

Hybrid Planning Application (15/01531/OUT,
15/01531/FUL)

**Landscape & Visual Effects:
Update of the Environmental Statement
Chapter 9 and Supplemental Information**

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9 Landscape and Visual Effects

1.0 Introduction

1.1 This submission of further information to Chapter 9 of the Magna Park Extension: Hybrid Application provides some clarifications and further supplemental information. This information was requested by The Landscape Partnership (TLP), on behalf of Harborough District Council following their review of the Environmental Statement Chapter 9 Landscape and Visual Effects, dated the 22nd January 2016. This supplemental information has been organised into three parts:

- Part 1 responds to requests for clarification;
- Part 2 includes an addendum to the Cumulative effects section 9.8 of ES Chapter 9; and
- Part 3 provides some additional Figure information and a version of Appendix F.2 Methodology, with page and paragraph numbers now added.

This submission has been prepared by Nicholas Pearson Associates on behalf of IDI Gazeley UK Limited.

2.0 Part 1 - Schedule of Clarifications

2.1 The Part 1 Schedule of Clarifications, below, has been organised under the corresponding topics identified in The Landscape Partnership's (TLP's) review.

Landscape Types		
Ref	Topic	Clarification/response
ES Chapter 9, Sections 9.5 and 9.6, Summary Tables 5.1a and b	Description of effect on Landscape Types	<p>The landscape effects, have been considered in relation to the site (part of the landscape type), the local wider landscape context and then at the scale of the local landscape character area (LCA), as a whole. The effects at each level have been specifically identified and referred to in Summary Tables 5.1a and 5.1b, including reference to distances, under the heading, geographic extent.</p> <p>These considerations have informed judgements and conclusions reached, in terms of level of landscape effects and significance. This information is reflected, referenced and considered in the corresponding assessment of landscape effects in sections 9.5 and 9.6, in the main text of ES Chapter 9.</p>

Growth Rates and Plant sizes		
Appendix F.1 Photomontages	Growth Rates and Plant sizes	The assumption for vegetation growth rates and heights on montages, at year 10, is reported in ES Appendix F.6 on the Growth Rate assumptions page, under the heading conclusions. This information is cross referenced in the main Chapter 9 text, at paragraph 9.4.112 on page 9-54. All verified block model montages in Appendix F.1 indicate vegetation at year 10, which is the design year stated in the title block of each image.

3.0 Part 2 - Further Information on Cumulative Effects

3.1 The TLP review of the submitted Chapter 9 Cumulative effects, section 9.8, concluded that further additional assessment consideration should be given to the following:

- The cumulative aggregated effect of the hybrid application, the existing Magna Park, and the addition of the DB Symmetry scheme, on the local landscape as a whole; and
- In the cumulative visual effects section, an assessment covering sequential visual effects on road users on other routes e.g. Mere Lane, Coal Pit Lane, Lutterworth Road and Coventry Road, to supplement the current assessment of cumulative sequential visual effects on road users passing through the area, on the A5.

3.2 The above topics have been addressed in the paragraphs below, together with the reporting of any effects on the ES Chapter 9 cumulative effects conclusions, regarding significance. As with the main report, impacts that are judged to be above moderate are those which are likely to be significant.

Aggregated cumulative Landscape effects on the local landscape, as a whole

3.3 In addition to the effects already considered and identified in paragraph 9.8.3 of Chapter 9, consideration has now been also been given to the effects, during construction and in operation, on the local landscape to the west of Lutterworth, as a whole, from the consequential aggregation of logistics development arising from the additional effects of DB Symmetry scheme, in combination with the Hybrid application and the existing Magna Park.

3.4 When considering the potential aggregated cumulative effects on the local landscape which would be anticipated from the addition of DB Symmetry to the Hybrid Application scheme and the existing Magna Park, previously reported conclusions regarding levels of effect on LCA's and significance have been taken into account. The findings of ES Chapter 9 of the Hybrid Application, ES Chapter 14, associated appendices and supplemental information included within the DB Symmetry planning submission and subsequent responses by TLP on behalf of Harborough District Council, have been referred to in the process of forming judgements.

3.5 The published district Landscape character assessments, EDP's local landscape assessment, TLP's responses to submitted landscape reports and our own surveys, would support an

aggregated sensitivity of **medium** for the majority of the local landscape, to the west of Lutterworth, as a whole.

Construction Stage

- 3.6 During construction, the magnitude of direct effects and indirect effects from the aggregated logistics facilities created by the addition of the DB Symmetry scheme would be anticipated to increase due to a doubling of the size and scale of new development in the existing countryside to the west of Lutterworth and due to an increase of approximately 1km in the geographic extent of effects on the wider locality. The duration of the construction effects anticipated, as far as can be predicted for the DB Symmetry scheme, is likely to be at least over a 10 year programme. With the addition of the DB symmetry the aggregated magnitude of cumulative effects, during construction, on the local landscape would therefore be likely to be high and adverse, at a local level. A **high** magnitude of cumulative effect on a local landscape of **medium** sensitivity as a whole would be anticipated to give rise to a **Moderate to Major adverse level of effect on the landscape, at a local level.**
- 3.7 The anticipated aggregated cumulative level of effect on the local landscape as a whole around Magna Park, to the west of Lutterworth, during construction, is considered to be **significant, at a local level.** Construction operations and activity including proposed earthworks and land cover changes over the combined areas, whilst only effecting some parts of the overall local landscape, would be increased by the DB Symmetry scheme to a large scale, would have some further adverse effects on some arable fields, hedgerows and open areas, would further diminish local distinctiveness through removal of existing features and would at the site and locality level add a further activity which would be at variance with the existing character of the landscape.

Operation Stage

- 3.8 During operation, the magnitude of direct effects and indirect effects from the aggregated logistics facilities created by the addition of the built out DB Symmetry scheme would be anticipated to increase principally due to a doubling of the size and extent of large scale proposed logistics buildings around the existing Magna Park and in the existing countryside to the west of Lutterworth and due to an increase of approximately 1km of geographic effect on the locality. The duration of the operation stage effects anticipated, would be permanent and despite mitigation the effects of the new buildings would persist. With the addition of the DB Symmetry the aggregated magnitude of cumulative effects, during operation, would therefore be anticipated to be high adverse, at a local level, from the opening year and beyond. The effects of new structure planting, cladding details and a new landscape framework on the DB Symmetry Site would have no effect on the amount of the existing farmland that would be lost to built development. A **high** magnitude of cumulative effect on a local landscape of **medium** sensitivity, as a whole, would be expected to persist for this reason despite the establishment of a new landscape framework around new buildings on the DB Symmetry application Site and despite this additional development being moderated to some degree by the local landscape's proximity too and the local context of, the existing Magna Park logistics facility. The combined cumulative overall level of effect taking account of the addition of the DB Symmetry logistics development is therefore anticipated to continue to be **Moderate to Major, at a local level.**

- 3.9 The anticipated cumulative level of effect on the local landscape as a whole around Magna Park, to the west of Lutterworth, during operation, is therefore considered to be **significant at a local level** in the opening year and over the longer term. By years 10 to 15 when new structure planting has matured across the combined sites the cumulative effects on the local landscape as a whole would improve qualitatively, however, the additional and increased size and scale of landscape impact, would remain, despite the landscape quality of some parts of the overall local landscape being restored and despite the effects of the original scale of the built development and associated effects of infrastructure, being moderated. The complete and matured developments in their landscape settings would be read as an extension to the existing logistics park landscape but particularly in the case of the DB Symmetry scheme, would continue to be at variance with the existing character of the landscape, at the local level with permanent loss of rolling landform and a tributary valley feature.

Cumulative effects – Visual effects (sequential) on other routes/journeys

- 3.10 In addition to the cumulative visual effects already considered for users of the A5 and identified in paragraph 9.8.13 of Chapter 9, consideration has now been given to the potential sequential cumulative effects, during construction and in operation, which may arise when travelling on other routes and journeys, in the locality. These specifically include sequential effects on road users on sections of Mere Lane, Coal Pit Lane, Lutterworth Road and Coventry Road, which link with the A5.
- 3.11 As already reported in ES Chapter 9, road users on the A5, and with similar characteristics, the Coventry Road, are considered to be **low to medium sensitivity** receptors, to change. Road users on the Lutterworth Road are considered to be of **low sensitivity** as the views are from a curving section of the road where attention would be focussed principally on the carriageway. Coal Pit Lane and Mere Lane are relatively straight routes, where road users could be expected to be driving at slower speeds and taking some interest in their surroundings and therefore are considered to be of **medium sensitivity**.
- 3.12 Generally, given the above established sensitivity of road users, a high magnitude of effect would need to be established to give rise to sequential visual effects that could be considered significant. A high magnitude of cumulative effect would arise if the proposed DB Symmetry development would add further visual impacts where the construction or operation works would become the most dominant feature in the view or constitute a major change in the view that noticeably or completely contrasts with other existing features in the view and where contrasting features would be fully or predominantly visible. In addition, the effects would need to effect a large extent and be the primary focus of the view, seen a close range. Significant cumulative visual effects are most likely to arise if there is already a high magnitude of effect arising from the Hybrid scheme on a section of the route which would then be added too on a wider route or Journey, by a high magnitude of effect arising from the DB Symmetry scheme.

Construction Stage (Day time effects)

- 3.13 During construction, the routes where it is considered that these conditions would be present and would be added too by the DB Symmetry development to create **significant** cumulative sequential visual effects, would be the routes which include Mere Lane, in combination with the southward heading stretch of the A5 and/or with the use of the Coventry Road and road

users on the journey along the Coventry Road and A5, heading north. There are already construction stage visual effects identified for the hybrid scheme on road users, of a high magnitude, identified along Mere Lane, at its junction with the A5 and along the northward heading section of the A5. Added to this, as part of the DB Symmetry development there would be a section of the A5 to the south where high magnitude construction stage visual effects would be anticipated. Also, there would be a high magnitude of effects anticipated on the Coventry Road where a new roundabout would be constructed in direct line of sight and where there would be new building construction, earthworks and the use of cranes adjacent to an approx. 0.75km section of the carriageway, where there are currently views across open countryside. Therefore, the magnitude of visual effects on road users on journeys including the A5 to the south and a route that includes Coventry Road would both also be high, giving rise to overall level of sequential effect, in combination with the Hybrid scheme, which is anticipated to be **moderate to major adverse**, at this stage.

- 3.14 Elsewhere, where the construction of the DB Symmetry scheme would be visible in sequential views on other routes, including from the Lutterworth Road, the magnitude of effects arising from the Hybrid scheme have already been assessed as being medium to low and additional effects from the DB Symmetry scheme arising from predominantly visible cranes and some building construction would constitute only a small change in the view visible at 0.5km, or greater distance, from a short section of the road at a moderately oblique angle and anticipated to be of medium to low magnitude. Anticipated effects of this level, however, in combination with a high magnitude of additional effect arising from the DB Symmetry scheme on the Coventry Road and on the A5 heading north are anticipated to lead to a **moderate adverse** level of sequential effect, overall, which is considered to be **not significant**. The effects on road users on Coal Pit Lane, meanwhile, are limited to those arising from the Hybrid scheme and the magnitude of visual effect, during construction (represented by viewpoint 13) has been previously assessed as being **medium**. There would be no additional effects on the users of this route anticipated to arise from the DB Symmetry scheme, given the intervening existing Magna Park buildings. A journey from this route via the existing A5 roundabout and then along the Coventry Road where the magnitude of effects from DB Symmetry would be high, is not therefore considered to constitute a large enough magnitude of sequential visual effect, in combination, during construction, and therefore the overall level of sequential effect on these routes are also considered to be **moderate adverse** and **not significant**. Additional sequential visual effects arising from DB Symmetry, during construction, on road users on a journey to and /or from the Lutterworth Road and Coal Pit Lane on the southward headed section of the A5, are also not considered to constitute a significant cumulative visual effect as despite an anticipated high magnitude of effect occurring alongside a 0.5km approx. section of the A5, the in combination level of sequential effect would not be greater than **moderate adverse** and therefore is considered to be **not significant**.
- 3.15 The supplemental assessment findings, associated with the cumulative sequential visual effects, anticipated to arise on other road routes/journeys, from the addition of the DB Symmetry scheme, are summarised below in a tables which correspond with **construction stage**.

Summary Table L.1 –Cumulative levels of sequential visual effect anticipated along other routes, during construction

Route – Part 1	Route – Part 2	Route – Part 3	Overall Level of Effect	Potential Significance
Mere Lane	A5 South		Moderate to Major Adverse	Significant
Mere Lane	Coventry Road		Moderate to Major Adverse	Significant
Coal Pit Lane	Coventry Road		Moderate Adverse	Not Significant
Coal Pit Lane	A5 South		Moderate Adverse	Not Significant
Lutterworth Road B4428	A5 North		Moderate Adverse	Not Significant
Lutterworth Road B4428	A5 North	Mere Lane	Moderate Adverse	Not Significant
Lutterworth Road B4428	A5 South		Moderate Adverse	Not Significant
Lutterworth Road B4428	Coventry Road		Moderate Adverse	Not Significant
Coventry Road	A5 North		Moderate to Major Adverse	Significant

Operation Stage (Day time effects)

- 3.16 During operation, the routes where it is considered that the conditions would be present to result in a high magnitude of cumulative sequential visual effects as a result of the addition of the DB Symmetry development, to create **significant** cumulative sequential visual effects, **at year 1 and in the short term** would include: Users of the western end of Mere Lane and the junction with the A5 and the route heading south, staying on the A5 or using the Coventry Road and road users on the journey along the Coventry Road and A5 heading north. There

are already Year 1 and short term operation stage visual effects on road users of a **high to very high magnitude** identified along the A5 corridor to the north of Magna Park and at the new junction with Mere Lane, as part of the Hybrid application. Added to this, as part of the DB Symmetry development there would be sections of the Coventry Road where a new roundabout would be operational, new buildings and a parking area would have been introduced adjacent to an approx. 0.75km section of the carriageway, where there were previously views across open countryside. New planting on the roundabout and on banks would be small in scale at this stage. Along the southern part of the A5 there would be new buildings visible adjacent to the road with young planting belts intervening. Therefore, the magnitude of additional visual effects on road users along these routes would continue to be high at year 1 and in the shorter term, giving rise to overall level of sequential visual effect in combination with the Hybrid scheme which is anticipated to be **moderate to major adverse**, at this stage. The cumulative sequential visual effect on these routes, at this stage is considered to be **significant**. By the mid-term (year 10) and then beyond with the maturation of the landscape infrastructure associated with the hybrid scheme and the edge of the Coventry Road and A5, associated with the DB Symmetry scheme, the changes would be expected to reduce the magnitude of adverse effects down to **medium or below**. At this stage the overall level of cumulative sequential visual effect would become **moderate adverse** and the effects would become **not significant**.

- 3.17 On other routes including those that have sections of journeys along the Lutterworth Road and Coal Pit Lane, additional effects arising from DB Symmetry scheme are not considered to be of a magnitude which in combination with the A5, Coventry Road and Mere Lane, visual effects would be of any more than an overall level of cumulative sequential visual effect of **moderate adverse in year 1 and the short term**. Road users on the Lutterworth Road would, in the short term, experience the noticeable and conspicuous introduction of some new buildings forming part of the DB Symmetry scheme, alongside the A5, however, these will be visible from a short section of the route, in the middle distance and at a moderately oblique angle from the road. Road users on Coal Pit Lane would not be able to see the DB Symmetry buildings until they either pass along the A5 south, along a short stretch or continue along the Coventry Road. By the mid-term the level of cumulative sequential visual effect is anticipated to improve to **moderate to minor adverse** or below, once the intervening landscape infrastructure has matured and has further mitigated the visual effects of the lower sections of new buildings. These other route, cumulative sequential visual effects are therefore considered to be **not significant, in the short and or medium term and beyond**.
- 3.18 The supplemental assessment findings, associated with the cumulative sequential visual effects, anticipated to arise on other road routes/journeys, from the addition of the DB Symmetry scheme, are summarised below in a tables which correspond with **operation stage**.

Summary Table L.2 – Cumulative levels of sequential visual effect anticipated along other routes, during operation

Route – Part 1	Route – Part 2	Route – Part 3	Overall Level of Effect Yr 1 and Short term	Overall Level of Effect Yr 10 on wards	Potential Significance
Mere Lane	A5 South		Moderate to major Adverse	Moderate to Minor Adverse	Significant YR 1 and short term Not Significant by Year 10
Mere Lane	Coventry Road		Moderate to major Adverse	Moderate to minor Adverse	Significant YR 1 and short term Not Significant by Year 10
Coal Pit Lane	Coventry Road		Moderate Adverse	Moderate to minor Adverse	Not Significant
Coal Pit Lane	A5 South		Moderate Adverse	Moderate Adverse	Not Significant
Lutterworth Road B4428	A5 North		Moderate Adverse	Moderate Adverse	Not Significant
Lutterworth Road B4428	A5 North	Mere Lane	Moderate Adverse	Moderate Adverse	Not Significant
Lutterworth Road B4428	A5 South		Moderate Adverse	Moderate to minor Adverse	Not Significant
Lutterworth Road B4428	Coventry Road		Moderate Adverse	Moderate to minor Adverse	Not Significant
Coventry Road	A5 North		Moderate to Major Adverse	Moderate Adverse	Significant YR 1 and short term Not Significant by Year 10

Construction and Operation Stage (Night time effects)

- 3.19 Night time cumulative sequential visual effects on these other routes, arising from the DB symmetry scheme, are not considered significant because:
- there is existing street lighting already along the Coventry Road;
 - the additional lighting visible from the A5, heading south, would be minimal; and
 - best practice lighting design measures to limit spill and glare would limit the potential for any notable additional effects from the DB Symmetry scheme on users of the Lutterworth Road.

Significance and supplemental cumulative assessment conclusions

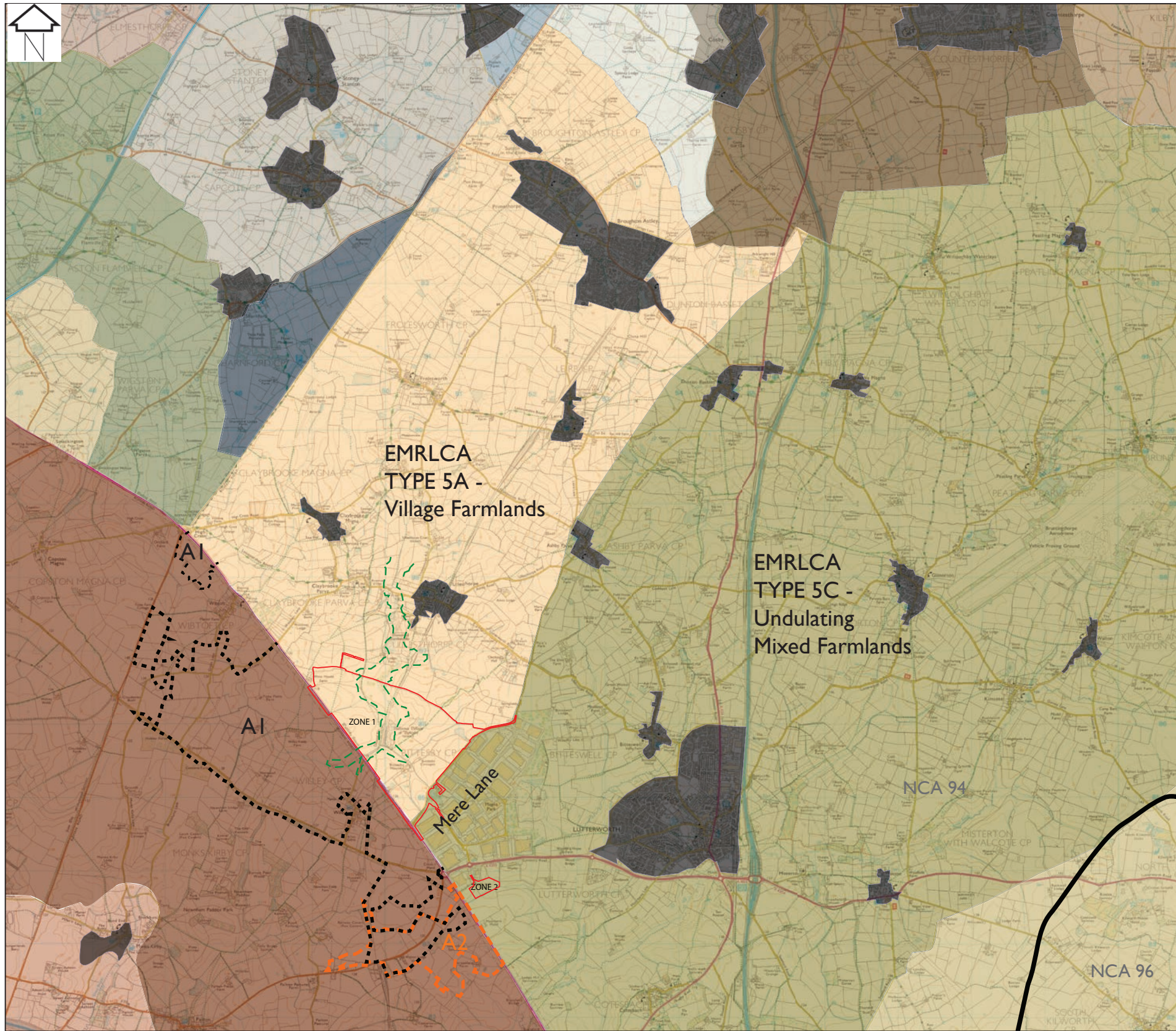
- 3.20 The main conclusions arising from this supplemental assessment of potential cumulative effects are that:
- During construction and in operation, some **significant landscape cumulative effects, at a local level**, are anticipated from the consequential aggregated effects of the Hybrid application and the existing Magna Park, when the DB Symmetry scheme is added, to the local landscape, to the west of Lutterworth. Despite the maturation of a landscape framework around the DB Symmetry Site, over time, with the size of the additional development, the increased scale of effects on the local landscape and an increase in the geographic extent of effects on the locality, the additional effects are considered to remain of a high magnitude.
 - An additional assessment of the **sequential cumulative** visual effects, arising from the addition of the DB Symmetry scheme, on routes, in addition to those experienced by road users passing through the area on the A5, has identified that :
 - **Significant** sequential cumulative visual effects can be anticipated, with the addition of the DB Symmetry scheme, **during construction**, on the users of the following routes: Mere Lane, in combination with the southward heading stretch of the A5 and/or with the use of the Coventry Road and road users on the journey along the Coventry Road and A5 heading north.
 - **Significant** sequential cumulative visual effects, with the addition of the DB Symmetry scheme, **during operation**, can be anticipated on the users of the following routes, **at year 1 and in the shorter term**: Users of the western end of Mere Lane and the junction with the A5 and the A5 route heading south, staying on the A5 and/or using the Coventry Road and road users on the journey along the Coventry Road and A5 heading north.
 - The cumulative sequential visual effects, **during construction**, on road users using the following routes are considered to be **not significant**: Lutterworth Road (B4428) and A5 south, Lutterworth Road and the A5 North and/or Mere Lane, Coal Pit Lane and the A5 south, Coal Pit Lane and Coventry Road.
 - The cumulative sequential visual effects, **during operation**, on road users using the following routes are considered to be **not significant**: Users of the western end of Mere Lane and the junction with the A5 and this route heading south, staying on the A5 or using the Coventry Road and road users on the journey along the Coventry

Road and A5 heading north, **from year 10 onwards**, Coal Pit Lane and the A5 south, Coal Pit Lane and Coventry Road, Mere Lane and Coventry Road, Lutterworth Road (B4428) and A5 North and/or Mere Lane and Lutterworth Road (B4428) and continuing on the A5 south.

- Potential night time cumulative sequential visual effects on the users of these other routes which are anticipated to arise from the addition of DB symmetry scheme are considered to be **not significant**.

4.0 Part 3 - Appendix F.1 (Updated/additional drawings) and (Appendix F.2 updated to include page and paragraph numbering)

- 4.1 This section includes one updated and one additional Figure which are supplemental to **ES Appendix F.1** and some pagination updates to **Appendix F.2**.
- 4.2 As supplemental information to **ES Appendix F.1, Figure 9.3 Rev A**, below, has been updated and now shows landscape types and their extent, in the local context of the application site (including toward Willey and Ullesthorpe). The figure also now shows the overlapping areas within the High Cross Plateau that are affected by Zone 1 and Zone 2 of the application site, respectively and which are referred to in the main text and on summary tables. An additional plan showing cumulative sites assessed as part of the LVIA (excluding those scoped out), has also now been included (See **Figure 9.5d**).
- 4.3 Also, below, is an update to **ES Appendix F.2 – LVIA Methodology**, where page and paragraph numbers have been added, in response to a request from TLP.



Character Areas

Application Site Boundary

National Landscape Character Areas

NCA94 Leicestershire Vales covers the majority of the study area

Boundary of National Countryside
 Character Area

East Midlands Regional Character Types
 (locations annotated on plan)

EMRLCA Type 5a: Village Farmland

EMRLCA Type 5c: Undulating mixed farmlands

Local Landscape Character Areas

Harborough DC Landscape Character Areas

- Laughton Hills
- Lutterworth Lowlands
(Landscape Receptor 1 (south-east of Mere Lane))
- Upper Soar
(Landscape Receptor 2 (north-west of Mere Lane))

Rugby Landscape Character Areas

High Cross Plateau, Open Plateau
(Landscape Receptor 3 (west of the A5))

Part affected by Zone 1 of the application site

Part affected by Zone 2 of the application site

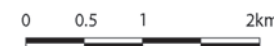
High Cross Plateau, Village Farmlands

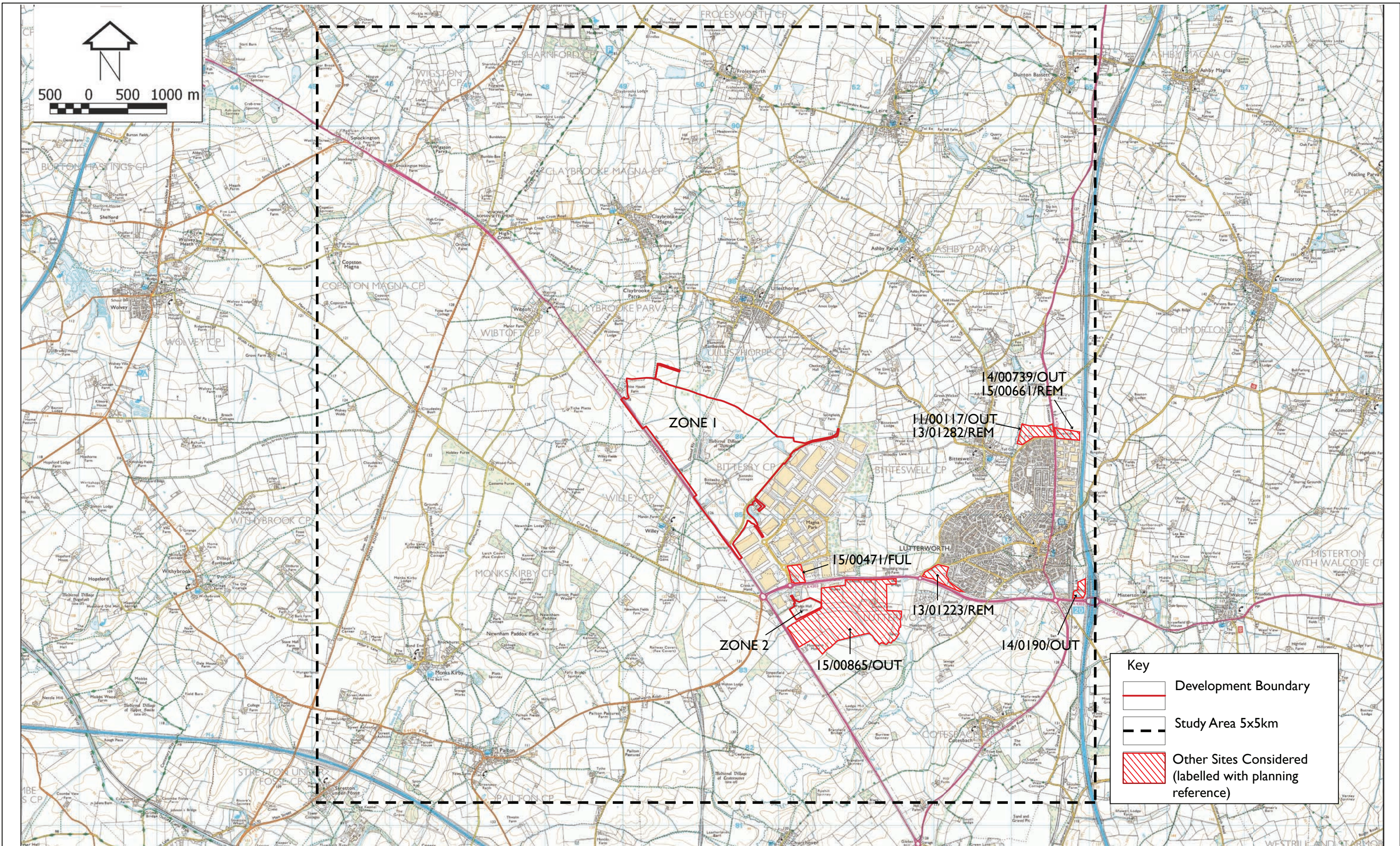
NPA Landscape Types (in the local context of the application Site including Willey and Ullesthorpe)

- Soar tributary flat floodplain and terrace
- Low lying clay vale farmland with gentle ridges
(Note: The type covers the remaining farmland outside the area identified as Soar tributary floodplain and terrace)

Rev A: This plan includes:

- the addition of landscape type boundaries in the local context of the application site and as indicated on Figures 9.4a, 9.4e and 9.4g.
- The addition of dashed lines indicating the parts of the High Cross Plateau LCA effected the respective identified zones of the application site.





Magna Park Extension: Hybrid Application
 Appendix F.1
 Other Sites Considered in the Landscape
 and Visual Cumulative Assessment

Technical Appendix F.2 - Landscape and Visual Impact Assessment (LVIA) Methodology

I.0 This chapter of the ES will identify and assess the likely significance of and effects of change arising from the development on both the landscape as an environmental resource in its own right and as a separate topic views and visual amenity, as experienced by people. It will seek to identify the impact, or action arising from the development proposals, and the likely effect, or change resulting from the impact.

I.1 This assessment has been prepared using a methodology developed by Nicholas Pearson Associates, and draws upon current best practice guidance including:

- The Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, prepared by the Landscape Institute and Institute of Environmental Management and Assessment (April 2013);
- An approach to Landscape Character Assessment (October 2014) prepared by Natural England ; and
- The Landscape Institute (2011) Photography and photomontage in landscape and visual impact assessment. Advice note 01/11.

I.2 Landscape and Visual Impact Assessment also addresses the effects of development on green infrastructure and also the potential for enhancing it. LVIA can also make a contribution to sustainable development including mitigation and adaptation to climate change.

I.3 Professional Judgement is an important part of the process of determining the level of effects and significance. The concluding level of landscape or visual effects or likely significance will be based on combining judgements about the nature of the receptor (summarised as its sensitivity) and the nature of effects (summarised as magnitude).

I.4 Narrative text is used to identify the main landscape and visual issues, in this instance and to explain the reasoning behind the concluding judgements made regarding levels of effect.

I.5 An overview of the steps involved in the LVIA assessment process is illustrated in the following chart:

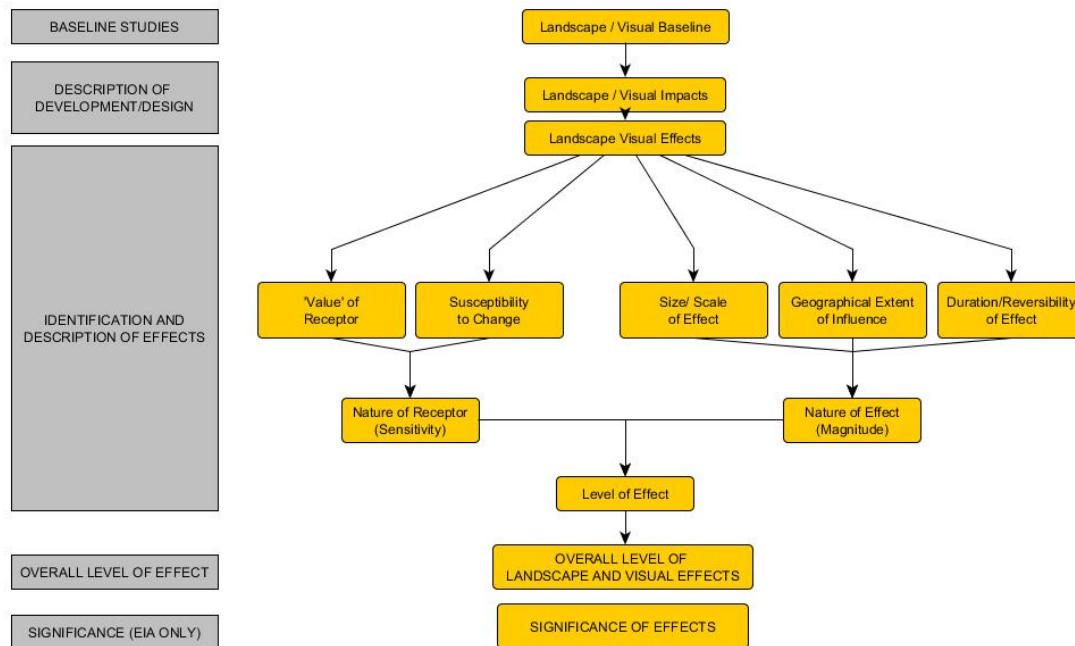


Figure API – LVIA Process Overview developed by NPA.

1.6 The assessment follows the same overall process for both landscape character and visual effects.

Proposed Landscape and Visual Impact Assessment (LVIA) Methodology

1.7 The detailed methodology for each is described as follows:

Planning Context

1.8 Initially, the Landscape and Visual Planning Policy Context will be summarised and key policy and planning issues identified.

Landscape Character Baseline Assessment

1.9 The assessment adopts the definition of landscape character described in 2000 by the European Landscape Convention¹, as follows:

‘... an area, as perceived by people, whose character is the result of the action and interpretation of natural and/or human factors’.

1.10 The aim of the landscape baseline *‘is to provide an understanding of the landscape in the area that may be effected –its constituent elements, its character and the way this varies spatially, its geographical*

¹ Council of Europe. *European Landscape Convention*. Florence, 2000.

extent, its history, its condition, the way the landscape is experienced and the value attached to it'(GLVIA 3rd Edition, P32 Paragraph 3.15).

I.11 Landscape character is defined by the locality's key characteristics. Taken together these components form a collective landscape character area which can be used to define the locality. An evaluation of these character areas is made to identify the qualities and sensitivities which could be potentially affected by the proposed development. The anticipated trends for evolution and change in the landscape, without the proposed scheme, will also be described.

I.12 An assessment of the site's landscape character will be developed through a review of published assessments and at a more detailed local level following field and desk study. Field studies notes will be recorded on a pro forma study aid and together with the desk study will identify specific landscape receptors which will comprise local landscape elements and features, and landscape character areas (LCAs) defined as regions with similar landscape characteristics. Individual landscape character areas and notable features will be mapped.

I.13 Once landscape character has been defined, classified and described, the landscape value (including any recognized designated or non-designated status attached to different landscape by society and the condition) and the susceptibility of the landscape to the type of change envisaged are assessed and combined to establish the nature of the receptor (sensitivity) of the landscape. Note, 'that the level of sensitivity of the landscape receptors in LVIA 'is specific to the particular project or development that is being proposed and to the location in question' (GLVIA 3rd Edition P88 Paragraph 5.39).

Landscape Value

I.14 Landscape value is' the relative value that is attached to different landscapes by society (GLVIA, 3rd Edition Glossary p 157)

I.15 In this assessment landscape value is established, after the preparation of the baseline, following consideration of the following:

I. Designated and Non Designated Landscape including:

- National/International - Designated landscapes which are nationally or internationally designated for their landscape value – including National Parks, Areas of Outstanding Natural Beauty, World Heritage Sites; Heritage Coasts and National Scenic Areas
- Local - Locally or regionally designated landscapes (eg. Area of High Landscape Value, Regional Scenic Areas); also areas where local evidence indicates more value than the surrounding area.
- Community –'everyday' landscape which is appreciated by the local community but has little or no wider recognition of its value.

- Despoiled or degraded landscape with little or no evidence of being valued by the community

Note: GLVIA 3rd Edition, also states on page 89, in Paragraph 5.45, that *'the value of the landscape receptors will to some degree reflect landscape designations and local importance, which they signify, although there should not be over reliance on designations as the sole indicator of value'*.

2. The Key Landscape Characteristics including consideration of their Condition

- This concurs with the GLVIA 3rd Edition, P89, Para 5.44 which identifies that to establish landscape value consideration should also be given to *'the value of individual contributors to landscape character, especially the key characteristics'*.

Visual Context Baseline Assessment

1.16 The aim of the visual baseline is to *'establish the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity at those points'* (GLVIA 3rd Edition, P32 Paragraph 3.15). Also, where possible the approximate or relative number of different groups of people who will be effected.

1.17 To begin the process of establishing the extent of the area that may be visible to and from a new development, a Zone of Theoretical Visibility (ZTV) will initially be generated using digital terrain mapping and knowledge of the anticipated size and form of the development proposals. This will be verified through a combination of contour map analysis and field work to determine where built form and vegetation may limit visibility. The ZTV will identify land that is theoretically visually connected with the proposals and therefore where the people who will experience views of the development (Visual Receptors) are likely to be. In this chapter, a more detailed ZTV has been created using a 5x5km digital surface model (DSM) with a resolution of 2m and a vertical error of $\pm 25\text{cm}$ which models the effects of existing vegetation and built features and this has enabled the extent of visibility to be refined. All ZTV calculations were done within the QGIS geographical information system environment and view shed analysis software.

1.18 Within the ZTV, representative and any key viewpoints from publicly accessible land identified through agreement with the competent authority. The selected viewpoints may be:

- Representative of visual receptors;
- Specific views, typically selected as examples of promoted noteworthy viewpoints or views with cultural associations; or
- Illustrative viewpoints, chosen to demonstrate a specific issue.

1.19 The reasons for any viewpoints or areas being scoped out or excluded from further assessment will be explained in the text.

1.20 For each viewpoint a photographic image will be taken in accordance with guidance contained within the Landscape Institute (LI) Advice Note 01/2011: Photography and photomontage in landscape and visual impact assessment' The advice note recognises that:

'Two-dimensional photographic images and photomontages alone cannot capture or reflect the complexity underlying the visual experience, and should therefore be considered an approximation of the three-dimensional visual experiences that an observer would receive in the field;

'As part of a technical process, impact assessment and considered judgements using photographs and/or photomontages can only be reached by way of a visit to the location from which the photographs were taken.'

1.21 For each viewpoint a photographic image will be taken in accordance with guidance contained within the Landscape Institute (LI) Advice Note 01/2011: Photography and photomontage in landscape and visual impact assessment' The advice note recognises that:

'Two-dimensional photographic images and photomontages alone cannot capture or reflect the complexity underlying the visual experience, and should therefore be considered an approximation of the three-dimensional visual experiences that an observer would receive in the field;

'As part of a technical process, impact assessment and considered judgements using photographs and/or photomontages can only be reached by way of a visit to the location from which the photographs were taken.'

Photographs and Visually Verified Montages

1.22 The specific procedures relating to the use of photography that have been followed in this chapter and reflecting the guidelines within the Landscape Institute (LI) Advice Note 01/2011, are as follows:

Photography

1.23 Nicholas Pearson Associates use Digital Single Lens Reflex cameras to ensure that the printed images are of a size and resolution which best represents the chosen viewpoint. Occasionally, alternative makes of Digital SLRs may be used; however this will be stated on the final documentation.

Equipment:

- Canon 5D full frame digital SLR camera
- Canon 50mm f1.4 lens
- Canon 28mm lens
- Canon 24mm lens

- *Alternative lenses: hired upon requirement*
- *Alternative cameras: Canon EOS 450D & 1000D*
- *Tripod*
- *NN4-D16-Nodal Ninja NN4 Panorama head with RD-16 rotator base*
- *NN-EZ-Nodal Ninja EZ Leveller MKII*
- *Plumb bob*
- *Compass*

I.24 LVIA & VVM photographs are taken using the most appropriate combination of lens focal lengths to ensure that the field of view covers the proposed scheme environment or landscape context. Photographs are predominantly taken in landscape format unless circumstances dictate an alternative.

I.24 Using Ordnance Survey mapping or detailed topographic surveys, Cameras are located and mounted on a tripod at height of 1.6m above existing ground level, which best represents the average human eye level. A leveller is used to ensure that the camera is horizontal and a panoramic head is necessary when capturing panoramas. A photograph of the tripod in situ is taken and a plumb bob is used to accurately locate the camera on the ground if the location is to be surveyed.

I.25 Photographs are taken; preferably using an ISO of 100 with an aperture suitable to capture the greatest depth of field the photographs are stored as a RAW format using manual settings to enable the best quality results. The photographer will make note of the weather conditions and direction of view. All other details relating to the photograph are stored in the image EXIF data. If necessary, the original RAW file can be submitted as part of the verification process.

I.26 Suitable weather conditions are sought so that the proposals may be clearly visible in the context of the view. It should be noted that taking photographs looking south during the winter, due to the low angle of the sun can be problematic. Therefore we endeavour to take the photographs at the appropriate time of day to reduce the chance of the site being in shadow or backlit. Each photograph, or combinations of photographs, correctly portrays the view which is obtained at each representative viewpoint whilst avoiding obvious obstructions. The location of each viewpoint is accurately located on a survey.

Principle Viewing Distance:

I.27 For the representative panoramic views, a series of photographs were taken to the entire width of view or a full 360° @ 15° intervals. A fixed 50mm focal length lens is used for this. For the Visually Verified Montages, two sets of photographs were taken. One using a 24mm lens to be printed on A3 and viewed at 300mm, another using a standard 50mm lens to be printed on A3 and viewed at 500mm.

Reproduction and presentation material

I.28 Our chosen desktop publishing software is Adobe In-Design. All our VVM views are presented at 100%, suitable for A3 / A2 / A1 reproduction.

I.29 Our images have a target resolution of 300PPI; suitable for high quality printing when reproduced on printers with resolutions of up to 2400DPI.

I.30 Each viewpoint within the document is supplied with the following information:

- *Figure Number*
 - *Viewpoint Number*
 - *Viewpoint details*
 - *OS Coordinates (12 digit)*
 - *Direction of view*
 - *Date & Time*
 - *Principle Distance (Viewing distance)*
 - *Single Frame or Composite*
 - *Horizontal Field of View*
 - *Weather / Lighting conditions*
 - *Camera Type*
 - *Lens / Focal Length*
- Nicholas Pearson Associates present all LVIA and VVM documents incorporating photographs and VVMs at A3 or A1.
 - All must be reproduced at 100% of original print size unless otherwise stated.
 - Once an electronic document has been issued, Nicholas Pearson Associates accept no responsibility for printing quality should the documents be printed on a third party printer which does not meet the required standard.

Please Note: Also, see the separate Nicholas Pearson Methodology specifically covering the process followed for Visually Verified Montage Preparation included at the back of this detailed LVIA method statement.

I.31 As well as the technical information set out above, for each viewpoint a description will be provided of the following:

- Nature of the receptor – a description of who may experience the view;
- Nature of the view – the direction, elevation, composition and characteristics of the view;
- Duration of the view, whether the view is transient, part of a sequence or temporary or permanent;
- Importance of the view – taking into account highly valued or designated landscapes, recognised viewpoints ;
- Context – of the site within the view.

I.32 Using professional judgement, the interaction of these factors will enable the relative value of each of the selected viewpoints to be established, as well as enabling the nature of the visual context of the site to be described.

Description of the Development/ Design

I.33 A full description of the proposed development will be included elsewhere within the ES. However, within this chapter, the development proposals will be described in summary where they relate specifically to potential impacts on the existing landscape character and visual context. Descriptions will be provided for the external realm design proposals as well as the built form, where information has been provided by the design team.

Design, Mitigation and Enhancement Measures

I.34 The identification of the likely level of effects on the landscape as a resource and the visual context has been used to help inform the design process and highlight where it may be important to prevent/avoid, reduce and where possible remedy any adverse landscape and visual effect or provide opportunities for enhancement. Key design measures which have been incorporated into the scheme proposals in response to potential impacts identified within this chapter, will be summarised. Evidence for the deliverability of mitigation will also be provided.

Identification of Potential Landscape Effects

I.35 Information about the development will be used to predict the likely impacts and effects on the landscape, during the construction, operation stages of the scheme for each landscape receptor.

I.36 In order to focus the assessment on key landscape issues, any effects that have been 'scoped out', because they have been judged to be insignificant or unlikely to occur, will be described. In addition, other effects that have been addressed by amendments to the scheme design through the iterative design/assessment process will also be identified.

I.37 The step process identified in the GLVIA 3rd edition, Chapter 3, will then be followed to explain judgements about the nature of the landscape receptor (or its sensitivity) and the nature of the effect on it (magnitude) and these will be combined to establish the level of the effect anticipated.

Step 1- Assess against agreed criteria

The Nature of the Receptor (or Sensitivity)

The initial step will be 'to consider each receptor in terms of its sensitivity made up of judgements about:

- the susceptibility of the receptor to the type of change arising from the specific proposal ; and
- the value attached to the receptor;

The Nature of the Effect (or Magnitude)

and secondly its magnitude made up of judgements about :

- *the size and scale of the effect e.g. whether there is complete loss of a particular element of the landscape or view or a minor change;*
- *the geographical extent of the area that will be affected; and*
- *the duration of the effect and its reversibility’.*

The nature of the Landscape Receptor (Sensitivity)

I.38 Professional judgement will be used to define the sensitivity of the receiving landscape based on combining judgements about the landscape value established in the baseline and the susceptibility of the landscape to the development type envisaged. A narrative will be used to explain the concluding nature of the receptor (sensitivity).

I.39 Landscape Susceptibility is ‘*the ability of a defined landscape to accommodate the specific development without undue negative consequences*’ (GLVIA, 3rd Edition Glossary p 158)

I.40 It is important to also note, as stated in the GLVIA 3rd Edition p90 Paragraph 5.46, that ‘ *there can be complex relationships between the value attached to landscape receptors and their susceptibility to change which are especially important when considering change within or close to designated landscapes. For example:*

- *An internationally nationally or locally valued landscape does not automatically, or by definition, have high susceptibility to all types of change.*
- *It is possible for internationally, nationally or locally important landscape to have relatively low susceptibility to change resulting from a particular type of development in question, by virtue of both the characteristics of the landscape and the nature of the proposal.*
- *The particular type of change or development proposed may not compromise the specific basis for the value attached to the landscape.’*

I.41 Example descriptors/criteria used for value, susceptibility and Sensitivity used to inform the assessment judgements/conclusions summarised in the Tables in the Volume 3, Technical Appendix F are provided below:

Table LCI. Value of Landscape Receptor to Change

Value of Landscape Receptor	Example Criteria
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Very High	Areas with international or national landscape designations, i.e. National Parks and Areas of Outstanding Natural Beauty or international heritage designations i.e. World Heritage Sites and their landscape setting. A landscape that contains a significant presence of nationally important heritage assets or that otherwise indicates a very high heritage value. Very high value may occasionally exist in landscapes with no such designation, where the Landscape Character Assessment or Historic Environment Assessment indicates an area as being of particular high sensitivity or international or national rarity.
High	Landscape Character Assessments that identify an Area of being of high sensitivity e.g. good condition and/or strong strength of character or of particular local value. The presence of many nationally important heritage assets that indicates a landscape of high heritage value or a high historic landscape character value. Areas with local landscape designations may indicate a High value, but weight should also be given to the Landscape Character Assessment to determine the specific value.
Medium	Landscape type or area is identified as medium sensitivity (e.g. having a moderate condition and/or strength of character) including judgements within relevant Landscape Character Assessments as of medium sensitivity. The landscape likely to exhibit some damage or deterioration but may have some individual features of local rarity or value. The presence of regionally or locally important heritage assets or Historic Landscape Character Areas that indicate a moderate heritage or historic landscape character value.
Low	Landscape type or area is identified as having low sensitivity (e.g. poor condition and/or weak strength of character). Landscapes will typically illustrate clear indication of damage, deterioration, and limited visual cohesion. The landscape is likely to have limited heritage value or has notably deteriorated.

Table LC2. Susceptibility of Landscape Receptor to Change

Susceptibility to change	Example Criteria
Very High	A very limited ability of the landscape to accommodate a Logistics or HGV Park and dedicated Rail Freight shuttle terminal development
High	A fairly limited ability of the landscape to accommodate a Logistics or HGV Park and dedicated Rail Freight shuttle terminal development
Medium	A moderate ability of the landscape to accommodate a Logistics or HGV Park and dedicated Rail Freight shuttle terminal development
Low	A well-defined ability of the landscape to accommodate a Logistics or HGV Park and dedicated Rail Freight shuttle terminal development

1.42 In order to provide a measurement from which to evaluate the sensitivity of the landscape, criteria have been devised and set out in a descriptive scale. The scale, which takes account of the local context of the appraisal, is as follows:

Table LC.3 –The sensitivity of the landscape

Sensitivity	Typical Descriptors and Examples
High	<p>Landscapes which by nature of their character would be unable to accommodate change of the type proposed. Typically these would be;</p> <ul style="list-style-type: none"> · Of high quality with distinctive elements and features making a positive contribution to character and sense of place. · Likely to be designated, but the aspects which underpin such value may also be present outside designated areas, especially at the local scale. · Areas of special recognised value through use, perception or historic and cultural associations. · Likely to contain features and elements that are rare and could not be replaced.
Medium	<p>Landscapes which by nature of their character would be able to partly accommodate change of the type proposed. Typically these would be;</p> <ul style="list-style-type: none"> · Comprised of commonplace elements and features creating generally unremarkable character but with some sense of place. · locally designated, or their value may be expressed through non-statutory local publications. · Containing some features of value through use, perception or historic and cultural associations. · Likely to contain some features and elements that could not be replaced.
Low	<p>Landscapes which by nature of their character would be able to accommodate change of the type proposed. Typically these would be;</p> <ul style="list-style-type: none"> · Comprised of some features and elements that are discordant, derelict or in decline, resulting in indistinct character with little or no sense of place. · Not designated. · Containing few, if any, features of value through use, perception or historic and cultural associations. · Likely to contain few, if any, features and elements that could not be replaced.

I.43 When considering the magnitude of any identified likely effects judgements about the size or scale will take account of:

- *‘The extent of the existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape – in some cases this may be quantified;*
- *the degree to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones-for example, removal of hedges may change a small-scale, intimate landscape into a large scale, open one;*
- *whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character.’*

Table LC4 below provides example criteria for size and scale of effect utilised in considering judgements

Size/Scale of Change	Example Criteria
Very High	The proposals constitute a very major change to the key characteristics and attributes of the landscape type or area, resulting in total loss or permanent alteration to existing landscape features and forming a dominant new feature in the landscape.
High	The proposals constitute a major change to the key characteristics and attributes of the landscape type or area, resulting in major loss or permanent alteration to existing landscape features and forming a prominent new feature in the landscape.
Medium	The proposals constitute a noticeable change to the key characteristics and attributes of the landscape type or area, resulting in a conspicuous loss or alteration to existing landscape features and forming a new feature in the landscape.
Low	The proposals constitute a minor change to the key characteristics and attributes of the landscape type or area, resulting in limited loss or alteration to existing landscape features and forming a minor new feature in the landscape.
Negligible	The proposals constitute little discernible change to the key characteristics and attributes of the landscape type or area, resulting in no loss or permanent alteration to existing landscape features and forming a barely discernible new feature in the landscape.

1.44 The geographical extent over which the landscape effects will be felt will also be considered including reference as to whether the effect of the specific development are localised or are over a wide geographical area.

Table LC5 below provides example criteria for geographical extent of effect utilised in considering judgements

Geographical Influence	Example Criteria
Very High	Effects experienced over an extensive area of a district level landscape character area, where this is likely to have an evident effect at the national level of landscape character.
High	Effects experienced where changes would occur over large parts of a landscape character area.
Medium	A moderate extent of a landscape character area is affected.
Low	Effects limited to a localised area and small proportion of the overall landscape character area.

Very Low	Effects limited to a very restricted extent, sufficient that there is little discernible influence on the character of the landscape character area.
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1.45 The duration of landscape effects will be described using categories such as short, medium or long term. Short term is defined in this assessment as zero to five years, medium term five to ten years and long term 10 to 25 years. Reversibility will also be considered and this will be based upon a judgement about 'the prospects and the practicality of the particular effect being reversed in for example a generation e.g. wind energy projects of often argued to be reversible due to the limited life and that they will be removed/and/or land reinstated, whereas housing developments are normally considered to be permanent.

Table LC6 below provides example criteria for duration of effect utilised in considering judgements

Duration & Reversibility	Example Criteria
Very High	Long term development (over 30 years) and permanent
High	Medium term development (10 to 30 years) and very difficult to reverse or long term development (over 30 years) and partially reversible
Medium	Medium term development (10 to 30 years) and partially reversible or short term development (1 to 10 years) and very difficult to reverse or long term development (over 30 years) and fully reversible
Low	Medium term development (10 to 30 years) and fully reversible or short term development (1 to 15 years) and partially reversible
Very Low	Short term development (1 to 15 years) and fully reversible

1.46 In order to provide a measurement from which to evaluate the magnitude of change to the landscape, criteria have been devised and set out in a descriptive scale. The scale, which takes account of the local context of the appraisal, is as follows:

Table LC7 Magnitude of change to the landscape

Magnitude of Impact	Example Criteria Descriptors
High Negative	Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements.
Medium Negative	Partial loss or noticeable damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic noticeable features and elements.
Low Negative	Slight loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements.
Negligible	No noticeable loss, damage or alteration to character or features or

	elements.
Low Positive	Slight improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic features and elements, or by the addition of new characteristic elements.
Medium Positive	Partial or noticeable improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic and noticeable features and elements, or by the addition of new characteristic features.
High Positive	Large scale improvement of character by the restoration of features and elements, and/or the removal of uncharacteristic and conspicuous features and elements, or by the addition of new distinctive features.

Step 2 –Combining the Judgements

1.47 A professional judgement will be made based upon the combination/consideration of these factors, to determine the level of effect on the identified landscape assets/ receptors and whether the effects are likely to be negative or positive. The Level of effect scale being employed for this project is provided below:

Table LC8 Overall level of landscape effect

Severe Adverse(Negative) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Be at complete variance with the character of the landscape. • Cause the integrity of characteristic features and elements to be lost. • Cause the sense of place or local distinctiveness of a whole character area to be lost • In terms of magnitude, are likely to, relate to all or very large parts/ areas or extent of the receptor; very 'large scale'.
Major (Negative) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Be at considerable variance with the character.of the landscape. • Degrade or diminish the integrity of a range of characteristic features and elements. • Damage the sense of place or local distinctiveness of an area. • In terms of magnitude, are likely to, relate to large parts/ areas or extent of the receptor; 'large scale'.
Moderate to Major Adverse	<p>The project proposals:</p> <ul style="list-style-type: none"> • Are likely to cause effects that meet some of the criteria from the above and below categories

Moderate Adverse(Negative) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Conflict with the character of the landscape. • Have an adverse impact on characteristic features or elements. • Diminish the sense of place or local distinctiveness of an area. • In terms of magnitude, are likely to relate to some parts/ areas or extent of the receptor.
Minor to Moderate Adverse(Negative) Effect	<p>The proposals:</p> <ul style="list-style-type: none"> • Are likely to cause effects that meet the criteria from some of the above and below categories
Minor Adverse (Negative) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Not quite fit the character of the landscape. • Be at variance with characteristic features and elements. • Detract from the sense of place or local distinctiveness of an area. • In terms of magnitude, are likely to, relate to small parts/ areas or limited extents of the receptor; 'small scale'.
Neutral Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Maintain the character (including quality and value) of the landscape. • Blend in with characteristic features and elements. • Enable a sense of place or local distinctiveness to be retained. • In terms of magnitude, are likely to, relate to very small parts/ areas or extent of the receptor; 'very small scale'. • Or, a change which has positive and negative effects that balance each other out.
Minor Beneficial (Positive) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Complement the character (including quality and value) of the landscape. • Maintain or enhance characteristic features and elements. • Enable some sense of place or local distinctiveness to be restored. • Enable some ('small scale' in terms of magnitude) restoration

	of established characteristic features partially lost through other land uses.
Moderate Beneficial (Positive) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Improve the character of the landscape. • Enable the creation, repair, conservation or restoration of characteristic features and elements partially lost or diminished as a result of changes from inappropriate management or development. • Enable a sense of place or local distinctiveness to be restored. • Enable good creation, repair, conservation or restoration of valued characteristic features partially lost through other land uses.
Beneficial (Positive) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Enhance the character of the landscape.. • Enable the restoration of characteristic features and elements lost as a result of changes from inappropriate management or development. • Enable a sense of place or local distinctiveness to be enhanced. • Enable significant ('large scale' in terms of magnitude) creation, repair, conservation or restoration of valued characteristic features partially lost through other land uses.
Very Large Beneficial (Positive) Effect	<p>The project would:</p> <ul style="list-style-type: none"> • Greatly enhance the character of the landscape. • Create an iconic high quality feature and/or series of elements. • Enable a sense of place or local distinctiveness to be created or greatly enhanced across the whole of a character area.

Identification of Potential Visual Effects

1.48 An assessment of visual effects deals with the effects of change and development on views available to people and their visual amenity' (GLVIA 3rd Edition P98 para 6.1)

1.49 Information about the development will be used to identify the likely interactions between the development and its visual receptors within the study area. The nature of effect during the construction, operation and decommissioning stages of the scheme for each visual receptor will be considered.

1.50 In order to focus the assessment on key visual issues, any effects that have been ‘scoped out’, because they have been judged to be insignificant or unlikely to occur, will be described. In addition, other effects that have been addressed by amendments to the scheme design through the iterative design/assessment process will also be identified.

1.51 The step process identified in the GLVIA 3rd edition, Chapter 3, will then be followed to explain judgements about the nature of the landscape receptor (or its sensitivity) and the nature of the effect on it (magnitude) and these will be combined to establish the level of the effect anticipated.

Step 1- Assess against agreed criteria

1.52 The initial step will be ‘to consider each effect in terms of its sensitivity made up of judgements about:

- the susceptibility of the receptor to the type of change arising from the specific proposal ; and
- the value attached to the receptor;

and secondly its magnitude made up of judgements about :

- the size and scale of the effect eg. whether there is complete loss of a particular element of the landscape or view or a minor change;
- the geographical extent of the area that will be affected; and
- the duration of the effect and its reversibility’.

1.53 The assessment of visual sensitivity is dependent on a combined judgement based upon the location and context of the viewpoint and the recognised importance of the view (value) and the expectations and occupation/activity of the receptor, or susceptibility, to the development being proposed. The most sensitive receptors may include users of casual outdoor recreational facilities such as public footpaths, who are focused on the landscape; communities where the development results in changes in the landscape setting or valued views; occupiers of residential properties whose views are affected by the development. The least sensitive receptors are likely to be those at work or travelling through a landscape by road or train particularly where seen from more distant views.

Example descriptors/criteria used for value, susceptibility and Sensitivity used to inform the assessment judgements/conclusions summarised in the Tables in the Volume 3, Technical Appendix F are provided below:

Table VI Value of Visual Receptor to Change

Value of view	Example Criteria
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High	Views from publicised vantage points and of regional and sub-regional value. Tourist attractions / historic estates /statutory heritage asset with a specific vista or focused views. Particularly noteworthy public views from national trails, National Parks or AONBs or statutory heritage assets i.e. more than local value & could be expected to be regularly used. Windows from residential properties specifically designed to take advantage of a particular view.
Medium	Locally known or valued viewpoints. Views from promoted public rights of way or clear evidence of regular use and areas of informal open space. Views from regularly used rooms or living space. Panoramic view, vista or other noteworthy view from active recreation areas or transport routes.
Low	View is not publicised and/or that there is relatively limited evidence of being regularly used. Visually degraded locations. View from small windows or otherwise assumed as not forming the main living or work spaces. Views of little noteworthiness from areas of active recreation or transport routes.

Table V2 Susceptibility of Visual Receptor to Change

Susceptibility of visual receptor to change	Example Criteria
High	Residential properties. Areas of open space where informal recreation is the main activity e.g. country parks and public open space. Users of public rights of way. Recreational activity where the primary enjoyment comes from the view. General views from heritage assets or attractions.
Medium	Areas of outdoor sport or active recreation where appreciation of views forms part of the experience e.g. golf courses; pedestrians using footways along roads; vehicular users and cyclists on roads; and rail passengers.
Low	Areas of active sport or play where the view does not form part of the experience e.g. football, rugby, play equipment. Commercial premises and areas of employment, where the view has limited value in relation to the activity being undertaken. There may be specific locations where buildings and the type of employment has been designed to enhance the quality of working life, in which case a higher level sensitivity would be applicable.

I.54 In order to provide a measurement from which to evaluate the sensitivity of visual receptors,, criteria have been devised and set out in a descriptive scale. The scale, which takes account of the local context of the appraisal, is as follows:

Table V3 –The sensitivity of visual receptors

High	Likely to be a view gained from residents, communities, and walkers or visitors to heritage assets at valued viewpoints in a recognised high quality landscape such as from a National Park, Area of Outstanding Natural Beauty, who are focussed on the landscape.
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Medium	Likely to be a view which is from residents, communities and walkers or visitors to heritage assets within a moderate quality landscape and a view from travellers on roads within a moderate quality landscape with some existing landscape elements of quality;
Low	Likely to be a view which is from people engaged in outdoor sport or at their place of work within a moderate quality landscape with some existing landscape elements of quality, or from a view experienced by travellers on roads within a moderate quality landscape;
Neutral	Likely to be a view which is transient from people within a degraded landscape and there are existing degraded elements in the landscape;

I.55 In order to establish the magnitude of visual effects each of the identified likely effects ‘needs to be evaluated in terms of its size or scale, the geographical extent of the are influenced and its duration and reversibility.’ (GLVIA 3rd Edition, P115, Paragraph 6.38).

I.56 Judging the magnitude of visual effects identified in terms of size or scale will take account of:

- ‘The scale of the change in the view with respect to loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;
- The degree of contrast or integration of any of the new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of scale and mass, line, height, colour and texture;
- The nature of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full partial or glimpses;’(GLVIA 3rd Edition, P115, Paragraph 6.39).

Table V4 below provides example criteria for size and scale of effect utilised in considering judgements

Size/Scale of Change	Example Criteria
Very High	The proposed development would become the most dominant feature in the view and that completely contrasts with the other existing features in the view. The contrasting features of the development would be fully visible.
High	The proposal development would constitute a major change to the view, forming a prominent new feature in the view that noticeably contrasts with other existing features in the view. The development would be predominantly visible.

Medium	The proposals development would form a noticeable change to the view, forming a conspicuous new feature in the view that partially contrasts or harmonises with other features in the view. The contrasting features of the development would be partially visible.
Low	The proposal development would constitute a small change to the view, forming a minor new feature in the view that largely integrates with its surroundings with little discernible change. This could also be a result of being a glimpsed or filtered view through vegetation and/or at some distance relative to its scale.
Very Low	The proposed development would be a barely discernible change to the view, which could e.g. be due to a very filtered view through vegetation or considerable distance relative to scale.

I.57 Judgements regarding geographical extent of a visual effect will vary with different viewpoints and are likely to reflect:

- *'The angle of view in relation to the main activity of the receptor;*
- *The distance of the viewpoint from the proposed development;*
- *The extent of the area over which the changes would be visible'.*(GLVIA 3rd Edition, P115, Paragraph 6.40)

Table V5 below provides example criteria for geographical extent of effect utilised in considering judgements

Geographical Influence	Example Criteria
Very High	The development effects all or nearly all of the view and forms the primary focus of the view to the extent that it is overwhelming. It is likely that the view is within the site or very close to the site.
High	The development affects a large extent of the view and at the centre of the view. It is likely that the view is close to the site or possibly in the site.
Medium	The development affects a moderate extent of the view and lies near the centre of the view or at a slightly oblique angle. It is likely that this is a localised view.
Low	The development effects a small extent of the view and and/or at a moderately oblique angle. It is likely that the development is in the mid-distance of the view.
Very Low	The development effects a very small extent of the view and and/or at a very oblique angle. It is likely that the development is in the far distance of the view.

I.58 The duration of a visual effect will be described using categories such as short, medium or long term. Short term is defined in this assessment as zero to five years, medium term five to ten years and long term 10 to 25 years. Reversibility will also be considered and this will be based upon a judgement about 'the prospects and the practicality of the particular effect being reversed in for example a generation e.g. wind energy projects of often argued to be reversible due to the limited life and that they will be removed/and/or land reinstated, whereas housing developments are normally considered to be permanent.

Table V6 below provides example criteria for duration of effect utilised in considering judgements

Duration and Reversibility	Criteria
Very High	Long term development (over 30 years) and very difficult to reverse
High	Medium term development (10 to 30 years) and very difficult to reverse or long term development (over 25 years) and partially reversible
Medium	Medium term development (10 to 30 years) and partially reversible or short term development (1 to 10 years) and very difficult to reverse or long term development (over 30 years) and fully reversible
Low	Medium term development (10 to 30 years) and fully reversible or short term development (1 to 10 years) and partially reversible
Very Low	Short term development (1 to 10 years) and fully reversible

1.59 In order to provide a measurement from which to evaluate the magnitude of change effecting visual receptors, criteria (which can be positive or negative) have been devised and set out in a descriptive scale. The scale, which takes account of the local context of the appraisal, is as follows:

Table V7 The magnitude of change effecting visual receptors

Magnitude of impact	Typical criteria descriptors
High	The project, or a part of it, would become the dominant feature or focal point of the view.
Medium	The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.
Low	The project, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.
Negligible	No discernible change in the view

Step 2 –Combining the Judgements

1.60 A professional judgement will be made based upon the combination/consideration of these factors, to determine the level of effect on the identified visual receptors and whether the effects are likely to be negative or positive. The Level of Effect scale being employed for this project is provided below:

Table V8 The overall level of visual effect

Major Adverse(Negative) Effect	<p>The proposals would typically:</p> <ul style="list-style-type: none"> • Cause a large deterioration in the existing views; • In terms of magnitude, would likely relate to the majority of views afforded by the receptor group and/ or to all or very large extents of each of those views; • In terms of sensitivity, would likely to affect views afforded by receptors which are deemed to be of higher value or to receptors and their views considered to be
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	<p>very susceptible to this form of development;</p> <ul style="list-style-type: none"> • Effects are likely to be long term and may be permanent.
Moderate to Major Adverse(Negative) Effect	<p>The proposals would typically:</p> <ul style="list-style-type: none"> • Include some criteria from the above and below levels.
Moderate Adverse(Negative) Effect	<p>The development would typically:</p> <ul style="list-style-type: none"> • Cause a noticeable deterioration in the existing views; • In terms of magnitude, would likely relate to a moderate proportion of range of views afforded by the receptor group and/ or to a large proportion of each of those views – ‘medium scale’; • In terms of sensitivity, would likely to affect views afforded by receptors which are deemed to be of more moderate value or to receptors and their views considered to be have a medium level of susceptibility to this form of development; • Effects are likely to be long term but moderated by smaller scales of change or may be short term but with larger scales of change.
Minor to Moderate Adverse (Negative) Effect	<p>The proposals would typically:</p> <ul style="list-style-type: none"> • Include some criteria from the above and below levels.
Minor Adverse(Negative) Effect	<p>The proposals would typically:</p> <ul style="list-style-type: none"> • Cause a barely perceptible deterioration in the existing views; • In terms of magnitude, would likely relate to a small proportion of range of views afforded by the receptor group and/ or to a small proportion of each of those views – ‘small scale’; • In terms of sensitivity, would likely to affect views afforded by receptors which are deemed to be of more lower value or to receptors and their views considered to be have a low level of susceptibility to this form of development; • Effects are likely to be long term but moderated by smaller scales of change or may be short term but with larger scales of change. • Effects may be long term but of negligible size/ scale or short term and of a larger scale of change.
Neutral	<p>The proposals would typically:</p> <ul style="list-style-type: none"> • Cause no discernible deterioration or improvement to the existing view being experienced. • Or a change which has positive and negative effects that

	balance each other out.
Minor Beneficial (Positive) Effect	<p>The proposals would typically:</p> <ul style="list-style-type: none"> • Cause a barely perceptible improvement in the existing views; • In terms of magnitude, would likely relate to a small proportion of range of views afforded by the receptor group and/ or to a small proportion of each of those views – ‘small scale’; • In terms of sensitivity, would likely to affect views afforded by receptors which are deemed to be of more lower value or to receptors and their views considered to be have a low level of susceptible to this form of development; • Effects are likely to be long term but moderated by smaller scales of change or may be short term but with larger scales of change. • Effects may be long term but of negligible size/ scale or short term and of a larger scale of change.
Minor to Moderate Beneficial (Positive) Effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • Include some criteria from the above and below levels.
Moderate Beneficial (Positive) Effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • Cause a noticeable improvement in the existing views; • In terms of magnitude, would likely relate to a moderate proportion of range of views afforded by the receptor group and/ or to a large proportion of each of those views – ‘medium scale’; • In terms of sensitivity, would likely to affect views afforded by receptors which are deemed to be of more moderate value or to receptors and their views considered to be have a medium level of susceptible to this form of development; • Effects are likely to be long term but moderated by smaller scales of change or may be short term but with larger scales of change.
Moderate to Major Beneficial(Positive) Effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • Include some criteria from the above and below levels.
Large Beneficial (Positive) Effect	<p>The proposals would:</p> <ul style="list-style-type: none"> • Cause a large improvement in the existing views; • In terms of magnitude, would likely relate to the majority of views afforded by the receptor group and/ or to all or very large extents of each of those views; • In terms of sensitivity, would likely to affect views afforded by receptors which are deemed to be of higher value or to receptors and their views considered to be

	<p>very susceptible to this form of development;</p> <ul style="list-style-type: none"> • Effects are likely to be long term and may be permanent.
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Identification and Assessment of the overall level of Landscape and Visual Effects

I.61 This section will include a summary narrative statement of the final conclusions about overall level of landscape and Visual Effect (beneficial or adverse) which would result from the scheme proposals. The judgement will be made with reference to the above stated scale.

Final statement of the likely significant Landscape and Visual Effects.

I.62 GLVIA 3rd Edition p91 Para 5.53 states that ‘to draw final conclusions about significance , the separate judgements about the sensitivity of receptors and the magnitude of effects need to be combined to allow a final judgement to be made about whether each effect is significant or not, as required by the EIA Regulations’.

I.63 GLVIA 3rd Edition p91 Para 5.54 also states that ‘Significance can only be defined in relation to each development and its specific location. It is for each assessment to determine how the judgements about landscape receptors and landscape effects should be combined to arrive at significance and to explain how the conclusions have been derived.

I.64 In this specific topic assessment, to establish whether an overall landscape or visual level of effect is significant or not, an effect above moderate is considered to be significant and an important consideration at a local and district scale and if adverse, may become a key factor in the decision making process. A narrative is used to explain the overall conclusions reached.

Glossary

I.65 The terms used within the Landscape and visual assessment reflect the definitions contained within the Glossary from ‘The Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, prepared by the Landscape Institute and Institute of Environmental Management and Assessment (April 2013)’ starting on page 155.

Cumulative Effects on Landscape Character and Visual Context

I.66 Cumulative effects are defined here as the combined effect of a set of developments taken together. The scope of potential additional developments will be agreed with the Local Planning

Authority but is intended to be limited to developments which have an existing planning approval or which are due for determination at the time of writing.

I.67 The study area for assessment of cumulative impacts geographic extent will be limited to the following criteria:

- **Landscape Character** – Limited to additional developments within the same locally defined Landscape Character Area (LCA).
- **Visual Context** – Limited to additional developments within the ZTV of the main development.

I.68 Landscape and visual effects will be identified where the combined impact from the additional developments with the main development are considered to be different to the effects of the main development alone. In the case of visual effects, the nature of effect will also be described either as:

- In **combination**, where more than one development is seen at one time within a single view;
- In **succession**, where more than one development is seen at one time from the same viewpoint but at different orientations;
- In **sequence**, where multiple developments can be seen along a route.

I.69 A summary of the Level of effects on landscape and visual receptors will be provided based on the criteria, previously defined. Any opportunities for mitigation of cumulative impacts, such as community compensation schemes or inter-developer partnerships will be identified and reviewed as part of the iterative design process.

Appendix A - Nicholas Pearson Associates Visually Verifiable Montage Methodology

Introduction

A.1 Nicholas Pearson Associates was established in 1982. The Company has a reputation within the environmental and landscape consultancy field for quality of service, attention to detail and achievement in terms of successful promotion of client's aspirations.

The methodology used by Nicholas Pearson Associates accords with the Third Edition of the good practice Guidelines for Landscape and Visual Impact Assessment 2013; produced by the Landscape Institute and Institute of Environmental Management & Assessment and LI Advice Note 01/11. For applications prepared for wind farms or similar, we adhere to the Scottish Natural Heritage, Visual Representation of Wind Farms Version, 2.1 December 2014.

The purpose of a Visually Verifiable Montage (VVM) is to, impartially represent the case (for or against); to show the proposed development, as it would appear in reality using a baseline of verifiable visual data and information. A VVM combines photographic views with accurate CAD 3-D representation of the proposals to an agreed level of detail. This verifiable image, using quantifiable data, can then be used by others to scrutinise the work, if required, without its veracity being questioned.

A.2 Nicholas Pearson Associates have produced numerous VVMs for urban and rural developments, and have successfully presented these for expert witness evidence at public inquiry. We are not only capable of undertaking VVMs but can also use our experience to assess, verify and challenge work by others.

Specific project information

Site Location:

Dates of visit:

General weather conditions:

Equipment not identified in standard methodology:

Photography

Nicholas Pearson Associates use Digital Single Lens Reflex cameras to ensure that the printed images are of a size and resolution which best represents the chosen viewpoint. Occasionally, alternative makes of Digital SLRs may be used; however this will be stated on the final documentation.

Equipment:

- *Canon 5D full frame digital SLR camera*
- *Canon 50mm f1.4 lens*
- *Canon 28mm*
- *Alternative lenses: hired upon requirement*
- *Alternative cameras: Canon EOS 450D & 1000D*
- *Tripod*
- *NN4-D16-Nodal Ninja NN4 Panorama head with RD-16 rotator base*
- *NN-EZ-Nodal Ninja EZ Leveller MKII*
- *Plumb bob*
- *Compass*

A.3 LVIA & VVM photographs are taken using the most appropriate combination of lens focal lengths to ensure that the field of view covers the proposed scheme environment or landscape context. Photographs are predominantly taken in landscape format unless circumstances dictate an alternative.

A.4 Using Ordnance Survey mapping or detailed topographic surveys, Cameras are located and mounted on a tripod at height of 1.6m above existing ground level, which best represents the average human eye level. A leveller is used to ensure that the camera is horizontal and a panoramic head is necessary when capturing panoramas. A photograph of the tripod in situ is taken and a plumb bob is used to accurately locate the camera on the ground if the location is to be surveyed.

A.5 Photographs are taken; preferably using an ISO of 100 with an aperture suitable to capture the greatest depth of field the photographs are stored as a RAW format using manual settings to enable the best quality results. The photographer will make note of the weather conditions and direction of view. All other details relating to the photograph are stored in the image EXIF data. If necessary, the original RAW file can be submitted as part of the verification process.

A.6 Suitable weather conditions are sought so that the proposals may be clearly visible in the context of the view. It should be noted that taking photographs looking south during the winter, due to the low angle of the sun can be problematic. Therefore we endeavour to take the photographs at the appropriate time of day to reduce the chance of the site being in shadow or backlit. Each photograph, or combinations of photographs, correctly portrays the view which is obtained at each representative viewpoint whilst avoiding obvious obstructions. The location of each viewpoint is accurately located on a survey.

Baseline data

A.7 Baseline data is likely to include the following:

- *Topographic site survey*
- *Terrain 5 DTM –The increased quality and resolution of this data includes landform details not identified on standard 5m OS contours such as road and rail embankments.*
- *OS Landform Panorama - Used for distant landforms*
- *OS Mastermap – The 1:1250 data includes field boundaries, buildings, roads etc. All beneficial when aligning the 3D cameras. This data is superimposed onto the DTM.*
- *Aerial Photography – Useful to help locate specific features not available on mapping data such as trees and lampposts etc.*

Survey

A.8 To assist in the verification process, the topographic survey is used to identify 3D point locations. In many cases, these may include existing building ridgelines, tree canopies, lighting columns, or similar such details. Further topographic surveys can be carried out during or after our site visit to

ensure we have as much detailed data as possible. Data can include Camera locations and specific 3D points specified by us to assist in the camera matching process.

A.9 For more distant views, compass bearings to distinctive elements in the view will also be used to assist with the alignment of the view. 12 figure OS grid reference coordinates, altitude Above Ordnance Datum (m AOD) and GPS locations can also be recorded.

A.10 We also obtain site reference photographs of local building materials, landscape character as well as capturing elements within the view which may be revealed or reflected by the proposed scheme

Post photographic Production

A.11 The original Canon RAW files are processed in Adobe Photoshop to adjust White Balance, colour accuracy, sharpness. The images undergo further correction procedure to ensure the horizon is precisely horizontal and any barrel distortion is compensated for.

A.12 All final images are output as uncompressed Jpeg or Tiff files. The individual photographs are all equally sized according to the preferred reproduction size. The corrected baseline image, which is known as the background plate, is then ready for the visualisation work to begin.

3D Model & height verification

A.13 The following software can be used for preparing the 3D Model data:

- *AutoCAD 2015*
- *Autodesk Civil 3D*
- *Sketch up 2014*
- *Revit Architecture*
- *LSS by McCarthy Taylor Systems*
- *3D Studio MAX Design*

A.14 The appropriate software is used for the first stage of the model construction process prior to constructing an existing base model using 3D Studio Max Design. Initially, the base model is constructed of all the existing elements required to map the photographic viewpoints to the verified view.

A.15 The architects / engineers and landscape proposals are all combined with the site survey and mapping data, so that they correspond with each other. Any additional data can then be applied to the 3D model at this stage to create a basic skeleton for the final solid rendered model. The co-ordinate system is used when doing this, so that information regarding viewpoints can be accurately located such as the viewpoint markers.

A.16 The heights and levels of the key features of the proposed scheme are then cross checked against the design drawings and sections to check they correspond.

Camera Matching

A.17 Irrespective of whether the final VVM is output as a single or composite panoramic image, each Verified View is based upon a single photographic frame.

A.18 The viewpoint markers are used to tie the photograph to the CAD Camera view. These are usually surveyed items such as lamp posts, walls, field boundaries and buildings; in essence, anything that has a known location. At least six points are required to be as accurate as possible. Some of which should be at a height above ground level i.e. tops of lampposts and buildings. The background plate photograph is imported into 3D Studio Max, to verify the accuracy of the match.

In situations where there are no existing physical details to use, survey posts are located at varying heights and distances within the view and then included into the digital topographic survey for use later in the process.

A.19 The location and angle of view can also be checked by triangulating the position. This is a reliable method successfully used for location finding in the field.

A wireframe model of the existing and proposed model is rendered, overlaid onto the photograph and issued for approval. This is carried out so that the client and design team can confirm that they are satisfied with the camera matching and mass/scale of the scheme before proceeding to the next stage.

Texturing and Rendering (In depiction of photorealistic images)

A.20 3D Studio Max Design is then used for applying the photorealistic surfaces and materials to the 3D model. Once this is complete, the lighting can be added to create a realistic scene. The exact reactions to sunlight can be calculated by using the software's ability to place it in the direction according to the time of day/month etc. Additional transparent lighting effects are also added to add the final touches.

A.21 Rendering is the term used to describe the process of generating a two dimensional rendered bitmap image from the 3D model.

A.22 Texturing is the application of photorealistic surfaces to the 3D model to reflect what the proposed scheme would look like once constructed. Using information provided by the designers and manufacturers plus samples (e.g. types of glass metal, brickworks etc) we produce the qualities and appearance which most closely represents the real world materials.

A.23 Lighting and Sun direction is an important factor in representing the scheme proposals as they would appear in the photograph. From the photograph META data and observations in the field; the sunlight and daylight system in 3D Studio Max is used to accurately simulate the real world lighting as it was when the photograph was taken. The Sunlight and Daylight System calculates the movement of the sun over the earth at a given location. In addition, the software reproduces the ambient lighting, shadows and reflections.

A.24 The exact resolution of the photograph is noted and used as the size for the final rendered output of the 3D Model view so that the two overlay each other precisely.

Post Production

A.25 Adobe Photoshop CC is used to blend the modelled information with the existing base line / base plate photograph. Various masks are created to position the development behind any existing details. Colour correction is then applied if necessary to give it that “lived in look”. Finally, proposed vegetation can be introduced along with the removal of any existing details on site that would be removed during the development process.

A.26 The blending of any additional imagery and rendered models to provide context and realism is undertaken before the final image is completed, to allow an accurate “before & after” comparison.

Reproduction and presentation material

A.27 Our chosen desktop publishing software is Adobe In-Design. All our VVM views are presented at 100%, suitable for A3 / A2 / A1 reproduction.

Our images have a target resolution of 300PPI; suitable for high quality printing when reproduced on printers with resolutions of up to 2400DPI.

- *Nicholas Pearson Associates present all LVIA and VVM documents incorporating photographs and VVMs at A3 or A1.*
- *All must be reproduced at 100% of original print size unless otherwise stated.*
- *Once an electronic document has been issued, Nicholas Pearson Associates accept no responsibility for printing quality should the documents be printed on a third party printer which does not meet the required standard.*

A.28 Each viewpoint is accompanied by a viewpoint location plan and, if requested, can be supplied with a photograph of camera location.

Viewing procedure

A.29 The purpose is to reproduce the represented view or VVM so that it “correctly reconstructs the perspective seen from the location from which the photograph was taken”

A.30 For the majority of VVMs based upon a 28mm lens or 50mm lens, the images will be reproduced at A3 and suitable for viewing at between 300mm & 500mm. All VVMs will be reproduced with the recommended principle viewing distance noted.

A.31 When viewing the represented views and VVMs, the viewer must keep their head motionless and fix their eyes on the centre of the view. When comparing the view in the field, the viewer must also keep the head motionless. This ensures that the represented view falls within the human field of view.

A.32 It must be borne in mind that VVMs are not intended to replace the real-time visual experience and that a consensus can only be made by comparing the printed images in the field from the viewpoint whilst observing the correct viewing procedure.

Glossary

AOD: Above Ordnance Datum

AGL: Above ground level

FOV: Field of View

HFOV: Horizontal field of view

VFOV: Vertical field of view

VVM: Visually Verifiable Montage

CAD: Computer Aided Design

GPS: Global Positioning System

LVIA: Landscape and Visual Impact Assessment

EXIF: Exchangeable image file format

META Data: Provides detailed Image data

RAW: Uncompressed file format containing the highest quality image

Focal length: Distance between the lens and image sensor

ISO: Controls camera sensor sensitivity

Aperture: An opening through which light travels

Shutter speed: Exposure time

