre. These will be viewed at a similar vertical scale and in the context of existing mature trees on the horizon. A third data hall will now also be visible, with the two previously visible data halls replaced by two new halls which are closer in the view than in the Phase 1 photomontage.</p> <p>The photomontage after 15 years establishment of the structure planting (Figure 10.13a), approximately 10 years after completion of the proposed development (Phase 3), illustrates that the proposed woodland planting will almost completely screen the right-hand data hall from view and the majority of the substation. The remaining visible data halls will occupy less than a third of the horizontal extents of the view, with the elements visible limited to the frontages and the upper halves of the sides. The top of the drop-down towers will be visible above the planting but due to their lattice work formation will not be readily visible elements within the view at this distance. The proposed landscaping is in keeping with the character of this landscape and easily blends into the view.</p> <p>Despite the addition of large scale, built form, only a proportion of the development will be visible, and the characteristic undulating nature of the drumlin farmland will not be affected.</p> <p><b>Magnitude of Change</b> The magnitude of change, as a result of the proposed development, is assessed to be <b>Medium</b> for the following reasons:</p> <ul style="list-style-type: none"> <li>• The built form will be conspicuous but not dominant, being a partial change to a proportion of the landscape affecting some but not all of the key characteristics of the landscape;</li> <li>• The built forms will be uncharacteristic; and</li> <li>• The key undulating characteristic of this landscape will be retained within the view.</li> </ul> <p><b>Effect</b> The effect is therefore assessed to be <b>Moderate</b>, and the significance is <b>Moderate</b>. Although the proposed development will be noticeable change within the view, a large proportion of the built forms will be screened from view due to the combination of the layout and placement of the buildings and the proposed landscaping. This is despite the viewpoint being located within 500m of the site boundary.</p> <p>The level of assessment for this viewpoint remains unchanged for the following reasons:</p> <ul style="list-style-type: none"> <li>• The revised substation and the drop-down towers result in a minimal alteration to the proposed view and would be for the most part backclothed by the existing landform;</li> <li>• The substation is contained within the extents of the already proposed built elements and would be largely screened from view after 15 years;</li> <li>• The drop-down towers will be visible in place of the existing wood twin poles and due to their lattice work nature will not be readily visible elements within the view.</li> </ul>
<p>Viewpoint 5 L4608 at Ballymacahill (Figures 10.15a &amp; 10.15b)</p>	<p>The photomontage illustrating the proposed development upon completion of Phase 1 (Figure 10.15b) shows that the very top of one building of the proposed development will be just visible above the horizon. However, the building will be lower in height than the taller elements of the hedgerow running along the horizon. As a result of this minimal visibility and the proposed building colour scheme the proposed development will be an inconspicuous element within the wider view.</p>

	<p>Upon completion of the entire development, Phase 3, the photomontage (Figure 10.15b) demonstrates that the tops of four of the proposed buildings will now be visible. However, the heights of these will still be lower than the higher parts of the hedgerow and when combined with the proposed colour scheme helps the proposed development to be absorbed into the landscape.</p> <p>After 15 years establishment of the structure planting (Figure 10.15a), approximately 10 years after completion of the proposed development (Phase 3), the proposed structure planting will have grown to such a point that it will have further screened parts of the proposed development. The proposed planting will blend with the hedgerow along the horizon.</p> <p><b>Magnitude of Change</b> The magnitude of change, as a result of the proposed development, is assessed to be <b>Low to Negligible</b> for the following reasons:</p> <ul style="list-style-type: none"> <li>• Visibility of the proposed development is limited to just the upper parts of the buildings;</li> <li>• The proposed colour scheme helps to blend the development with the sky, reducing how noticeable the built forms are; and</li> <li>• Consequently, the proposed development, despite being visible, is a barely noticeable element amongst the existing vegetation along the horizon.</li> </ul> <p><b>Effect</b> The effect is therefore assessed to be <b>Negligible</b>, and the significance is <b>Not Significant</b>.</p>
Viewpoint 6 R352 at TII Depot to west of M18 (Figures 10.16a & 10.16b)	<p>All three photomontages for this view illustrate that visibility of the proposed development will be limited to a very small horizontal and vertical proportion of the view framed between a lamppost, roadside planting, and roadside barrier. The built forms are also viewed behind existing pylons and do not extend vertically above the adjacent existing gateway walls to the Knockanean Halting Site.</p> <p><b>Magnitude of Change</b> The magnitude of change, as a result of the proposed development, is assessed to be <b>Negligible</b> for the following reasons:</p> <ul style="list-style-type: none"> <li>• The proposed development is barely noticeable, occupying a very small proportion of the view;</li> <li>• The proposed development is seen in the context of the other man-made elements; and</li> <li>• The proposed development does not extend above other built elements in the same proportion of the view.</li> </ul> <p><b>Effect</b> The effect is therefore assessed to be <b>Negligible</b>, and the significance is <b>Not Significant</b>.</p>

### 10.10 Cumulative Impact Assessment

In terms of potential cumulative landscape and visual impacts, the only other proposed development with the potential to contribute to cumulative effects is the consented Motorway Service Station at Junction 12, southbound off the M18. The scheme is currently the subject of an appeal to An Bord Pleanála. A list of all cumulative developments considered is contained within Appendices 3.1 and 3.2 of Chapter 3 of the EIAR.

The ZTV for the proposed development (Figure 10.9) shows that there will be some theoretical visibility of the proposed development from the location of the proposed Junction 12 Motorway Services Station. However, actual visibility is highly unlikely due to the combination of the proposed landscaping and intervening vegetation as

demonstrated by the Viewpoints in Appendix 10.1 and Annex 10.1 and as assessed in Table 10.9. Furthermore, existing mature hedgerows and woodland to the north of the proposed motorway service station will foreshorten wider visibility of the service station.

The potential for cumulative impacts upon the LVIA Study Area resulting from the proposed development in combination with the proposed service station is therefore limited, given the restriction of actual visibility in the area between the two schemes. Consequently, the cumulative effects are assessed to be **Negligible**, and the significance is **Not Significant**.

## 10.11 SUMMARY

Table 10.10 summarises the findings of this LVIA.

*Table 10.10 Summary Table*

Receptor	Sensitivity	Magnitude of Change	Effect	Significance
Construction – Pre-Phase 1c	-	-	Moderate, temporary/ short term (approx. 1 year)	Moderate
Construction – Post-Phase 1b	-	-	Minor, short term (approx. 1 year)	Slight
Landscape Fabric	Medium	Medium	Moderate	Moderate
Ennis Drumlin Farmlands LCA	Medium	Low	Minor	Slight
Fergus Loughlands LCA	High	Negligible	Negligible	Not Significant
Fergus Estuary LCA	Medium	Negligible	Negligible	Not Significant
Local Landscape Character	Medium	Low	Minor	Slight
Working Landscapes	Low	Negligible	Negligible	Not Significant
M18	Medium	Low to Medium	Minor	Slight
N85	Medium	Negligible	Negligible	Not Significant
R352	Medium	Low to Medium	Minor	Slight
R458	Medium	Negligible	Negligible	Not Significant
R469	Medium	Negligible	Negligible	Not Significant
R474	Medium	Negligible	Negligible	Not Significant
R475	Medium	Negligible	Negligible	Not Significant
R871	Medium	Negligible/ None	Negligible/ None	Not Significant
L4076	Medium	Negligible	Negligible	Not Significant
L4608	Medium	Low to Medium	Minor	Slight
L4100	Medium	Negligible	Negligible	Not Significant
L8168 (Kilfielim Road)	Medium	Negligible	Negligible	Not Significant
L8172	Medium	Negligible	Negligible	Not Significant
Knockanean Road	Medium	Negligible	Negligible	Not Significant
Limerick to Galway Railway Line	Medium	Negligible	Negligible	Not Significant

VP1 R352 South of Site	High	Low	Minor	Slight
VP2 West of R352-M18 roundabout	Medium	Medium	Moderate/ Minor	Moderate
VP3 M18 (Adjacent service track) West of Site	Medium	Low to Medium	Minor/ Moderate	Slight
VP4 L4608 North of Site at Cappagh More	High	Medium	Moderate	Moderate
VP5 L4608 at Ballymacahill	High	Low to Negligible	Negligible	Not Significant
VP6 R352 at TII Depot to west of M18	Medium	Negligible	Negligible	Not Significant
Cumulative	-	-	Negligible	Not Significant

It is notable that the LVIA has identified that no landscape or visual receptors will experience levels of significance greater than 'Moderate as a result of the proposed development.

### 10.11.1 Summary of Residual Impacts

This Landscape and Visual Impact Assessment has been carried out to identify potential landscape and visual impacts arising from the proposed Data Centre development at Tulla Road, Spencilhill. The findings of this LVIA will inform the Council's consideration of the proposed development.

The impact of the proposed development has been considered and presented in this LVIA. A series of design measures, which were inherent to the design of the proposal, have ensured that the proposal fits with the surrounding character and context. The LVIA takes cognisance not only of the proposed built development, but also of the proposed landscaping.

The proposed woodland planting along the boundary to the R352, Tulla Road screens the proposed development from the adjacent properties and the road users. The woodland planting elsewhere across the site also aids in reducing actual visibility of the proposed development and provides an attractive setting to the development. The woodlands also enhance the biodiversity of the site.

The proposed meadow grasslands across the site provide a landscaped area of transition between the proposed building layout and the surrounding countryside and pastoral farmland.

The relationship with the existing landform has been considered. The proposed built forms have been located within the centre of the site where the ground is less elevated. They have also been orientated to correspond with the overall slope of the landform from east to west. This ensures that the key undulating characteristic and overall landform is maintained in views from the wider landscape.

The key features of the site, namely the woodland designated as 'Buffer Space' on Clare County Council's Zoning Map PLP-18-0001-2 (12/03/2019), Tooreen Lough and the ring fort Recorded Monument have been respected and incorporated into the design. All the existing waterbodies have also been retained.

The LVIA, by reference to field surveys and viewpoint analysis, has identified that the site is relatively visually discrete from the wider landscape despite its large scale. Views of the proposed development are not available from the east due to the existing topography. Views of the proposal from the R352 and the wider landscape to the south are contained by a combination of the existing and proposed woodland planting in the south of the site.



Viewpoint A from the east (Appendix 10.1) demonstrates the restricted visibility of the proposal due to the existing topography. Viewpoints 5 and 6 (Annex 10.1, Figures 10.15a to 10.16b), along with Viewpoints C to G (Appendix 10.1), also demonstrate the restricted visibility in views from the west.

To the north, although the built form will be visible, Viewpoint 4 (Annex 10.1, Figures 10.14a & b) demonstrates how the combination of the proposed bunds and woodland planting will reduce the visible extents of the proposed development.

As a result of the landscape and visual impact assessment, it is concluded that the site has the landscape capacity to accommodate the proposed development, taking account of the existing and proposed landscape framework and the following reasons:

- The LVIA has identified that there will be no 'Significant' or higher impacts on the landscape and visual receptors as a result of the proposed development;
- The proposal is in keeping with the zoning and designation in Variation No.1 to the Clare County Development Plan 2017-2023;
- The proposal responds to the existing landscape context and landform, ensuring that the woodland designated as 'Buffer Space' on Clare County Council's Zoning Map PLP-18-0001-2 (12/03/2019), Tooreen Lough and the ring fort Recorded Monument are not altered as part of the development; and
- The proposal improves and increases the habitats and biodiversity through the addition of the bunds, the additional woodland and the new meadow grasslands.

The adoption of the design measures (described in this report, the Landscape Design Strategy report and the Landscape and Biodiversity Management Plan) will integrate the proposal into the surrounding context. This is evidenced by the absence of any significant landscape and visual impacts, the limited extents of potential visibility and the broader findings of the LVIA.

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