
HILLTOP FARM OPEN CAST COAL MINE

LANDSCAPE AND VISUAL IMPACT ASSESSMENT

September 2017



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1.0 Introduction

This Report

- 1.1.1 This report (together with the accompanying Figures and Appendices) comprises the Landscape and Visual Impact Assessment (LVIA) of the proposed open cast coal mine at Hilltop Farm, Clay Cross, Derbyshire (the Proposed Development).
- 1.1.2 A planning application for the Proposed Development was submitted to Derbyshire County Council (DCC) in January 2016, including an Environmental Statement (ES) and an Addendum to the ES. In the absence of any decision regarding the Application, Provectus (the Appellant) are appealing against non-determination.
- 1.1.3 Having reviewed the LVIA which formed part of the January 2016 we agreed with much of its content but considered that refinement was required in some areas and that a greater level of detail was appropriate to enable the nature of effects to be described more accurately. This LVIA was therefore prepared and forms part of the Appeal evidence prepared in respect of landscape and visual matters. Unless otherwise stated, the conclusions of this LVIA supersede the previous assessment work submitted in 2016.

Landscape and Visual Impact Assessment

- 1.1.4 The LVIA was undertaken by Mr. Andrew Martin a Chartered Member of the Landscape Institute (CMLI) with approximately 10 years post qualification experience in landscape and visual impact assessment. The LVIA was undertaken under the direction of and was reviewed by Mr. Jon Mason, a Chartered Member of the Landscape Institute (CMLI) with over 20 years' experience of landscape and visual impact assessment. The LVIA follows good practice guidance set out in *Guidelines for Landscape and Visual Impact Assessment* (the GLVIA)¹. The conclusions of the LVIA have been determined through the use of professional judgement, set within a structured assessment framework, and supported by reasoned justification.
- 1.1.5 The LVIA seeks to establish the following:
- A clear understanding of the Site and its context;

¹ Landscape Institute and Institute of Environmental Management and Assessment, 3rd edition 2013. *Guidelines for Landscape and Visual Impact Assessment*. Routledge: Abingdon.

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- An understanding of the Proposed Development in terms of how this would relate to the existing landscape and views;
 - An identification of likely significant effects of the Proposed Development upon the landscape and upon views, throughout its life-cycle;
 - Any mitigation measures necessary to reduce/eliminate any potential adverse effects; and
 - A conclusion as to the residual likely significant effects of the Proposed Development.

1.1.6 The assessment of landscape effects considers the potential effects of a development on the landscape as an environmental resource. Landscape effects are caused by physical changes to the landscape, which may result in changes to the distinctive character of that landscape and how it is perceived.

1.1.7 A visual assessment is concerned with the potential effects that may occur, resulting from a development, upon the population likely to be affected. It assesses the change in visual amenity undergone by specific receptors that would arise from any change in the nature of views experienced.

1.1.8 Further details on the specific methodologies of assessment and determination of significance are included in Appendix 1. The LVIA has been informed by both desk- and field-based studies.

1.1.9 It should be noted that the landscape (including the context in which views are experienced) is dynamic, i.e. it is affected by social, economic, technological and climatic changes, all of which can influence patterns of land use, land cover and land management. As such, the baseline context for the LVIA is not static.

Description of the Proposed Development

1.1.10 The Proposed Development was described in detail in the 2016 ES. In summary, it would comprise:

- Initial site preparation works;
- Phased extraction of coal from the Site over a total period of thirty-six months;
- Associated ancillary development, including a processing area and internal haul road;
- Screen bunding along the perimeter of operational areas; and
- Phased restoration of the Site as operations cease.

- 1.1.11 The duration of the Proposed Development would be approximately thirty-six months. The Site would be worked in series of nineteen cuts, broadly from north to south. Phasing of operations is discussed in greater detail below. The maximum depth of cut would be approximately 30m, with the average likely to be approximately 20m.
- 1.1.12 Appendix 16 of the 2016 ES included a series of cross sections through the operational Site (including bunds and nearby properties).
- 1.1.13 Landscape restoration (described in detail in the 2016 ES) would be implemented in accordance with drawing 5171-L-01 rev E (which formed part of the 2016 planning submission). New planting would take place in the first available planting season following soil placement in the affected areas. Additionally, several of the existing hedgerows present on Site would be translocated to temporary locations for the duration of the work, prior to being reinstated at their original locations. Translocation would take place during the dormant period for vegetation (typically October to February), and as such would occur outside of bird nesting season (which typically runs from February to August) and would occur prior to any operations taking place in the affected areas. Post-restoration, due to the predicted bulking of earthworks as they are excavated finished ground levels within the Site would generally be higher than existing levels, by up to 2m. Ground levels would be feathered in order that they tie in gradually with existing levels at site boundaries and other interfaces.

Vehicles

- 1.1.14 The list of vehicles set out in Table 1 below are representative of those that would be used on Site. Dimensions are provided to assist understanding of potential visual effects. Appendix 2 includes photographs of each vehicle. [Numbers in the left hand column in Table 1 correspond with numbering in Appendix 2.]

Table 1: Vehicles

	Vehicle	Used for	Dimensions (approx.)
1	EX360C Volvo 30 tonne excavator (1 no.)	Soil strip and stockpiling	<ul style="list-style-type: none"> ○ Cab height 3.19m ○ Max. loading height 6.81m

	Vehicle	Used for	Dimensions (approx.)
2	A25T Volvo 25 tonne Dump Truck (2 no.)	Soil strip and stockpiling	<ul style="list-style-type: none"> ○ Cab height 3.15m ○ Dump height 6.04m
3	D659X Komatsu bulldozer	Stockpiling and backfilling	<ul style="list-style-type: none"> ○ Cab height 3.08m
4	EC700CL Volvo, or CAT374LME Caterpillar 70 tonne excavator (2 no. of either excavator)	Main overburden extraction	<p>Volvo</p> <ul style="list-style-type: none"> ○ Cab height 3.52m ○ Max. loading height 6.96m <p>Caterpillar</p> <ul style="list-style-type: none"> ○ Cab height 3.55m ○ Max. loading height 7.08m
5	D85X Komatsu bulldozer (1 no.)	Ripping and main excavation	<ul style="list-style-type: none"> ○ Cab height 3.32m
6	A40F Volvo 21T 21 tonne dump truck (7 no.)	Main overburden excavation	<ul style="list-style-type: none"> ○ Cab height 3.67m ○ Dump height 7.29m
7	EC360LC Volvo 21T 21 tonne excavator (1 no.)	Coal scrape and lifting	<ul style="list-style-type: none"> ○ Cab height 3.19m ○ Max. loading height 6.81m
8	140M2 CAT Motor Grader (1 no.)	Topsoil removal	Cab height 3.29m
9	L150F Volvo 22 tonne loading shovel (1 no.)	Coal loading	<ul style="list-style-type: none"> ○ Cab height 3.58m ○ Hinge pin max. height 4.34m
10	120 horsepower tractor (1 no.)	Damping down haul roads as required	A typical tractor, with exact dimensions varying with the model chosen.
11	S190 McCloskey Screener	Screening coal, within the processing area	<ul style="list-style-type: none"> ○ Will create stockpiles with approx. height 5m

Phasing

1.1.15 For the purposes of this LVIA, the proposed works have been divided into six broad illustrative phases. This subdivision is intended to assist with communication of the changing nature of effects that would occur across the duration of the Proposed Development. Effects will vary from location to location as operations progress. The activities that would take place in each of the phases are described below in Table 2, and have also been illustrated on Figures 1a-1c. The duration of each

phase has been derived from details provided in Appendix K from Appendix 3 of the Environmental Statement. The timings, which were prepared by technical experts with extensive experience in carrying out such operations are approximate and are considered to be conservative. An element of contingency has been incorporated into the time estimates, to allow for delays that might occur for reasons outside of the operators control, for instance due to periods of bad weather when material handling in accordance with good practice is not possible.

- 1.1.16 Operations would be sequential, with a carefully coordinated rolling programme of overburden removal and replacement accompanying the phased cuts. Some of the proposed works could occur concurrently with one another to make more efficient use of resources which would potentially speed up the restoration process.
- 1.1.17 The details set out in Table 2 overleaf are derived from Appendix K from Appendix 3 of the Environmental Statement

Table 2: Phasing

Phase	Operation	Notes	Anticipated Vehicles Used
Phase 1 (Figure 1a) Months 1 to 6	Site preparation work	Construction of site offices/ compound (inc. buildings max. height 2.9m), access route, haul road preparation (inc. soil strip and haul road bridge between Q1 and Q2, coal stockpiling area, and lagoons	<ul style="list-style-type: none"> ○ Grader ○ Excavator ○ Dump Truck
	Safety management measures put in place on public footpath 23	Likely to comprise fencing and signage to ensure the safety of walkers using the footpath, in particular where this would cross the haul road. The haul road in the vicinity of the footpath would be surfaced with a suitable material to allow a safe and comfortable crossing experience for pedestrians.	
	Soil stripping (Area Q1 and haul road)	Q1 (Cuts 1 to 3), lasting for approximately 1 week	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne excavator (1 no) ○ 25 tonne dump truck (2 no)
	Creation of screening/ noise attenuation bunds in the northern half of the Site and around the coal processing area	Bund will be formed using stripped soils. To commence immediately following soil strip, and lasting for approximately 1 week	<ul style="list-style-type: none"> ○ Small bulldozer ○ 360 degree Excavator
	Soil stripping (Area Q3)	Q3 (Cuts 9 to 12), lasting approximately 1 week.	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne excavator (1 no) ○ 25 tonne dump truck (2 no)
	Coal extraction from Q1	Extraction would typically take place from platforms at different elevations below ground level (due to different seams being worked). Extraction would last for approximately 3 months. Dump trucks would carry the excavated coal along the site haul road to the processing area, where it would be screened and loaded onto HGVs for export from the Site	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck

Phase	Operation	Notes	Anticipated Vehicles Used
	Creation of overburden stockpile area (max. height 10m)	Overburden to be loaded from by a 360-degree excavator, into dump trucks, which will travel along the haul road to deposit the material at the stockpile site. Following the creation of the initial overburden stockpiles, any further spoil would be removed from later cuts and directly placed on earlier (worked out) cuts for compaction in accordance with Coal Authority licence requirements. Would occur concurrent with coal extraction from Q1.	<ul style="list-style-type: none"> ○ 360-degree excavator (2 no) ○ Dump truck (7 no), making 17 trips per hours ○ D85 bulldozer (as required)
	Soil stripping (Area Q2)	Q2 (Cuts 4 to 7), lasting approximately 1 week and occurring towards the end of Phase 1	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne excavator (1 no) ○ 25 tonne dump truck (2 no)
Phase 2 (Figure 1a) Months 6 to 12	Restoration of the majority of Q1	Soil placement, lasting approximately 1 week. Haul road remains open.	<ul style="list-style-type: none"> ○ 360-degree excavator ○ Dump truck
	Coal extraction from Q2	Approximately 3 months' duration, with operations occurring in a similar fashion to Q1	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck
Phase 3 (Figure 1b) Months 12 to 18	Restoration of Q1 (haul road) and Q2	Final soil placed on Cut 3. Soils placed onto Cuts 4-8 Haul road bridge removed Aftercare to commence in Q1 and Q2, including management of restoration landscape works	<ul style="list-style-type: none"> ○ 360-degree excavator ○ 25 tonne dump truck (2 no)
	Removal of bunding around Q1 and Q2	Approximately 1 week duration	<ul style="list-style-type: none"> ○ 360-degree excavator ○ 25 tonne dump truck (2 no)
	Safety management measures removed from northern side of public footpath 23		
	Creation of bunding east of Cut 8 and Q4,	Approximately 1 week duration (<i>NB this bund may not be required if new housing on the opposite side of the A61 has not yet been complete/ inhabited</i>)	<ul style="list-style-type: none"> ○ Small bulldozer ○ 360 degree Excavator

Phase	Operation	Notes	Anticipated Vehicles Used
	Extension of haul road into Q4	Approximately 1 week duration	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne excavator (1 no) ○ 25 tonne dump truck (2 no)
	Soil stripping for Cut 8, and from	Approximately 1 week duration	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne excavator (1 no) ○ 25 tonne dump truck (2 no)
	Soil stripping from the northern part of Q4 (Cuts 13-14)	Approximately 1 week duration	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne excavator (1 no) ○ 25 tonne dump truck (2 no)
	Coal extraction from the northern part of Q3 (Cut 9)	Approximately 7 weeks duration, with operations occurring in a similar fashion to Q1	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck
	Coal extraction from Cut 8	Approximately 6 weeks duration, with operations occurring in a similar fashion to Q1	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck
	Coal extraction from the northern part of Q4 (Cuts 13-14)	Approximately 3 months duration, with operations occurring in a similar fashion to Q1	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck
	Restoration of Cut 8 and the northern part of Q3 (Cut 9)	Approx 1 week duration (soil placement)	<ul style="list-style-type: none"> ○ 360 degree excavator ○ 25 tonne dump truck (2 no)
Phase 4 (Figure 1b) Months 18 to 24	Soil stripping from part of Q4 (Cuts 15-17)	Approx. 1 week	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne Excavator (1 no) ○ 25 tonne dump truck (2 no)
	Temporary diversion of public footpath 26, along the southern boundary of the Site	Footpath diverted until final restoration in month 36. Physical works likely to comprise fencing to close off the closed part of the route and signage to clearly indicate the diversion route and ensure the safety of walkers using the footpath.	○ n/a

Phase	Operation	Notes	Anticipated Vehicles Used
	Coal extraction from part of Q4 (Cuts 15-17)	Approximately 18 weeks duration, with operations occurring in a similar fashion to Q1	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck
Phase 5 (Figure 1c) Months 24-32	Soil stripping from the remaining unworked areas of Q4 (Cuts 18-19)	Approx 1 week duration	<ul style="list-style-type: none"> ○ Grader (1 no) ○ 30 tonne Excavator (1 no) ○ 25 tonne dump truck (2 no)
	Creation of screening/ noise bunds at the southern edge of Q4	Approx 1 week duration, immediately following the soil strip	<ul style="list-style-type: none"> ○ Small bulldozer ○ 360 degree Excavator
	Coal extraction from Q3 (Cuts 10-12) and Q4 (Cuts 18-19)	Approx 4 months duration, with operations occurring in a similar fashion to Q1	<ul style="list-style-type: none"> ○ 21 tonne excavator ○ 22 tonne loading shovel ○ 25 tonne dump truck
	Cessation of all coal mining activities	All coal extracted before the end of month 32.	○ n/a
Phase 6 (Figure 1c) Months 32-36	Cessation of coal processing and stockpiling		○ n/a
	Removal of remaining bunding	Approx.1 week duration	<ul style="list-style-type: none"> ○ 360 degree excavator ○ 25 tonne dump truck (2 no)
	Completion of restoration activities in Q3 and Q4	Approx. 3 months of overburden placement and compaction, followed by 1-3 weeks of soil placement	<ul style="list-style-type: none"> ○ 360 degree excavator (2 no) ○ 25 tonne dump truck ((no. tbc) ○ D85 bulldozer (as required)
	Restoration of other parts of the Site (e.g. compounds, processing areas, haul/ access roads, areas affected by stockpiling).	Site infrastructure removed and land restored in accordance with the restoration proposals	<ul style="list-style-type: none"> ○ 360 degree excavator ○ 25 tonne dump truck (2 no)
	Removal of safety barriers from the southern side of public footpath 23		○ n/a

Phase	Operation	Notes	Anticipated Vehicles Used
	Implementation of remaining landscape works	Five year maintenance period to commence following practical completion of landscape works	o n/a
	Final restoration complete by the end of month 36		o n/a
	Reinstatement of public footpath 26 along its original route at final restoration.		o n/a

Legislative and Policy Context

1.1.18 Details of the planning and policy background for the proposal, including an appraisal of effects on relevant landscape-related policies, as set out in the adopted Statutory Development Plan, were addressed in the Planning Statement document that formed part of the 2016 planning application. Key legislation and policies relevant to the LVIA are summarised below.

European Landscape Convention

1.1.19 The UK Government is a signatory of the European Landscape Convention (ELC), which became binding in March 2007. The Convention is aimed at the protection, management and planning of all landscapes and raising awareness of the value of a living landscape. It relates chiefly to public bodies and to the policies, plans and programmes produced by these.

1.1.20 The LVIA is a development specific process which accords with Article 6C. The LVIA is informed by extant Landscape Character Assessment studies (described in Section 3 below), which more directly relate to the provisions of Article 6C.

Planning Policy

1.1.21 For details of relevant planning policies, refer to the Planning Statement submitted as part of the 2016 planning application. Relevant policy documents are listed below:

- *National Planning Policy Framework* (published 2012, Department for Communities and Local Government);
- Saved policies from the *Minerals Local Plan*²;
- Saved policies from the *District Local Plan*³.

1.1.22 Supplementary Planning Documents (SPD) produced by North East Derbyshire District Council include:

- *Clay Cross Regeneration Framework*,⁴ and
- *Green Infrastructure Study*.⁵

² Derbyshire County Council, adopted 2002. *Derby and Derbyshire Minerals Local Plan*

³ North East Derbyshire District Council, adopted 2005. *North East Derbyshire Local Plan*.

⁴ North East Derbyshire District Council, 2013. *Clay Cross Regeneration Framework 2025. Pride in a Working Town*

1.1.23 Relevant contents of the SPDs are discussed in Section 3.0 below.

2.0 Methodology

Current Guidance

2.1.1 As noted in Section 1, this LVIA has been undertaken in accordance with a methodology that has been developed using the published good practice guidelines set out in the GLVIA. The detailed methodology is set out in Appendix 1.

2.1.2 The LVIA has also had reference to the following additional guidance documents:

- Landscape Institute (2011) *Photography and photomontage in landscape and visual impact assessment. Landscape Institute Advice Note 01/11.*

2.1.3 The viewpoint photography included as Figures 6-10 of Appendix 5 of the 2016 ES was not displayed in accordance with the photography guidance listed above. The guidance requires that a stated viewing distance should be stated for any printed or digitally displayed photography, and that this viewing distance should typically be between 300mm and 500mm. As such, as part of the current LVIA, this photography has been reproduced at an image height that reflects the suggested viewing distances.

The Study Area

2.1.4 The Study Area for the LVIA has been determined following desktop analysis (including a review of previous assessment work submitted in 2016) and a Site visit.

2.1.5 An indicative ZTV was produced manually in 2016, and was used to define the extents of the 2016 assessment. During field work undertaken to inform the current LVIA, this ZTV needed to be extended to the east to pick up views from Brassington Lane, and the Study Area adopted reflects this (refer to Figure 2).

2.1.6 Additionally, visual effects from more distant elevated locations to the north and south-west have also been considered. These locations were identified in the original pre-application consultation with DCC in 2013, but were not included in the 2016 ES.

Significance of Effect

⁵ North East Derbyshire District Council, 2012. *Green Infrastructure Study*

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- 2.1.7 Not all landscape and visual effects arising as a result of a particular proposal will be significant. Furthermore, where likely significant environmental effects are predicted, this does not automatically mean that such effects are unacceptable. The acceptability of landscape and visual effects is a matter to be weighed in the planning balance alongside other factors. What is important is that the likely environmental effects of any proposal are transparently assessed and described in order that the relevant determining authority can bring a balanced and well-informed judgement to bear as part of the decision-making process.
- 2.1.8 The judgement in relation to this LVIA is that a greater than ‘moderate’ level of effect is more likely to be significant. This is because such an effect would generally result from larger magnitudes of change on higher sensitivity receptors. This does not preclude a ‘moderate’ effect or lower being significant, or a greater than ‘moderate’ effect not being significant. The judgement made will depend on the specific circumstances being considered. Refer to Appendix 1 for further details.

Consultation

- 2.1.9 Details of consultation regarding the previous LVIA submitted as part of the 2016 ES are publicly available via the planning application search facility on the DCC website. Formal scoping was undertaken, and a response received from DCC in March 2012. Subsequent to this, further Pre-Application Consultation was undertaken, with a formal response from DCC received in February 2013. A request for further information was made by DCC in January 2014, which highlighted errors in the reporting of baseline landscape character descriptions, the failure to recognise the presence of DCC’s Areas of Multiple Environmental Sensitivity, lack of information regarding the size and scale of plant or coal stockpiles, and queried the extent of the ZTV. These communications were included within Appendices 1 and 2 to the 2016 ES.
- 2.1.10 Further discussion regarding viewpoint locations has taken place with the DCC Landscape Architect in August 2017.

Limitations

- 2.1.11 Assessment work reflects the level of vegetation cover present at the time of the field visits to the Study Area (July and August 2017). Where relevant to its conclusions, the LVIA makes assumptions as to the likely visibility of the Proposed

Development at other times of year. Judgements in this respect are assisted by the photographs submitted with the 2016 LVIA which record winter views.

3.0 Baseline

Data Collection

- 3.1.1 Baseline data for the LVIA has been gathered by both desk and field based surveys. These have included review of extant landscape character assessment studies (see below) and field visits to gain an understanding of the landscape and visual context of the Site.

The Site and its Surroundings

- 3.1.2 The Site of the Proposed Development covers an area of approximately 29 hectares, occupying a series of fields immediately west of the A61 trunk road, at the north-western edge of the town of Clay Cross. The fields are predominantly arable, and are subdivided by a network of hedgerows, and tree belts. Two public footpaths run across the Site from east to west. Footpath 23 is the more northerly of these (running west from the A61 immediately north of Hilltop Farm to the housing area on Woodland Way), and Footpath 26 is the more southerly (running west from the A61, through an area of industrial buildings, then across the Site and to the housing on North Street). As part of the field work undertaken to inform the LVIA, it was observed that one of the fields immediately north of Footpath 26 is used informally by dog walkers.
- 3.1.3 The landform of the Site is undulating. A high point of 148m AOD is located in the middle of the southern part of the Site (approximately 140m from both the eastern and western boundaries). A plan illustrating the landform of the Site and the surrounding area was included as Figure 4 to Appendix 5 of the 2016 ES, with more detailed existing contour information included as Appendix 13 to the same document.
- 3.1.4 To the east, the Site boundary is formed by the A61 (Derby Road), and by industrial units on the western side of that road. To the south, the Site borders other fields, and residential properties off Peters Avenue. To the west, the Site boundary is formed by fields, and woodland belts, beyond which are further residential properties on North Street, Riber Crescent and Woodland Way. The northern boundary of the Site is formed by the rear garden boundaries of the residential properties on Ashover Road and the A61.

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- 3.1.5 On the eastern side of the A61, extensive redevelopment/ regeneration is underway at the Biwaters site. At the time of writing, a new roundabout allowing access from the A61, the first section of the site spine road, and an adjacent public house have been built. This site has outline planning permission for mixed-use development, including residential, employment, hotel, leisure, 'local centre', and green space. A revised outline application has been submitted, as the current consent expires in August 2018. A Reserved Matters application for the first stage of housing development was approved in August 2017. Site preparation work was underway at the time of writing, with 2 no. 360 degree excavators evident at the time of field visits in July and August 2017. Based on information submitted to North East Derbyshire Council by the developers of the Biwaters scheme, Construction across the Biwaters site as a whole is anticipated to take a total of twelve years.
- 3.1.6 A public footpath known as Brassington Lane runs north from the Biwaters site towards the settlement at Old Tupton. The route of the footpath is undulating. Views towards the Site are available from some points along it, whereas at other points, vegetation and landform restrict visibility. A small development of seven two-storey properties is currently under construction on the eastern side of the path, adjacent to other existing properties at the southern edge of Old Tupton. There are unlikely to be direct views from the new housing to the Site due to the presence of the existing intervening properties.
- 3.1.7 The town of Clay Cross is located to the south-east of the Site, with other settlements to the north, notably Old Tupton. The centre of Clay Cross is undergoing continuing redevelopment with a new road layout (changing the route of the A6175 through the town) and new retail development, including two supermarkets. The land immediately west of the Site is residential. Further to the west, agriculture predominates.

Landscape Designations

- 3.1.8 The nearest statutory landscape designation to the Site is the Peak District National Park, located more than 6.5km to the west at the nearest point. At this distance, development of the type proposed would not give rise to landscape and visual effects that would materially affect the designation. As such, no further consideration is given.

3.1.9 The Site does not lie within or close to any non-statutory, local-level landscape designation. The nearest such designation maintained by North East Derbyshire District Council is the Special Landscape Area lying approximately 2km to the south-west at the nearest point. The policy protecting this designation refers specifically to development within or on land adjoining the Special Landscape Area only. As such, no further consideration is given.

Landscape Character Assessment and Related Studies

National Character Areas

3.1.10 At a national level, 159 National Character Areas (NCA) have been identified by the former Countryside Commission (now Natural England). Details of each NCA are available via the Natural England website⁶.

3.1.11 These NCAs provide background and context to more detailed landscape character assessments produced at county and district levels. Their broad geographic reach means that the key characteristics identified as typical of a particular NCA may not necessarily apply to a specific location within that NCA.

3.1.12 The Proposed Development would be located largely within NCA50: Peak Fringe and Lower Derwent, with the easternmost edge of the Site overlapping into NCA38: Nottinghamshire, Derbyshire and Yorkshire Coalfield. These are shown on Figure 1 of the Landscape and Visual Impact Assessment Addendum document that formed part of the 2016 ES.

Local Landscape Character

3.1.13 At a county level, *The Landscape Character of Derbyshire*⁷ draws upon the information produced at national level, and subdivides each NCA into a number of landscape types. The Proposed Development would be located in the Wooded Farmlands landscape type of the Peak Fringe and Lower Derwent, with the Coalfield Village Farmlands landscape type of the Nottinghamshire, Derbyshire and Yorkshire Coalfield located immediately to the east of the A61. These are shown on Figure 1 of the Landscape and Visual Impact Assessment Addendum document that formed part of the 2016 ES.

⁶ Natural England, 2014. *National Character Area profiles*. [online] <<https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles>>

⁷ Derbyshire County Council, 2014. *The Landscape Character of Derbyshire*

3.1.14 Key characteristics of the Wooded Farmlands landscape type (within the Peak District and Lower Derwent) include:

- Undulating, intermediate landform, with gentle slopes;
- Poorly draining soils over mudstone with localised sandstone and coal seams;
- Localised bracken on thinner soils over sandstone;
- Scattered ancient woodland;
- Scattered hedgerow trees locally dense in places;
- Dense tree cover along streams;
- Small to medium irregular fields enclosed by mixed species hedgerows;
- Curving lanes with irregular verges;
- Scattered sandstone farmsteads and occasional hamlets.

3.1.15 Key characteristics of the Coalfield Village Farmlands landscape type (within the Nottinghamshire, Derbyshire and Yorkshire Coalfield) include:

- Gently undulating landform;
- Dairy farming with pasture and localised arable cropping;
- Relict ancient semi-natural woodland, copses and linear tree-belts;
- Dense watercourse trees and scattered hedgerow trees;
- Towns and villages on ridge lines surrounded by remnant medieval strip fields;
- Network of small irregular lanes between larger urban roads; and
- Small villages with sandstone buildings expanded by red brick terrace housing and ribbon development.

3.1.16 For each landscape type, a series of planting and management guidelines are identified, including indications of suitable tree and shrub species. Wider landscape management guidelines are also described, which identify primary and secondary aims for each landscape type in relation to settlement and buildings, land management and field boundaries.

Table 3: Landscape Management Guidelines

Landscape Type	Primary Management Aim	Secondary Management Aims
Wooded Farmlands (Peak Fringe and Lower Derwent)	<p><u>Settlement and buildings</u></p> <ul style="list-style-type: none"> ○ Conservation of rural character; ○ Conservation of settlement pattern; ○ Conservation of vernacular pattern. <p><u>Land Management</u></p> <ul style="list-style-type: none"> ○ Restoration of unimproved permanent pasture; ○ Management of semi-natural habitats; ○ Habitat creation/restoration. <p><u>Field Boundaries</u></p> <ul style="list-style-type: none"> ○ Conservation of historic field pattern; ○ Conservation of primary field boundaries; ○ Hedgerow replanting and management 	<p><u>Land Management</u></p> <ul style="list-style-type: none"> ○ Conservation of historic features; ○ Conservation of pastoral character; ○ Maintenance of ponds; ○ Management of arable field margins; ○ Management of river and stream corridors; ○ Management of roadside vegetation.
Coalfield Valley Farmlands (Nottinghamshire, Derbyshire and Yorkshire Coalfield)	<p><u>Settlement and buildings</u></p> <ul style="list-style-type: none"> ○ Conservation of settlement pattern. <p><u>Land Management</u></p> <ul style="list-style-type: none"> ○ Conservation of pastoral character; ○ Restoration of unimproved permanent pasture; ○ Management of semi-natural habitats; ○ Habitat creation/restoration. <p><u>Field Boundaries</u></p> <ul style="list-style-type: none"> ○ Conservation of historic field pattern; ○ Conservation of primary field boundaries; ○ Hedgerow replanting and management 	<p><u>Settlement and buildings</u></p> <ul style="list-style-type: none"> ○ Conservation of rural character; ○ Conservation of vernacular pattern. <p><u>Land Management</u></p> <ul style="list-style-type: none"> ○ Conservation of historic features; ○ Maintenance of ponds; ○ Management of arable field margins; ○ Management of river and stream corridors; ○ Management of roadside vegetation.

3.1.17 Part 4 of the county Character Assessment discusses Areas of Multiple Environmental Sensitivity (which are the subject of a separate supporting study, discussed further below), noting that in respect of areas of secondary sensitivity (including the Site):

“...These areas are sensitive to change but may also be capable of being enhanced by development or new GI⁸ provision. These areas will attract a strong focus on the management (conservation and enhancement) of their assets...”⁹

Areas of Multiple Environmental Sensitivity

3.1.18 As noted above, Derbyshire County Council have identified Areas of Multiple Environmental Sensitivity¹⁰, which indicate where landscapes are likely to be sensitive to change.

3.1.19 The Site is located in an area of secondary sensitivity, based upon historic sensitivity and visual unity. Secondary sensitivity is defined as:

“...Those areas of ‘Secondary Sensitivity’ are still considered to have environmental sensitivities but are potentially weaker in one area. These areas will attract a strong focus on the Management (Conservation and Enhancement) of these areas; that is maintaining those features of existing value but also addressing those in decline, i.e. focus on landscape restoration, habitat creation etc.”¹¹

Clay Cross Regeneration

3.1.20 The *Clay Cross Regeneration Framework*¹² sets out the aspirations of North East Derbyshire District Council for the regeneration of Clay Cross. The document is concerned chiefly with the urban areas south-east of the Site, but does mention the potential contribution of the Biwaters site, and the adjacent restored Egstow Quarry.

Green Infrastructure

3.1.21 The District Green Infrastructure Study recognises that:

“Green infrastructure has a real opportunity to become embedded in the regeneration of Clay Cross...”¹³

3.1.22 Egstow Quarry, east of the Site is recognised as a Green Infrastructure asset. Lack of connectivity with existing ‘greenways’ further to the east is highlighted as a

⁸ Green Infrastructure

⁹ Derbyshire County Council, 2014. *The Landscape Character of Derbyshire*. Part 4, page 3

¹⁰ Derbyshire County Council, 2013. *Technical Support Document 1. Areas of Multiple Environmental Sensitivity*

¹¹ Ibid, page 6.

¹² North East Derbyshire District Council, 2013. *Clay Cross Regeneration Framework 2025. Pride in a Working Town*

¹³ North East Derbyshire District Council, 2012. *Green Infrastructure Study*

deficiency within Clay Cross, and the creation of a new route running north-east from the town to connect with these is suggested.

Future Landscape Change

3.1.23 Should the Proposed Development not gain planning permission, it is assumed that the Site would remain in its current, agricultural use. A considerable quantum of new built development is likely to come forward as the proposals at the Biwaters site are progressively implemented. Given the stated policy aims of North East Derbyshire District Council to regenerate Clay Cross, other new development may come forward in and around the town. This may exert development pressure upon some or all of the Site of the Proposed Development.

Viewpoints

3.1.24 Viewpoints fall into three categories, as set out in the GLVIA¹⁴:

- Representative viewpoints (which represent the experience of different types of receptors in the vicinity);
- Specific viewpoints (a particular view, for example a well-known beauty spot);
- Illustrative viewpoints (which illustrate a particular effect/ issue, which may include limited/lack of visibility).

3.1.25 Ten viewpoints were included in the 2016 ES (Viewpoints A-J). As set out in Section 2, eight further viewpoints (Viewpoints K-P) have been included in the current LVIA. Other locations that were investigated, but ruled out due to a lack of visibility included Kenning Park (west of Clay Cross town centre) and Furnace Road, Egstow (at the northern edge of Clay Cross).

3.1.26 The viewpoints are set out in Table 4 below. The locations of the viewpoints are indicated on Figure 2. Photography from each viewpoint is displayed on Figures 3-11. This include images extracted from the 2016 SE and displayed at the correct image height, as noted in Section 2. All images are displayed to reflect a recommended viewing distance of 300mm when printed on A3 paper.

¹⁴ Landscape Institute and Institute of Environmental Management and Assessment, 3rd edition 2013. *Guidelines for Landscape and Visual Impact Assessment*. Routledge: Abingdon. Paragraph 6.19.

Table 4: Viewpoint Locations

Viewpoint	Viewpoint Type
<i>Viewpoints included in the 2016 ES</i>	
A: A61, Derby Road	<i>Representative</i> of views available to road users. Adjacent to Site boundary.
B: Footpath 23, off Woodland Way	<i>Representative</i> of views available to footpath users and to residents in the adjacent properties. Approx. 50m from Site boundary.
C: Playing Fields, North Street	<i>Representative</i> of views available from the playing fields, as well as well as from nearby allotments and to residents in the adjacent properties. Approx. 80m from Site boundary.
D: Riber Crescent	<i>Representative</i> of views available to residents in the adjacent properties. Approx. 105m from Site boundary.
E: Footpath 26, off North Street	<i>Representative</i> of views available to footpath users and to residents in the adjacent properties. Approx. 90m from Site boundary.
F: Footpath 26, southern boundary of Site	<i>Representative</i> of views available to footpath users. Adjacent to Site boundary.
G: Peters Avenue	<i>Representative</i> of views available to residents in the adjacent properties. Approx. 45m from Site boundary.
H: A61, Pear Tree Farm, Tupton	<i>Representative</i> of views available to residents in the adjacent properties and to road users.
I: Brassington Lane	<i>Representative</i> of views available to footpath users. Approx. 250m from Site boundary.
J: Egstow Hall, Brassington Lane	<i>Representative</i> of views available to footpath users and to residents in the adjacent properties. Approx. 180m from Site boundary.
<i>Additional Viewpoints</i>	
K: Northern edge of Site, south of properties on Ashover Road	A private location within farmland, and not accessible to the public. <i>Representative</i> of views available to residents in the adjacent properties on Ashover Road and on the A61. Approx. 20m to Site boundary (property boundaries are approx. 15-50m from the Site boundary)
L: Footpath 26, close to the eastern boundary of the Site	<i>Representative</i> of views available to footpath users. Within the Site.
M: Brassington Lane, within the footprint of the Biwaters scheme	<i>Representative</i> of views available to footpath users. Approx. 353m from Site boundary.
N: Brassington Lane, within the footprint of the Biwaters scheme	<i>Representative</i> of views available to footpath users. Approx. 315m from Site boundary.

Viewpoint	Viewpoint Type
O: Brassington Lane	<i>Representative</i> of views available to footpath users. Approx. 280m from Site boundary.
P: Public footpath at southern edge of Hardwick Wood	<i>Representative</i> of views available to footpath users. Approx. 1.7km from Site boundary.
Q: Junction of minor road and public footpath near Woodhead Farm	<i>Representative</i> of views available to road users, footpath users, and residents in the adjacent property. Approx. 2.17m from Site boundary.
R: Public footpath north of Newmarket Lane	<i>Representative</i> of views available to footpath users. Approx. 1.29km from Site boundary.

3.1.27 It should be noted that the viewpoint itself is not the receptor; rather it is the people that would be experiencing the view from the viewpoint. Receptors in the vicinity of the Site that are likely to experience views of the Proposed Development include:

- Local residents;
- Users of public rights of way and other routes with public access; and
- Road users.

3.1.28 The majority of residential properties that would have views towards the Proposed Development are two-storey houses. On the assumption that each storey is approximately 2.5m from floor to ceiling, the eye-height of a viewer at a first-floor window would be approximately 4m-4.2m above ground level¹⁵. There are a small number of two-storey flats on North Street (west of the Site), where the ground floor and first floor are separate dwellings. Single-storey properties are located on Riber Crescent (west of the Site), and some of the properties along Ashover Road and the A61 (north of the Site) are also single-storey.

3.1.29 Not all of the nearby properties have clear views into the Site, due to the presence of intervening vegetation. Hilltop Farm itself (the property of the landowner), located off the A61 at the eastern boundary of the Site benefits from screening provided by dense perimeter vegetation

3.1.30 A dense belt of tree cover is located just outside the western boundary of the Site, providing very effective screening of views into Q1 and Q2 from properties on Russell Gardens and Woodland Way. In the summer months, screening is

¹⁵ 2.5m for ground floor, plus 1.5m-1.7m eye height of average person (as set out in paragraph 6.11 of the GLVIA)

expected to be almost complete, with only narrow views from a very small number of properties through isolated small gaps in vegetation cover. For example, three properties have narrow views into the Site along the line of Footpath 23, where this creates a gap in the trees. Whilst it is the case that in the absence of deciduous foliage in winter, visibility into the Site would be greater than in summer, the density of the tree belt is such, that very few properties would have clear views through, and that views would be filtered by the coalescence of branches and twigs.

- 3.1.31 The other boundaries of the Site in proximity to residential properties are more open. To the north, approximately fifteen properties along Ashover Road and the A61 have relatively clear views into Q1 and toward Q2, although in some cases garden vegetation restricts the extent of such visibility. To the south, approximately fifteen properties along Peters Avenue and side streets have views into Q4 (in some cases partially obstructed by other properties).
- 3.1.32 To the west of the Site, vegetation cover does not in general prevent views into Q3 and Q4 from properties along North Street and the neighbouring side streets. Single-storey properties along Riber Crescent are better screened due to the lower elevation of their windows, but views through gaps in vegetation remain. Many properties have views largely obstructed by other properties, so that only narrow views towards the Site are available. In total, approximately thirty-five to forty-five properties in this area are expected to have some sort of view into the Site.

Cumulative Baseline

- 3.1.33 The effects of the Proposed Development in a context where other existing development (and development under construction) is present are addressed as part of the non-cumulative part of the LVIA. The cumulative assessment is concerned with the effects of the Proposed Development in a cumulative baseline scenario where additional schemes with planning consent, or that are the subject of a valid planning application are also present.
- 3.1.34 Schemes included in the cumulative assessment are set out in Table 5.

Table 5: Cumulative Schemes

Ref	Name	Details
1.	Bridge Street EfW	Energy from Waste facility, with new building 22m high, and two exhaust stacks 30m and 40m high respectively. Located approximately 400m east of the Site. Consented
2.	Biwaters mixed-use development	Mixed-use development comprising residential, employment, hotel, leisure, 'local centre', and green space. Outline consent expires in 2018 (a resubmission has been made) The first phase of residential development (168 no. two-storey housing) has Reserved Matters consent.
3.	Rear of 10 Ashover Road	68 no. new two-storey dwellings. Consented
4.	Brassington Lane	7 no. new two-storey dwellings. Consented and now under construction (hence not specifically addressed in the cumulative assessment).

4.0 Assessment of Effects

Incorporated Mitigation

4.1.1 The Proposed Development includes built-in 'mitigation by design'. Specific measures incorporated into the Proposed Development include:

- Phased operation and progressive restoration of the Site, limiting the duration of exposure to adverse effects at particular receptors, or groups of receptors;
- Creation of a series of bunds around the Site perimeter, which would be sown with grass and which, whilst visible in their own right, would screen the majority of views of active workings, plant and machinery from the surrounding area, restricting visibility of operations;
- Translocation of a number of the existing hedgerows within the Site, and subsequent reinstatement at their original locations as part of restoration;

Construction

4.1.2 The LVIA included in the 2016 ES considered construction effects as a distinct stage of the Proposed Development. The authors of this current LVIA do not concur with that approach.

4.1.3 As the Proposed Development would comprise an open cast coal mine, there would be no distinctly different construction stage occurring. The site preparation work

that would take place prior to coal extraction would be an intrinsic part of operational activity, and in cases would be concurrent with coal extraction due to the phased nature of operations at the Site

Landscape Effects: Operational

Effects on Landscape Fabric

- 4.1.4 The Site of the Proposed Development comprises agricultural grassland and cropland, hedgerows (some with mature tree cover present), and tree belts.
- 4.1.5 Agricultural grassland/ cropland is commonplace locally, and nationally. It makes a contribution to local character only as a component of the wider mosaic of fields (including field boundaries) and can readily be recreated should the need arise. Both susceptibility to change and value are low to medium, and sensitivity is also low to medium.
- 4.1.6 Hedgerows are a characteristic feature of agricultural land generally, and are commonplace locally. They provide structure to the landscape. Hedgerows can be translocated, and/ or replaced by new planting relatively easily. Following translocation or new planting, there is a period of growth required before the hedgerow becomes established. Susceptibility to change is medium and value is also medium. Overall, sensitivity is medium.
- 4.1.7 The condition of trees within the Site and along its boundaries has been surveyed as part of the Arboricultural Assessment appended to the 2016 ES. The majority of trees actually within the footprint of the Proposed Development are identified as having a 'moderate' quality, with six trees having a 'high' quality. This vegetation helps to delineate field boundaries, and forms part of a mosaic of tree cover visible from surrounding areas. As such, there is a clear contribution to character made by this planting. Substitution by replacement planting is possible, but is not immediate, and time will be required for such planting to develop to a scale similar to what is present at the time of writing. Where tree planting is more mature, direct like-for-like replacement is not feasible given the time required for new planting to develop. Both susceptibility to change and value are medium to high, and sensitivity is also medium to high.
- 4.1.8 The Proposed Development would require the removal of some existing vegetation within its footprint. Some of the existing hedgerows present would be translocated,

and subsequently reinstated at their original location as part of restoration. Of approximately 1041m of hedgerow that would be directly affected by the proposals, approximately 483m would be translocated. The method of translocation is described in the Outline Biodiversity Management Plan that forms part of Appendix 6 of the 2016 ES. Following the cessation of operations, the Site would be restored, and new landscape works would be implemented comprising the reinstatement of hedgerows at or close to their original locations (including the replanting of the translocated stock). There would also be new areas of woodland edge planting, new areas of species-rich grassland, and reinstatement of agricultural grassland. The two footpaths that cross the Site would be reinstated on their original routes, and provision of land for an additional multi-user route would also be made. The restoration proposals are illustrated on drawing 5171-L-01, that was included as Appendix 12 of the 2016 ES.

- 4.1.9 All of the agricultural grassland/ cropland within the footprint of the Proposed Development would be temporarily lost. Following the cessation of operations, some of this would be restored to arable or pasture use. Species-rich field margins would be introduced to benefit biodiversity, and some fields in the southern part of the Site would be wholly restored to species-rich meadows. As such, once restored, the grassland areas of the Site would have a higher landscape value than at baseline, with benefits in terms of landscape character and visual appearance. There would be a short term large magnitude of change, resulting in a moderate to major adverse effect. This effect would not be significant, as the grassland/ cropland is commonplace, as changes to the condition of grassland occur frequently in the agricultural cycle, and as the duration of the effects would be short. In the medium and long term, following restoration, there would be potential for beneficial effects, due to the introduction of diverse field margins and meadows.
- 4.1.10 All the hedgerows within the footprint of the Proposed Development would be temporarily removed or lost (the woodland belt between Q1 and Q2 would be retained and protected). Approximately 46% of the removed hedgerows would be translocated to the Site perimeter, and would subsequently be reinstated to their original locations as part of restoration. The remaining 54% would be replanted with young stock on or close to their original lines, with new hedgerow tree planting also to be included as part of the restoration scheme. In the short-term, there would be a large magnitude of change, resulting in a moderate to major adverse effect, which would be significant due to the extent of vegetation loss. However, in the

medium to long term, following restoration and the successful re-establishment of hedgerows, there would be little change from baseline. This medium to long term change would be small in magnitude, resulting in a minor level of effect. Effects would be adverse due to the loss of established vegetation, but as the vegetation structures become re-established (typically within three to five years), effects would become neutral.

- 4.1.11 The majority of trees within the Site are located at the perimeter, outside the footprint of development, and would be retained, with suitable protective measures put in place. In total, nine mature trees would be lost, and five groups of smaller trees would be wholly or partially lost (refer to the Arboricultural Report forming part of Appendix 6 of the 2016 ES). A minor to moderate magnitude of change would occur, resulting in a moderate adverse effect. As only a small proportion of the tree cover at the Site would be lost, effects would not be significant. New tree cover would be planted as part of the restoration scheme, but would not provide an immediate like-for like replacement. Effects would reduce over time as trees mature.

Effects on Landscape Character

- 4.1.12 The effect of the Proposed Development upon the character of the local landscape types is assessed in detail in Appendix 2. In summary, localised significant adverse effects would occur in the short-term, but following restoration, the character of the landscape would revert to a scenario similar to baseline.
- 4.1.13 In the Wooded Farmland landscape type, where the Proposed Development would be located, existing agricultural land and associated field boundary vegetation would be replaced by a temporary open cast coal mine, giving rise to localised but fundamental change in the landform and land cover of the Site. The visibility of areas of excavation and associated activities would be restricted by perimeter screening bunding, which would themselves affect the landform and skyline locally. The Site would be worked in phases, broadly from north to south, following which progressive restoration would occur to a condition similar to the baseline landscape. The northern half of the Site would be restored after 18 months, reducing the overall footprint of development. After three years, the Site would be fully restored and character would revert to a similar condition to baseline with no further vehicle and plant movements and with landscape treatments establishing and maturing over time. The location of the Site between a residential area and the A61 would provide

a degree of containment, restricting the influence of the Proposed Development upon character to this small part of the landscape type only. These localised moderate to major adverse effects upon landscape character would be significant in the short term, due to the fundamental change in landform, land cover and land use that would be brought about. In the medium and long-term, following restoration, residual effects would gradually reduce, eventually becoming negligible. Across the wider landscape type to the west, character would be unaffected

- 4.1.14 In the Coalfield Village Farmlands landscape type, east of the A61, the Proposed Development would introduce views of temporary perimeter bunding and occasional views of areas of excavation and vehicle movements. As such, change would be to the visual context of the landscape type. The most visible elements would be in the northern part of the Site, which would be restored after 18 months, after which effects would reduce for the remainder of the lifespan of the development. After three years, the Site would be fully restored and character would revert to a similar condition to baseline (subject to other changes, such as the implementation of the Biwaters development, which would itself have a localised effect upon character). Localised, short-term moderate adverse effects upon landscape character would occur, and would not be significant. In the medium and long-term, following restoration, residual effects would be negligible.

Visual Effects: Operational

Sources of Visual Effects

- 4.1.15 Visual effects resulting from the Proposed Development could potentially derive from the following sources:
- Site preparation and soil stripping activities:
 - Clearance of vegetation within the Site may open up some views;
 - Movement of graders, excavators and dump trucks would potentially be visible, for approximately one week at a time as part of the soil stripping operations for the Site compound, coal processing area and haul road;
 - Introduction of signage, fencing, Site office may be locally visible, e.g. from footpaths;
 - Safety measures along footpath 23 would be visible at short range from the footpath.
 - The presence of perimeter screening bunds and overburden stockpiles:

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- Movement of bulldozer and excavator would potentially be visible for approximately one week as soils are stripped and bunds formed;
 - Thereafter the resultant bunds would block many views across the Site and would prevent many views of activities within the Site;
 - The bunds would be seeded, and thus would green-up relatively quickly, which would help their visual integration in the local and wider landscape;
 - Would be removed as part of phased restoration.
 - Coal extraction;
 - Would in the majority of cases be fully hidden behind the perimeter screening bunds;
 - Excavation would work downwards from existing ground levels, so that operations would increasingly occur below these levels and thus be hidden from view;
 - Placement of overburden on stockpiles would sometimes be visible;
 - Excavated areas would be progressively backfilled with overburden, either from the stockpiles, or from adjacent worked cuts, and hence filling operations would progressively rise, with plant and machinery becoming more visible in the later stages of each Phase due to their elevation closer to surrounding ground levels;
 - Movement of excavators, dump trucks and bulldozers would be therefore intermittently visible, and visible to varying degrees, through the duration of each Phase;
 - Movement of vehicles along the haul road from excavated areas to the coal processing area would also potentially be visible, but would often be partially to fully screened by the perimeter bunds.
 - Activities in the coal processing area;
 - Would typically be hidden behind the 5m high perimeter screening bunds;
 - Possible glimpses of the top of the screener and stockpiles may be available from some locations.
 - May be visible from footpath 23 where it crosses the haul road
 - Activities associated with Site restoration
 - Removal of bunds and placement of soils, with movement of graders, excavators and dump trucks would potentially be visible for a period of up to four weeks;
 - Removal of other Site infrastructure would potentially be visible, and is likely to be viewed positively;

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- Implementation of landscape works, included new seeding, new planting and the replanting of translocated hedgerows would potentially be visible;
 - Removal of safety measures along Footpath 23;
 - These latter activities are more akin to agricultural operations that would be typically viewed seasonally across the Study Area.

Viewpoints

- 4.1.16 A detailed assessment of the visual effects of the Proposed Development at each of the viewpoints listed in Section 3.0 is set out in Appendix 3, and is summarised below. As the Proposed Development would be undertaken in phases, effects at each viewpoint would vary at different periods during operations. Appendix 3 distinguishes between the effects experienced during each of the six phases outlined in Section 1.0 (and on Figures 1a-c).
- 4.1.17 There is an identifiable pattern to the assessed visual effects, with effects of similar timing and duration occurring in three notable areas:
- a cluster to the north east along Brassington Lane and into Tupton [VP's H, I, J, K, L, M, N & O] where effects are restricted to the first half of the development, and no notable effects occur after the first 18 months;
 - receptors to the west of the site [VP's C & D] which would experience more pronounced effects at the beginning and end of the 36-month programme, but with a more static period in between; and
 - a cluster to the south [VP's E, F & G] which would experience lesser effects during the first year of the development but greater effects thereafter
- 4.1.18 Significant effects are anticipated at three viewpoints.
- 4.1.19 Two of these, Viewpoints I and N, are both located along Brassington Lane to the west. Effects here have been categorised as being significant due to the fact that the elevated vantage points and lack of screening would allow clear views of mining operations, which would be incongruous.
- 4.1.20 The third significant effect would be experienced at Viewpoint F. This viewpoint is located a footpath in very close proximity to some of the operational activities. Proximity is such that effects would be very pronounced albeit for a relatively short duration.

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- 4.1.21 These significant visual effects would occur at Viewpoint F for the final two years of the operational life of the Proposed Development, at Viewpoint I for a six-month period only, and at Viewpoint N for the first 12 months of the Proposed Development only
- 4.1.22 Viewpoint F is located on Footpath 26, adjacent to the location of one of the proposed overburden stockpiles. As such, the presence of the stockpile would dominate the view available from the footpath.
- 4.1.23 Viewpoint I is located along Brassington Lane, at a point where the landform is such that views would be available over the proposed perimeter screening bunds into the area of coal extraction proposed at Q2 in the northern part of the Site. As such, this area of extraction would be potentially clearly visible from this stretch of path during months six to twelve of the Proposed Development.
- 4.1.24 Viewpoint N is also located along Brassington Lane, at a point where clear views would be available over the proposed perimeter screening bunds into areas of extraction proposed in both Q1 and Q2. As such, views of areas of extraction would be potentially available between months one and twelve of the Proposed Development. Extraction would not occur in both areas concurrently, with Q1 being completed by the end on month six and subsequently restored, and with extraction in Q2 taking place between months six and twelve.
- 4.1.25 From the other fourteen viewpoints included in the LVIA, visual effects would not be significant, due to the limited duration of the Proposed Development and to the screening of more unsightly elements of the development by the perimeter bunding and overburden stockpiles.
- 4.1.26 In general, activities in the northern part of the Site (Q1 and Q2) would be more visible from the north and east, and as this area would be restored after approximately eighteen months, effects upon viewpoints A-B, H-K, M and O would occur for only half the total period of operations only. Views of Q1 and Q2 from the south and west would be well screened by vegetation cover immediately west of the Site and by landform. The level of effect would vary as operations progress, with Q1 being worked in the first six months of the Proposed Development and then subsequently restored, and with Q2 being worked in months six to twelve and then restored.

4.1.27 Activities in the southern part of the Site would generally be visible from the south and west, with the landform of the Site and retained vegetation cover largely screening these from the north and east. The overburden stockpiles (up to 10m high) would be visible for the majority of the operational life of the Proposed Development. Views of other activities in this part of the Site would also be visible at some times from some locations. As such, effects upon viewpoints C-G, L, and P-R would occur over the whole thirty-six month period. The level of effect would vary throughout this period, as excavations progress broadly from north to south. Viewpoint L is located on a stretch of Footpath 26 that would be diverted from Phase 4 to final restoration, and as such there would be no view to experience from the viewpoint during the second half of operations.

Pattern of Visual Effects

4.1.28 To summarise visual effects upon nearby properties, these would typically comprise initial views of vehicle movements associated with soil stripping and the creation of perimeter bunding and stockpiles, lasting for approximately two weeks in total. Once the bunds and stockpiles are in place, then views of excavation beyond would generally be wholly screened from view (refer to Viewpoints B-E and G). Properties to the north of the Site on Ashover Road, on the A61 (refer to Viewpoints H and K) and on Brassington Lane (refer to Viewpoint J) would have some limited views of extraction in Q2 due to the location of the properties and the screening bunds in relation to the landform of the Site. This extraction would be present in the view for up to six months. All properties would have views of vehicle movement and other activities associated with the restoration of the Site, post-extraction. Visual effects would not be significant.

4.1.29 From the two footpaths that cross the Site, visual effects would vary at different times within the life of operations.

4.1.30 Footpath 23 would be more adversely affected in the first eighteen months of operations, when it would be crossed by the haul road, and when extraction operations in Q1 and then Q2 would be located north of the footpath. In order to ensure the safety of footpath users, a system of fences and warning signs would be put in place and this would alter the view. A well-established hedgerow would largely screen views north, but there would at times be partial visibility of activity. The footpath would be located immediately north of the coal processing area, and would be separated from this area by screening bunds. Views of coal processing

activities would however be available to the south through the gap in the bunds which coincides with where the haul road passes through. In the second eighteen months of operations, these bunds (plus views through them to the processing area – although it should be possible to screen these with fences or gates) would be the principal source of visual effects for users of Footpath 23. Visual effects upon users of the footpath would be significant.

- 4.1.31 Footpath 26 would run adjacent to the overburden stockpile at the south-western edge of the Site, and as such, this new temporary landform would dominate views from the footpath (refer to Viewpoint F). Visual effects would be significant. In the second eighteen months of operations, the footpath itself would be diverted along the southern perimeter of the Site, around the outside of the adjacent screening bunds, with part of the existing stretch of path temporarily closed.
- 4.1.32 From the footpath along Brassington Lane, intermittent views of operations in Q1 and Q2 would be available through breaks in vegetation cover (refer to Viewpoints I-J and M-O). As Q1 would be operational for the first six months only and Q2 for the second six months, whilst clear views of excavated areas would be available from locations along the footpath, effects would be of very limited duration. Significant visual effects would occur from some locations along the path (for example at Viewpoints I and N).
- 4.1.33 Views of the Proposed Development from the A61 would largely be restricted to views of the screening bunds along the eastern edge of the Site, and of the new access point. HGV traffic entering and exiting the Site and travelling along the A61 would be evident, but many HGVs already use the road. Vegetation along the highway boundary would be retained. Excavation operations would be visible from the road (refer to Viewpoints A and H), where the nature of the landform would allow views over the perimeter bunds to activities in Q1 and Q2. As Q1 would be operational for the first six months only and Q2 for the second six months, whilst views of excavated areas would be available, effects would be of very limited duration. Additionally, views from vehicles would be inherently transient and often experienced fleetingly. The stretch of road between Viewpoints A and H, where such views would be available is approximately 550m long (approx. 1/3 of a mile), and a vehicle travelling at 40 miles per hour would pass through this in less than one minute. Pedestrians and cyclists would have greater exposure to the adverse visual effects, as they would be moving far more slowly, however traffic, including

HGVs would remain the most prominent influence upon the views available and visual effects would not be significant.

- 4.1.34 Longer range visibility of the Proposed Development would be available from elevated locations to the west (refer to Viewpoints P-R). The views from these areas are expansive, panoramic and long-range. Whilst activities at the Site would be visible, including areas of excavation and prominent plant and machinery (due to distinctive colour etc.), these would nonetheless be minor and temporary additions to a much wider view.

5.0 Cumulative Effects

Introduction

- 5.1.1 All four of the cumulative developments identified in Section 3.0 benefit from planning consent. One is a proposed energy from waste development, a large industrial building with tall emissions stacks. Two are housing developments and the fourth is the Biwaters mixed use project, which includes housing as well as other built development including a public house (already constructed), a hotel and local shops. In addition to introducing additional built development into the locality, for the duration of their respective construction phases the projects would all bring about landscape and visual effects attributable to the construction process. The cumulative assessment assumes that these schemes would all be present within the landscape, and considers the landscape and visual effects of the Proposed Development being introduced in this context.
- 5.1.2 The Biwaters development is a large scheme that is intended to be implemented in phases over a period of at least twelve years. It is not clear when each phase of the development would be progressed, and as such, the cumulative assessment assumes that the scheme is implemented in its entirety. Since the Biwaters scheme will redevelop a former industrial site, the current condition of the site is also relevant, noting that the area to the east of the A61 around the recently constructed public house and alongside the new spine road is a work in progress and has displayed the characteristics of a construction site (including the presence of heavy plant) for some years already. The Proposed Development at Hilltop Farm is likely to be completed and the Site restored prior to some or all of the Biwaters phases being implemented.

Cumulative Landscape Effects

Landscape Fabric

- 5.1.3 The majority of the built elements of the Biwaters scheme would be located primarily on previously developed land, land that is already devoid of or has already been cleared of vegetation. Loss of grassland would be required to construct the two housing projects, and clearance of scrub would be necessary to build the Bridge Street EfW. These are relatively low sensitivity elements of fabric.
- 5.1.4 The Proposed Development at Hilltop Farm would be restored following the cessation of mineral extraction, to a state similar to baseline. As referenced in Section 4.0, significant effects on fabric would largely be short-term and reversible following implementation of new planting.
- 5.1.5 Given the above, it is clear that any cumulative effects on landscape fabric in conjunction with other schemes would not be significant.

Landscape Character

- 5.1.6 Both the Bridge Street EfW, and the Biwaters scheme, would extend the built edge of Clay Cross northwards into land that is currently undeveloped (although built development was formerly present on some of this land). The housing north of Ashover Road and on Brassington Lane, would both represent extensions to built development at Old Tupton. The Biwaters scheme would be very evident from the A61 and would greatly increase the influence of contemporary built development upon the landscape in this area. The EfW would also be evident – largely by virtue of its tall emissions stacks.
- 5.1.7 The Proposed Development at Hilltop Farm would result in a temporary change in character which would result in localised, short term significant effects in the area between the A61 and the housing located west of the Site. However, operations at the Site would cease within three years, and final restoration would result in the Site reverting to a state similar to baseline. As such the medium and long-term effects of the proposed Development upon character would be negligible. The Biwaters scheme is located at a lower elevation and there are unlikely to be direct views beyond the perimeter bunds at the Hilltop Farm boundary. The westernmost parts of the Biwaters scheme comprise a pub / restaurant (completed) and a mix of other non-residential uses. Over the same period, the twelve-year construction period at the Biwaters scheme would continue, with the progressive introduction of new buildings and associated features. Construction activity would at times not be

dissimilar to the above ground components of the Proposed Development, involving large earthworks and machinery. The character of the Study Area would change regardless of the presence or absence of the Proposed Development, and given the temporary nature of the Proposed Development, cumulative effects upon landscape character would not be significant.

- 5.1.8 The housing schemes north of Ashover Road and on Brassington Lane would have only localised effects upon character, and their influence would be separated from that of the Proposed Development by the intervening housing. As such, cumulative effects upon landscape character would not be significant.

Cumulative Visual Effects

- 5.1.9 The Bridge Street EfW would be a large structure with a pair of tall exhaust stacks which would be visually conspicuous. It would be located at the edge of an existing urban area, close to other industrial/ commercial developments, and would generally be viewed in this context.
- 5.1.10 The Biwaters scheme would be located east of the A61, north of the existing edge of Clay Cross and between the Proposed Development and the Bridge Street EfW. Full details of the landscape proposals associated with the Biwaters scheme are not yet known, and as such it is not clear how well screened the new buildings would be in views from the north. The scheme would extend over the current route of the public footpaths along Brassington Lane and running west from this to the A61, and as such the views from these footpaths would undergo considerable change. The scheme would also be very apparent from the A61, with new built development located along the road frontage. Construction activity associated with the scheme is anticipated to last for a period of approximately twelve years.
- 5.1.11 The new housing north of Ashover Road would comprise two-storey properties and would be largely screened in views from the south by existing houses along the road. The housing on Brassington Lane is also contained within an established residential area and effects would be very localised.
- 5.1.12 The presence of the Proposed Development at Hilltop Farm would result in temporary adverse change in view resulting from the presence of bunds and stockpiles, localised views of extraction areas, and intermittent vehicle movements within and off-site. All operations would cease and the Site would be fully restored within three years, with the sources of adverse visual effects removed. The

medium and long-term effects of the Proposed Development would generally be negligible, with some small-scale beneficial change where amendments to field margins and additional tree cover would have the potential to improve amenity as part of the landscape proposals.

5.1.13 All of the operational activity associated with the Proposed Development would occur within the estimated twelve-year construction programme for the Biwaters scheme, and as such the movement of construction vehicles and the presence of heavy plant and construction activity would not be unfamiliar. The Biwaters scheme (and the Bridge Street EfW) would give rise to change in view regardless of the presence/ absence of the Proposed Development. As such the additional temporary presence of the Proposed Development, whilst resulting in additional adverse change in view from some locations (such as along the A61 and from properties north of the Site), would not give rise to significant cumulative effects, due to the temporary, short-term nature of change.

6.0 Mitigation

6.1.1 Mitigation measures incorporated directly into the design of the Proposed Development include:

- the adoption of a progressive, phased scheme of working from north to south which reduces the duration of effects experienced by each group of receptors;
- the utilisation of stored soils and overburden to create screening bunds around the site perimeter which greatly reduce the visibility of heavy machinery movements associated with the coal extraction operations;
- protection and retention of key vegetation elements;
- the translocation and / or replanting of all other hedgerows within the Site;
- a comprehensive landscape restoration scheme that incorporates improvements that would enhance biodiversity and amenity value

7.0 Residual Effects and Conclusions

- 7.1.1 The Proposed Development would be a temporary intrusion in the landscape for a period of approximately three years, the adverse effects of which would be almost entirely reversible following the cessation of excavation activity and the full restoration of the Site. Operations would be carried out in a phased manner, with successive areas of the Site progressively worked and then restored. Screening bunds and overburden stockpiles would be located at the Site perimeter, which would prevent views of excavation activities from the majority of locations in the surrounding area. Landscape proposals that would be implemented as part of restoration would broadly recreate the existing pattern of vegetation cover, but would introduce a more diverse range of vegetation types.
- 7.1.2 Significant adverse effects would occur upon the physical fabric of the Site itself and upon the character of the area between the A61 and the housing west of the Site. Significant adverse visual effects would occur at viewpoints located along Footpath 26, which crosses the Site, and from parts of the footpath along Brassington Lane to the east.
- 7.1.3 All change resulting from the Proposed Development would occur in the context of other consented changes at Clay Cross, notably the extensive Biwaters development located at the north edge of town, due east of the Hilltop Farm Site. The construction period for this scheme, which has outline planning permission, and where some site preparation work is underway, is anticipated to last for approximately twelve years. As such, the landscape and visual context of the Study Area is likely to change significantly regardless of the additional short-term presence of the Proposed Development.

FIGURES

APPENDICES