



Supporting Statement
Gale Moss
Ruttle Plant Ltd.

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Minerals
Waste
Environment

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SECTION 1: Introduction

1.1 General

1.1.1 *The Mineral Planning Group Ltd. (MPG) have been commissioned by Ruttle Plant Ltd. (Ruttle) to prepare a planning application and accompanying supporting statement for the Prior Extraction of a known sand and gravel deposit at land known as Gale Moss ('The Site'), near Chorley.*

1.2 Site Description

1.2.1 The Site is located immediately to the north-east of junction 8 of the M61, near Chorley, at grid ref: SD 59058 19763 (see Drawing refs: 305/2 - 1 and 305/2 - 2). The total site area is approximately 9.9ha.

1.2.2 The Site currently consists of agricultural fields, though it is also used to host car boot sales. Further details of The Site are provided in Section 2.

1.3 Proposal and Aims

1.3.1 The proposals have two primary aims:

- To extract some 116,000 tonnes of sand and gravel and prevent its sterilisation through non-minerals development. This best-practice principle is known as 'Prior Extraction'.
- To facilitate the development of an (already approved ref: 17/00713/OUTMAJ) industrial development upon The Site through the importation of suitable inert materials in order to construct an engineered development platform.

1.3.2 It is noted that The Site is allocated for employment development in Policy EP1.3 of the Chorley Local Plan.

1.4 Regulations and the Supporting Statement

1.4.1 The Mineral Planning Authority (MPA – Lancashire County Council (LCC)), have confirmed that the proposals do not require an Environmental Impact Assessment (see Appendix A).

1.4.2 Nevertheless, the potential environmental impacts of the development have been investigated. Following pre-application advice from LCC, MPG have concluded that surveys and detailed consideration of the following matters were necessary:

- Ecology and Biodiversity
- Landscape / Visual Impact
- Dust and Air Quality
- Noise
- HGV Movements
- Hydrology

1.4.3 The supporting statement contains the following:

- Introduction
- Site Description
- Operational Details
- Planning Policy and Need Assessment
- Dust Management Scheme
- Flood Risk Assessment
- Restoration Scheme
- Hydrogeological Risk Assessment
- Slope Stability Assessment
- Landscape and Visual Statement
- Noise Survey
- Preliminary Ecological Assessment

- Supporting Plans and Drawings

1.5 The Applicant

- 1.5.1 Ruttle Plant Ltd. are a long-established, experienced, International minerals, waste and engineering operator based in Chorley, Lancashire.

SECTION 2: Site Description

2.1 General Description

2.1.1 The Site is located immediately to the north-east of junction 8 of the M61 motorway, close to Chorley (see Drawing refs: *305/2 - 1* and *305/2 - 2*). The Site's grid reference is SD 59058 19763.

2.2 Site Description

2.2.1 The Site occupies approximately 9.9ha and currently consists of agricultural fields, which are also occasionally used to host car boot sales. The Site is bound to the:

- North by agricultural fields and a 'peaty area' (Gale Moss)
- East by the Leeds-Liverpool Canal
- South by the A674 (Millennium Way)
- West by the M61 Motorway

2.2.2 The Site is accessed from the A674 by a modern, existing roundabout from which it is just 250m to junction 8 of the M61 Motorway.

2.2.3 On the southern and western boundaries are hedgerows with sporadic hedgerow trees. A small area of mature trees in the southwest occupies the motorway embankment but is predominantly outside of The Site's boundary.

2.3 Topography

2.3.1 Elevation at The Site varies from approximately 87m AOD to 91m AOD, though The Site's profile is generally flat, with a gentle slope towards the north. The Site is lower in elevation than the M61 Motorway and its adjoining slip-roads, which have embankments abutting the western and southwestern boundaries up to approximately 6m in height.

2.4 Hydrology and Hydrogeology

- 2.4.1 There are two drainage channels crossing The Site. One drain crosses from east to west, towards the peat area (see drawing ref: *305/2 – 3*), which would be unaffected by the proposals, save for a culvert to allow a vehicle crossing point (see section 3).
- 2.4.2 The drainage ditch that flows south to north, some of which is currently culverted, would also be unaffected by the proposals, as the final phase of extraction's western-most edge is located east of the ditch.
- 2.4.3 The area of peat in the northwest of The Site (see drawing ref: *305/2 – 3*) is partly fed by the drainage ditches and would be afforded a suitable stand-off during operations of at least 10m. Only the south-eastern corner of the peat area is near to the extraction boundary. The eastern and southern borders of the peat area are not adjacent to any proposed extraction areas.
- 2.4.4 The bedrock and the superficial deposits (see section 2.5) beneath The Site are classed as a Secondary A aquifer. The Site is not, however, in a Drinking Water Protection Zone (for surface or groundwater).
- 2.4.5 Groundwater monitoring has shown that groundwater is slightly variable across The Site. In very general terms, the water table is approximately 90 – 91m AOD on the southern boundary of The Site, and 86 – 87m AOD towards the northern boundary. All mineral would be extracted, therefore, from above the water table. Therefore, an extraction design (drawing ref: *MPG/GM/22-03 Rev A*) has been modelled to ensure a minimum stand-off of 1m exists between the base of extraction and the water table.
- 2.4.6 A hydrogeological risk assessment is provided in chapter 8, and a subsequent detailed hydrogeological assessment has been produced (ref: *3373/AOP*).

2.5 Geology

- 2.5.1 The bedrock beneath The Site is the *Rossendale Formation* in the western area of The Site, consisting of sandstones, siltstones and mudstones. In the eastern area of The Site is the *Lower Haslington Flags*, consisting of sandstones. The two geological units are separated by a (minor) fault¹.
- 2.5.2 The Site is located within an area of relatively complex structural (bedrock) geology, with several faults shown on British Geological Survey (BGS) maps.
- 2.5.3 However, the mineral to be extracted at The Site is the superficial deposit of glaciofluvial sand and gravel overlying the bedrock. This mineral reserve has been proven by trial pits dug to some 5m below the current surface.
- 2.5.4 Trial pits show that soil depth at The Site is very limited, often much less than 0.5m.

2.6 Rights of Way

- 2.6.1 A public footpath crosses The Site (9-2-FP 26). This footpath would be retained during operations. The design of the industrial development would, ultimately, determine the permanent route for this footpath post-development.

2.7 Recent Planning History

- 2.7.1 17/00713/OUTMAJ – *Outline planning application for employment floorspace (Use Classes B2 and B8) with associated highways, landscaping provision and any ancillary development thereto. All matters reserved except for access which is proposed off the existing A674 roundabout. GRANTED – 21/10/2019*

¹ Note that the British Geological Survey (BGS) label this fault as ‘inferred’.

2.7.2 97/00819/OUT - *Erection of steel fabrication works and offices and ancillary works including new roundabout to A674.* **REFUSED** 25/03/1998

SECTION 3: Operational Details

3.1 General

3.1.1 The proposals are for the prior extraction of some 116,000 tonnes of sand and gravel. The sand and gravel would be extracted to a depth which retains a 1m stand-off from the local groundwater table.

3.1.2 The Site would be restored with approximately 116,000 tonnes of suitable inert materials to provide an engineered construction platform for the approved (outline) B2 industrial development at The Site and, should the industrial development not go ahead, create agricultural land with biodiversity set-aside areas.

3.2 Operations

3.2.1 The proposed prior extraction operations would be carried out in three phases, starting in the eastern extent of The Site and moving westwards (see drawing ref: *MPG/GM/22-03 Rev A*). The northern area (see Drawing ref: *MPG/GM/22-03 Rev A*) would be used for storage of plant and equipment, stockpiling of materials, and soil storage and would not be worked. Equally, the area west of the north-south drainage ditch would be retained as existing.

3.2.2 Soil stripping would also be carried out in a phased manner. All stripped soils would be stored in the northern area as shown on Drawing ref: *MPG/GM/22-03 Rev A*, and be retained for use in restoration. It is noted that there is a limited (often less than 0.5m) depth of soil across The Site. Bunds at the top of batters were previously proposed, but the slope stability report concluded that such an approach would be unstable.

3.2.3 Any soils mound(s) that would stay in place for 6 months or longer would be seeded with a grass seed mix to reduce their visual impact during the lifetime of the works. The locations of the storage mound is shown schematically on

Drawing ref: *MPG/GM/22-03 Rev A*. Because not all soils are to be stripped at once, and rolling restoration would be carried out, not all soil would need to be stored at the same time, throughout entire the lifetime of extraction. The area represented on Drawing ref: *MPG/GM/22-03 Rev A* shows the anticipated maximum volume of soil to be stripped from the entirety of The Site. No soil storage mound would exceed 2m in height.

- 3.2.4 As stated, all extraction of sand and gravel would take place above the water table, using a loading shovel or hydraulic excavator.
- 3.2.5 It is intended that, in order to reduce the total number of HGV movements, once restoration has commenced, HGVs arriving with restoration materials would leave The Site loaded with sand and gravel, if possible.
- 3.2.6 Restoration would be carried out using inert materials to achieve an engineered restoration platform, ready for the industrial development. If construction of the industrial development does not commence within 12 months of the final restoration contours being achieved, The Site would be restored in accordance with the design features described in Section 7, to allow The Site to be used for agricultural pasture in the interim period between restoration and construction of the industrial development. The restoration scheme aims to also provide a net gain in biodiversity with enhancements such as tree planting and wildflower meadow seeding. See Section 7 for further details.
- 3.2.7 The slope angle for the batters has been determined through a slope stability assessment (see Section 9).

3.3 Rate of working

- 3.3.1 It is anticipated that extraction would take 2-3 years to complete allowing for site preparation, extracting at a rate of 75,000 to 150,000 tonnes per year. Restoration would, equally take 2-3 years to complete. However, it is intended that restoration should commence at the earliest opportunity after entering

Phase 2 of extraction (see Drawing ref: *MPG/GM/22-03 Rev A*).

- 3.3.2 Therefore, it is anticipated that operations at The Site would be completed within some 4-6 years.

3.4 Hours of Working

- 3.4.1 The proposed working hours are as follows:

07.00 – 18.00 Weekdays

08.00 – 13.00 Saturdays

- 3.4.2 No extractive, or, infilling operations would be carried out on Sundays or Bank Holidays, when only emergency repairs and maintenance would be carried out.

3.5 Site Access / Vehicle Movements

- 3.5.1 It is anticipated that it will take some 4-6 years to complete extraction and restoration operations. This timescale would require approximately 30 two-way HGV movements per-day. However, as not all HGVs arriving with inert materials for restoration would leave loaded with sand and gravel¹, it is recommended that a limit of 50 two-way (25 in and 25 out) HGV movements per-day is applied by condition.

- 3.5.2 Site access would be from the existing roundabout on the A674. This roundabout is located only 250m (approx.) from the junction with the M61 motorway. The Site is, therefore, ideally located to serve a wide geographical market.

¹ Some contracts or customers of The Site would not be able to carry out both of these operations.

3.6 Mineral Quantities

3.6.1 It is estimated that approximately 116,000 tonnes of sand and gravel would be extracted from The Site. This calculation is based on a viable deposit of sand and gravel available for extraction whilst maintaining a stand-off of at least 1m from groundwater. All mineral would, therefore, be worked dry.

3.6.2 It is anticipated that an equivalent volume and tonnage of inert materials would be required for restoration. The nature of these materials and any required engineering would be determined and controlled by an Environmental Permit or Materials Management Plan, which would be secured from the Environment Agency for the restoration of The Site.

3.7 Water Management / Hydrology

3.7.1 The drainage ditch crossing east to west would be culverted along a short stretch to allow plant and machinery to cross to the northern area (where no extraction would take place), as shown on Drawing ref: *MPG/GM/22-03 Rev A*.

3.7.2 A Flood Risk Assessment (FRA) has been produced – see Chapter 6, and a qualitative Hydrogeological Risk Assessment (HRA) is provided in Chapter 8. A detailed hydrogeological risk assessment has been subsequently carried out, ref: 3373/AOP.

3.8 Security

3.8.1 The Site's entrance would include a gate that would be locked outside of operating hours and any necessary security fencing would be erected on The Site's boundaries. Suitable warning signs would also be placed to warn of deep excavations.

3.9 Exporting Materials

3.9.1 The excellent transport links that The Site benefits from allow it to supply markets across the northwest. The only processing that would take place on-site would be washing and sorting (if required / appropriate), after which the sand and gravel would be loaded to HGVs. Loading and / or unloading would be carried out entirely within the hardstanding compound area shown on Drawing ref: *MPG/GM/22-03 Rev A*.

3.10 Importing Materials

3.10.1 All imported inert materials would arrive by HGV and be deposited within the hardstanding compound area for subsequent internal movement to the tipping area. Whilst the importation of materials would be strictly controlled by an Environmental Permit or Materials Management Plan, it is noted that rigorous controls on acceptance of materials would be implemented at The Site and all operations would be carried out in compliance with an Environmental Management System.

3.11 Noise

3.11.1 Due to the proximity to the major road network and lack of sensitive receptors, it is not anticipated that any noise generated by operations would have a significant impact. This is reflected in the pre-app advice for the proposals. Nevertheless, a Noise Survey was carried out and is presented in Chapter 11.

3.12 Dust / Air Quality

3.12.1 Whilst it is not anticipated that The Site would generate significant quantities of dust, as with all mineral extraction sites, it may be necessary to implement measures to prevent significant quantities of dust becoming mobilised in the air during prolonged dry periods.

3.12.2 A dust mitigation strategy has been produced – see Chapter 5.

3.13 Final Restoration

3.13.1 The restoration of The Site would create an engineered development platform for the approved industrial development. As the industrial planning permission is (currently) only an outline permission, the final design of the industrial development has not been determined. The prior extraction restoration scheme, primarily, aims to return The Site to agricultural usage, with features that would generate a net gain in biodiversity. However, the restoration of The Site has also been designed to be conducive to the implementation of the industrial development, by creating a generally level area with no major topographic features, whilst assimilating into the surrounding land.

3.13.2 An aftercare scheme for The Site, which would be required by condition, would be produced to cover 5 years after final restoration. The scheme would incorporate a plan to be actioned in the event that the industrial development is not implemented.

3.13.3 Full details of the restoration scheme can be found in Section 7, and Drawing refs: *305/2 – 8, 305/2 – 9, and 305/2 – 10.*

3.14 Ecology

3.14.1 The ecology survey (Chapter 12) has informed both the operational layout and restoration scheme. The installation of Bat Boxes has been recommended, primarily along the eastern boundary of The Site. These will be retained post-restoration. The location of the bat boxes will be informed by the bat survey (see Chapter 12).

SECTION 4: Policy Review and Need Assessment

4.1 Introduction

4.1.1 The provision of the Town and Country Planning Act (1990) as amended, indicates a presumption in favour of development proposals which are in accordance with the Development Plan.

4.2 The Development Plan

4.2.1 The National Policy and Development Plan for this proposal is a combination of the following adopted policy documents so far as they are relevant:

- The National Planning Policy Framework (NPPF) (2019)
- The Joint Lancashire Minerals and Waste Local Plan (JMWLP) (2009)
- The Chorley Local Plan 2012 – 2026 (2015)

4.2.2 The Site is located within a Mineral Safeguarding Area for sand and gravel as defined by the JMWLP in 2013 (note: the Core Strategy document was adopted in 2009). This allocation requires that, unless it can be proven that a non-minerals development¹ would not sterilise a viable resource, prior extraction of the safeguarded mineral should take place. The following analysis of planning policy has, therefore, been carried out on the basis that this development constitutes the ‘prior extraction’² of safeguarded minerals.

4.3 National Policy

4.3.1 The National Planning Policy Framework (2019) was adopted in 2012 with updates in 2018 and 2019 and is supplemented by National Planning Policy Guidance (NPPG). Its purpose is to set out the Government’s planning policies for England

¹ In this case, the approved industrial development.

² As per Paragraph 204 (d) of the NPPF and Paragraph 3 of the Minerals Chapter to the NPPG.

and how these should be applied on a 'local' level.

4.3.2 NPPF Paragraph 1 states a presumption in favour of Sustainable Development. In this instance, the most sustainable course of action would be to extract the known mineral resource before the construction of the employment development platform (Ref: 17/00713/OUTMAJ).

4.3.3 The definition of a Mineral Safeguarding Area in the NPPF is "*An area designated by minerals planning authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development*". As The Site is within a mineral safeguarding area, National planning policy indicates that prior extraction should take place.

4.4 Regional Policy (Joint Lancashire Minerals and Waste Local Plan (2009))

4.4.1 The Joint Lancashire Minerals and Waste Local Plan (JLMWLP) was adopted in 2009, with the development management and allocations document adopted in 2013, which contains policies relating to the development and management of minerals and waste sites in Lancashire. The plan is currently under review, with a new JLMWLP scheduled to be submitted to the Secretary of State in late 2020³.

4.4.2 Policy DM1 provides the Council's position on the management of wastes and extraction of minerals. As discussed, The Site is within a mineral safeguarding area and prior extraction should be carried out if a viable resource is proven.

4.4.3 Policy DM2 provides a list of considerations that should be taken into account in order to support minerals and waste applications. The Site has historically been agricultural pasture and as such, the local biodiversity, geodiversity and landscape character is unlikely to be significantly impacted by the prior extraction of minerals. There are few residential dwellings in the immediate surrounds with the closest being over 210m away from The Site and it is

³ Currently, no further updates are available.

considered that the proposals would have little effect on residential amenity. Because The Site is so close to the M61, HGVs will cover shorter distances on minor roads than a typical minerals site (reducing overall CO2 emissions).

4.4.4 Policy M2 lists scenarios in which prior extraction of mineral within a Mineral Safeguarding Area would be refused, however, none of these apply to The Site.

4.4.5 Paragraph 6.7.12 of the core strategy, and its associated table, describe the need to reduce the volumes of waste sent to landfill. It is proposed that the infilling of The Site to construct the development platform could constitute a recovery operation. The JMWLP has a target of 35% of construction and demolition waste arising in the area to be treated and recovered by 2020. Whilst this date has now passed, it is not known if the target has been realised. Nevertheless, it is considered that The Site would contribute to this ongoing target to increase recovery.

4.5 Local Policy (Chorley Local Plan 2012 – 2026)

4.5.1 Whilst the Chorley Local Plan does not directly consider minerals matters, it is noted that Policy EP1.3 allocated The Site for employment development. It is the, already approved, employment development that the prior extraction facilitates.

4.6 Need

4.6.1 The need for this development is defined by the requirement to prevent the sterilisation of a known mineral resource by non-minerals development.

4.6.2 Policy M1 of The Joint Lancashire Minerals and Waste Local Plan (JLMWLP) states “*development will not be supported for any new extraction of sand and gravel, limestone, gritstone or shale. [...]*”. Paragraph 6.1.6 of the JLMWLP clarifies policy M1, stating that the landbank was at 18 years for sand and gravel as of September 2013, and therefore, no new sand and gravel sites were required due to the landbank being above the 7-year requirement. The most recent Local Aggregate

Assessment (2019) states that the current landbank is at 12 years.

- 4.6.3 However, the 7-year landbank stipulated in the National Planning Policy Framework (NPPF) is a minimum. It should not be regarded as a target that, once met, would dictate that there is no need for new deposits to be brought forward. Sound forward planning requires provision for future sand and gravel sites to be permitted in order to maintain the landbank throughout the plan period.
- 4.6.4 Overriding the above considerations of Policy M1, as extraction would be taking place as 'prior extraction', The Site would not necessarily be supporting an immediate need for sand and gravel to support the existing landbank. The working of The Site would prevent the future sterilisation (by the approved industrial development) of a viable sand and gravel resource, which would have prejudiced future landbanks.

SECTION 5: Air Quality and Dust Mitigation Strategy

5.1 Introduction

5.1.1 The primary potential air quality issue associated with operations at The Site is mineral / soil dust emissions. However, the operations at The Site are not considered likely to be a major source of dust, especially beyond The Site's boundaries.

5.2 Sources of Dust

5.2.1 It is considered that there are three potential sources of unacceptable dust levels at The Site:

- Stockpiles of fine processed minerals,
- HGV / plant movements across internal haulage routes,
- The working and processing of mineral.

5.2.2 Notably, these potential sources only exist during prolonged dry weather conditions, when dust may be mobilised by wind.

5.3 **Dust Mitigation Strategy**

5.3.1 Dust monitoring would be carried out daily through visual inspection by the Site Manager. This would constitute an on-going procedure that is continuously monitored during operational hours. Where, in the opinion of the Site Manager, dust is being generated beyond an acceptable level, mitigation measures would be implemented.

5.3.2 In addition, when weather conditions have included unusually long periods of dry and / or windy weather, the Site Manager may decide to implement mitigation measures before operations have begun each day.

5.3.3 Wetting down of Haul Roads

The internal haul routes may be a source of dust, either through being disturbed by HGVs, or, potentially mobilised by wind. During prolonged dry weather, the haul roads would be wetted down using an on-site water bowser (or equivalent).

5.3.4 Suspension of Operations

Whenever, in the opinion of the Site Manager, dust emissions have reached an unacceptable level at The Site's boundaries, the activities generating the dust will be suspended. If necessary, remedial action may be carried out to reduce the dust, such as use of water to dampen the area(s) where dust is being generated. All plant and equipment on-site would be fitted with dust suppression equipment where applicable.

5.3.5 Wetting-Down of Stockpiles / Working Areas

During extended dry and / or windy conditions, and, at the discretion of the Site Manager, stockpiles (or other areas) that are generating, or, have the potential to generate dust shall be wetted-down. This will be carried out as often as is necessary to prevent excessive dust generation. During such exceptional weather conditions, the stockpiles may be wetted-down before closing The Site each day, if it is considered that dust may be generated outside of operational hours.

5.3.6 Dust Prevention Measures

10mph speed limits would be enforced on all internal haul roads to prevent excessive dust being generated by moving vehicles. Daily dust checks would be carried out to determine if any mitigation measures are required. Additionally, weather forecasts will be used to ensure enough water is available when dry and / or windy conditions are predicted.

SECTION 6: Flood Risk Assessment

6.1. Introduction

- 6.1.1. This Flood Risk Assessment (FRA) assesses the risk of flooding at, and as a result of, a proposed sand and gravel quarry off junction 8 of the M61, near Chorley ('The Site'). The proposals involve the prior extraction of sand and gravel before restoration infilling with inert materials to create an engineered development platform for a previously approved (outline) industrial development (Ref: 17/00713/OUTMAJ).
- 6.1.2. This FRA will consider whether The Site is at risk of flooding from any source, and whether the proposals will increase flood risk elsewhere.

6.2. Site Description

- 6.2.1. The Site covers an area of approximately 9.9ha. The topography of The Site is generally flat, with only a gentle slope towards the north. There are two drainage ditches cross-cutting The Site and an area of peat in the north-west corner. Surface water in the drainage ditches flows north-westwards towards the peat area (see Drawing ref: 305/2 – 3).
- 6.2.2. The bedrock consists of sandstones, siltstones and mudstones overlain by superficial glaciofluvial sand and gravel deposits. Groundwater monitoring has provided water table depths which have been used to design the extraction profile.

6.3. Risk Assessment

- 6.3.1. The Site is entirely within Flood Zone 1 and is not within an area with critical drainage problems as notified by the Environment Agency. However, as The Site's surface area is over 1ha, an FRA is required.
- 6.3.2. Surface water currently drains towards the north and the north west of the site.

The east-west orientated drainage ditch would have a small section culverted¹ to allow vehicle access across the site. During mineral extraction, surface water would percolate through the permeable quarry floor².

- 6.3.3. The proposed operations would reduce the volume of surface water run-off away from The Site, as the ground level would be lower than the surroundings as a result of extractive operations. The rate of surface water flow into The Site would increase nominally as a result of extraction, due to the extracted area being lower than the adjacent topography. The Government's flood risk maps for flooding from surface water (see Appendix B) show some areas of The Site to be at low risk (up to 1 in 100 year events), with some areas at medium risk (between 1 and 3.3 in 100 year events)³. However, the vast majority of the proposed extraction area is labelled as very low risk.
- 6.3.4. The potential flow of surface water into The Site, and slightly elevated risk of surface water flooding as described above, would be managed by a migrating sump. The sump would act as a collection point for surface water in which it could be temporarily stored whilst it naturally percolates into the sand and gravel underlying The Site. The sump would migrate, as necessary, alongside extraction so that it would always be at the lowest point in The Site.
- 6.3.5. The original rate and volume of surface water flow across the site would be reinstated upon restoration. As the temporary changes in the rate and volume of surface water flow across the site would be mitigated by way of the rolling sump there is considered to be a low risk of surface water flooding from the proposed operations
- 6.3.6. The only residual risk of on-site flooding from surface water would be as a result of 'flash flood' water from storm events⁴. However, the migrating sump would

¹ With a suitably large diameter pipe to not restrict the existing flow rate

² Glaciofluvial sand and gravel deposits

³ Some very isolated high-risk areas are shown, but these are extremely small.

⁴ 1 in 10-year storm events

serve to attenuate a ‘flash flood’ and, should the sump be overwhelmed, the quarry floor would be sacrificed and affected areas of The Site evacuated until water levels have receded. As such, it is considered that flooding due to a storm event would constitute a low risk.

6.3.7. Central Lancashire has a low risk of groundwater flooding according to the Strategic Flood Risk Assessment published in 2007⁵. As such, it is considered that there would be low to negligible risk of groundwater flooding at The Site.

6.3.8. “*Whilst there are a few recorded incidents of flooding from the canal network*”⁴, there is no history of it at The Site. As a result, the risk of flooding from the canal along the eastern boundary of The Site is considered to be negligible. Additionally, the proposals would have no effect upon the operation of the canal and would, therefore, cause no increased risk of flooding from the canal away from The Site.

6.4. Conclusions

6.4.1. There is considered to be negligible risk of flooding due to surface water (including from the canal) or groundwater at, or away from, The Site as a result of the proposed development. The only residual risk of flooding at The Site would be due to a storm event or ‘flash’ flood. However, this is also considered to constitute a very low risk.

6.4.2. Surface water management would primarily consist of a migrating sump at the deepest point of extraction. One of the drainage ditches would be partially culverted to allow vehicle movements across the site. Evacuation or restricted working in the event of flooding would be at the Site Manager’s discretion.

6.4.3. It is concluded, through the above considerations, that the risk of flooding at, or,

⁵ Central Lancashire Strategic Flood Risk Assessment (2007)- [https://www.preston.gov.uk/media/1693/CL-Flood-risk-assessment/pdf/EVL-08-Central-Lancs-Strategic-Flood-Risk-Assessment-Level-1-Final-Report-Dec-2007_\(1\).pdf?m=636977626435930000](https://www.preston.gov.uk/media/1693/CL-Flood-risk-assessment/pdf/EVL-08-Central-Lancs-Strategic-Flood-Risk-Assessment-Level-1-Final-Report-Dec-2007_(1).pdf?m=636977626435930000)

away from The Site as a result of the proposed development would not increase and is **very low**.

SECTION 7: Restoration Scheme

7.1 Introduction

- 7.1.1 The Site would be restored in order to facilitate the construction of the approved industrial development (ref: 17/00713/OUTMAJ). However, there is nonetheless a requirement to design a restoration scheme that provides a suitably restored site, whether the industrial development planning permission is implemented or not.
- 7.1.2 This restoration scheme, therefore, provides an engineered development platform that could be readily utilised for the construction of the industrial development. However, it would also generate suitable agricultural land, with additional net gains in biodiversity, that could be used in perpetuity should the industrial development not come to fruition¹.
- 7.1.3 It is proposed that the landforms proposed would be created regardless of whether the industrial development is constructed. However, seeding and / or planting would only be carried out if construction of the industrial development does not commence within one year of the final landform being achieved.
- 7.1.4 This document is intended to be read in conjunction with Plans ref: *305/2 – 8* and *305/2 – 9*.

7.2 Restoration Scheme Aims

- 7.2.1 The restoration scheme has two primary aims:
- To restore the site using inert materials to create an engineered development platform, or, create suitable agricultural land similar to existing.

¹ Or, be used as agricultural land until the industrial development is begun.

- To generate a net gain in biodiversity through the implementation of several features.

7.3 Restoration Scheme Features

7.3.1 General

7.3.1.1 The following paragraphs describe the different features proposed at The Site, as shown on Drawing ref: *305/2 – 9*. These features are those that would be created should there be no construction of the industrial development. Consultation and coordination with the industrial developer may dictate that some of these features may not be created as construction of the industrial development may have commenced.

7.3.1.2 Nevertheless, the following features should be regarded as the proposed final restoration scheme, and for the purposes of its assessment, all should be considered together on the assumption that all features would be created.

7.3.2 Agricultural Grassland

7.3.2.1 The central and southern areas of The Site would be seeded with an agricultural grass seed mix (see drawing ref: *305/2 – 9*). This area would cover approximately 5.3ha and would enable The Site to return to its former uses of general agriculture (livestock grazing etc.) and car boot sales.

7.3.3 Wildflower Meadow

7.3.3.1 The 'northern area' would be seeded with an appropriate wildflower meadow seed mix. This feature is intended to, in-part, generate a net gain in biodiversity by providing approximately 0.71ha of wildflower meadow that would significantly benefit pollinating insects.

7.3.3.2 The wildflower meadows would also provide a more interesting visual feature for

users of the footpath crossing The Site, and for transient views from the motorway and A674.

7.3.4 Woodland Boundaries

7.3.4.1 On the western boundary, an existing strip of trees borders The Site. However, these trees are predominantly outside of The Site's boundary, and are somewhat sporadic. It is proposed that this strip of trees would be enhanced through the removal of any dead, diseased or severely damaged trees², and replacement planting where possible.

7.3.4.2 The enhancement of the trees on The Site's boundary would lead to an improved wildlife corridor, improving connectivity with trees and wooded habitat north of The Site, as well as those on the southwestern boundary, and contributing to the net gains in biodiversity.

7.4 Final Landform

7.5.1 The final restoration contours are shown on plan ref: *MPG/GM/22-04*. The proposed final landform would provide a generally level engineered development platform that could facilitate the approved industrial development. However, as with all the proposed features, the landform would also be suitable for the agricultural and biodiversity proposed end-uses for The Site.

7.5.2 The final levels would be achieved using inert materials to infill the extraction void through rolling restoration (following the extraction phases shown in Drawing ref: *MPG/GM/22-03*).

7.5.2 As shown, the landform is generally level from the A674, before sloping towards the drainage ditches. The sloped areas are proposed to be seeded with the wildflower meadow seed mix.

² Where these are on land within the applicant's control.

7.5.3 There would be no landform changes to the areas north and west of the drainage ditches. The peaty area would be unaffected by both extraction and restoration.

7.5 Summary

7.5.1 The Site is proposed to be infilled using inert materials to form a generally level landform, sloping in the north towards the retained drainage ditch. North and west of the drainage ditches, there would be no changes to the landform.

7.5.2 The central and southern parts of The Site would be seeded with a suitable agricultural grass seed mix, whilst areas in the north and the west would be seeded with an appropriate wildflower meadow seed mix.

7.5.3 The tree belt on the western boundary would be enhanced with replacement planting where appropriate to improve the connectivity with other woodland habitats and provide a more substantial wildlife corridor.

SECTION 8: Hydrogeological Risk Assessment

8.1 Introduction

8.1.1 This document will qualitatively assess the risk of pollution from the proposed development to groundwater and surface water. The assessment is primarily desk-based, but also uses results from on-site exploratory trial pits and historic borehole data.

8.1.2 Plan ref: *305/2 – 11* shows a schematic summary of the conclusions of this document.

8.2 Proposed Development and Site Description

8.2.1 A detailed description of The Site and the proposals are provided in Chapters 1 – 3. However, the following summary is provided as context for this Hydrogeological Risk Assessment (HRA).

8.2.2 The Site is located just off Junction 8 of the M61, north of Chorley and currently consists of agricultural fields, occasionally used to host car boot sales. There are two drainage ditches crossing The Site, and a peaty area in the northwest.

8.2.3 The proposed development involves the prior extraction of sand and gravel before restoration using inert materials to create a development platform for an already approved industrial development. Should the industrial development not be implemented, the restoration scheme has been designed such that The Site can be returned to agricultural usage, with biodiversity set aside areas.

8.2.4 The extraction area is shown in Plan ref: *MPG/GM/22-03*. No extraction would take place in the peat area, or the areas to the north and west of the drainage ditches, as shown on Plan ref: *305/2 – 3*. All extraction would take place above the water table.

8.3 Risk Assessment

8.3.1 Methodology

8.3.1.1 The following assessment(s) have been carried out on a Source – Pathway – Receptor (SPR) basis. A theoretical SPR model allows for analysis of the dynamic interactions of Sources (of potential contaminants), Pathways (routes that contaminants may take) and Receptors (aspects of the hydrological environment that may receive contaminants), and whether these exist. A resulting analysis of residual risk has then been made.

8.3.1.2 In the context of this HRA, there are two Receptors that must be considered – surface water and groundwater. For each, an analysis of potential pathways and sources has been made.

8.3.2 Surface Water

8.3.2.1 There are two surface water courses within The Site – the two drainage ditches, which would not be modified, diverted or stopped up as part of the proposals.

8.3.2.2 A single potential pathway for contaminants to reach the surface water courses has been identified:

- Surface water management at The Site draining to water courses

8.3.2.3 There are three potential sources of contaminants that have been identified:

- Extraction operations
- Infilling operations
- Spillages of fuels or other fluids associated with site plant and machinery

- 8.3.2.4 The nature of extraction operations means that the only potential contaminant that could enter surface water from extractive operations would be suspended solids.
- 8.3.2.5 To prevent suspended solids entering the surface water courses, it is proposed to manage all surface water within the 'live' extraction areas by way of a migrating¹ sump. Surface water could be temporarily stored in the sump whilst it naturally percolates through the permeably underlying strata. No surface water from extraction areas of The Site would be directed to the surface water courses.
- 8.3.2.6 The same methodology for managing surface water would be employed during infilling operations. The uppermost layers of infill material would consist only of inert soils / soil forming material (to allow for the restoration scheme to be achieved). The hydrological regime would, therefore, be as close as possible to the conditions existing at The Site prior to any extraction and infilling. There is considered, therefore, to be no risk associated with surface water run-off once the final contours are achieved.
- 8.3.2.7 There is, therefore, no viable Pathway for (theoretically) contaminated surface water to reach the identified receptors, and the risk is concluded to be extremely low.
- 8.3.2.8 With regards to fuel and fluid spillages, as above, there can be no Pathway for any fuel spillages to take to surface water. Further information in section 8.3.7 of this document discusses mitigation of fuel spillages.

8.3.3 Groundwater

- 8.3.3.1 Groundwater levels have been recorded across The Site to ensure a minimum 1m stand-off from the water table is achieved. In the superficial deposits,

¹ The sump would not be in a fixed location, and instead would be moved to a low point during extraction as needed.

groundwater is classified across The Site as a combination of Secondary A Aquifer and Secondary Undifferentiated Aquifer.

8.3.3.2 A single Pathway has been identified:

- Direct percolation through underlying strata

8.3.3.3 There are three potential Sources identified:

- Extractive operations (suspended solids)
- Infilling operations
- Spillages of fuels or other fluids associated with site plant and machinery

8.3.3.4 No extraction would take place within 1m of the water table. Therefore, there would be no direct interaction between extractive, or, infilling operations and groundwater at The Site.

8.3.3.5 Nevertheless, potential contaminants from infill materials could percolate through underlying strata to reach groundwater. However, the nature of materials used for restoration mean that the risk of unacceptable levels of potential contaminants is very low.

8.3.3.6 All imported materials would be inert, and strictly controlled by way of a Bespoke Permit from the Environment Agency (EA) or Materials Management Plan. Strict controls would prevent any potentially polluting materials from being imported to The Site.

8.3.3.7 Fuel and fluid spillages from the re-fuelling and maintenance of on-site plant and machinery could also percolate through underlying strata to reach groundwater. However, all re-fuelling and maintenance would be carried out on a designated, impermeable surface (such as concrete), and an on-site spillage kit would be available to control and spillages. These measures would

also be detailed and controlled by way of the EA Permit.

8.3.3.8 It can therefore be concluded that, for infilling operations, the risk of a Source of contaminants existing is very low, and for fuel and fluid spillages, the Pathway has been effectively precluded. Both of these issues would be strictly controlled by way of an EA Permit. The risk to groundwater is, therefore, low.

8.4 Summary

8.4.1 An assessment of risk to both groundwater and surface water was carried out on a Source-Pathway-Receptor basis.

8.4.2 Sources and Pathways were identified that had the potential to cause pollution of either groundwater or surface water.

8.4.3 However, pathways to surface water could be eliminated, as well as the pathway for fuel and/or fluid spillages. The risk of a Source of contaminants from the infilling operations was concluded to be low.

8.5.4 The risk of pollution of either surface water, or, groundwater from the proposed operations is concluded to be low.



Noise Impact Assessment of Proposed Sand and Gravel Extraction

Client: Ruttle Plant Hire Limited

Address: Gale Moss,
North of the A674,
Chorley,
PR6 8AA

Date: 20/05/2022



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Date	20/05/2022	--
Project Number	7724RP	
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Executive Summary

A noise impact assessment has been undertaken to assess the impact of the proposed sand and gravel extraction at Gale Moss, North of the A674, Chorley, PR6 8AA. The measured sound levels have allowed BS4142:2014 and IEMA noise assessments to be carried out.

A BS4142 assessment shows that the noise emissions associated with each phase of the Proposed Development fall below the operational period background sound level on all the Noise Sensitive Receptors (NSRs) 1 to 3. However, the background is exceeded at NSRS 4 and 5 by 4- 7 dB. However, given the development is temporary and government guidance on mineral extraction states the following it is assumed that the site is suitable for the development and low impact will occur.

"Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (LA90,1h) by more than 10dB(A) during normal working hours (0700-1900)."

An IEMA 'Increase in Ambient Noise Level' assessment shows that the specific sound level emissions from the proposed site are predicted to have a no impact on the amenity of the surrounding NSRs. This also equates to 'No Observe Effect Level' (NOEL), when assessed with the NPSE and the NPPF. Thus, giving more context to the BS4142:2014 assessment.

The findings of this report will require written approval from the Local Authority prior to work commencing.



1. Introduction

1.1 Overview

NOVA Acoustics Ltd has been commissioned to prepare a noise assessment for the proposed sand and gravel extraction ('the Proposed Development') at Gale Moss, North of the A674, Chorley, PR6 8AA ('the Site').

The Applicant is preparing a full planning application ('the Application') to Lancashire County Council. Accordingly, the following technical noise assessment has been produced to accompany the Application to the Local Authority.

This report details the existing background sound climate at the nearest receptors, as well as the sound emissions associated with the Proposed Development.

This noise assessment is necessarily technical in nature; therefore, a glossary of terms is included in Appendix A to assist the reader.

1.2 Scope & Objectives

The scope of the noise assessment can be summarised as follows:

- Baseline sound monitoring survey to evaluate the prevailing sound levels at the nearest sensitive receptor ('NSR') to the Site;
- Detailed sound modelling, acoustic calculation and analysis in accordance with ISO9613 – 1 prediction methodology to predict sound levels at the NSR;
- A detailed assessment of the suitability of the Site, in accordance with relevant standards in respect of sound from the proposed sources; and
- Recommendation of mitigation measures, where necessary, to comply with the requirements of the National Planning Practice Guidance in England and Wales, BS4142:2014, and other relevant Standards.

1.3 Legislation, Policy and Guidance

This report is to be primarily based on the following legislation, policy, and guidance.

- National Planning Policy Framework (2021)
- Noise Policy Statement for England
- IEMA Guidelines on Noise Impact Assessments
- BS4142:2014 'Methods for rating and assessing industrial and commercial sound'
- ISO 9613-2 Attenuation of sound during propagation outdoors
- BS EN 12354-4 Building Acoustics

2. Site Description & Background Information

2.1 Site & Surroundings

The Proposed Development is located on the land next to Junction 8, M61, Chorley, PR6 8AA, Lancashire. The immediate area is predominantly farmland with some residential and commercial premises. The east boundary of the site is adjacent to the M61 motorway. Across the M61, about 130m away is a farm with a residential dwelling associated. 250m to the north are commercial units and residential dwellings. To the south, runs A674 Road, which facilitates medium traffic flow levels. About 300m away is a residential area named Great Knowley. To the south and west, there are commercial areas with several premises which typically operate from 08:00 to 18:00 Monday to Friday. To the southwest, approximately 320m away, there is another residential area, and to the west, approximately 270m from the site, there is another residential dwelling. Due to their proximity, the 5 residential premises mentioned above are considered as Noise Sensitive Receptors (NSRs). During the site visits, the engineers found that the acoustic environment at the NSRs was of a moderate level, with road traffic noise presenting as dominant source. The main noise source incident on all the NSRs was found to be the M61 Motorway.

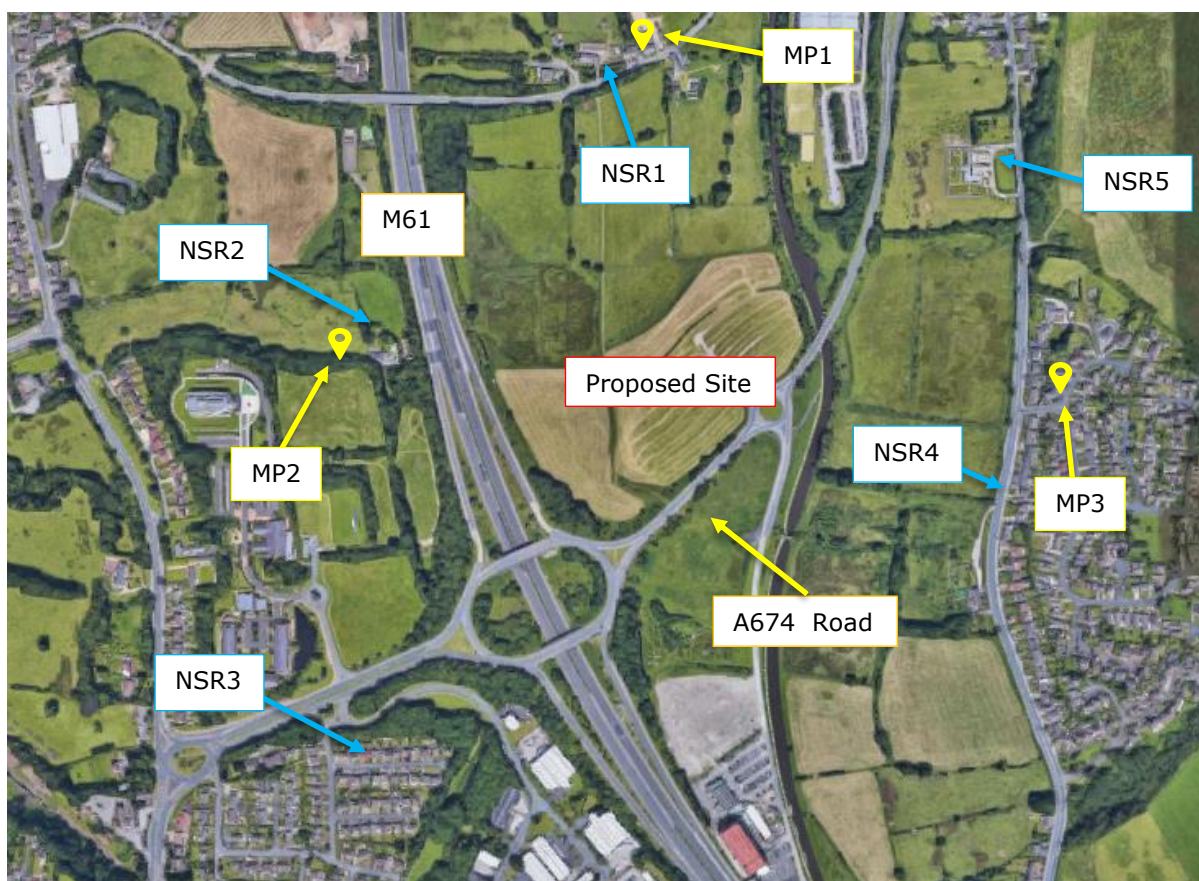


Figure 1.0 – Site and Surroundings

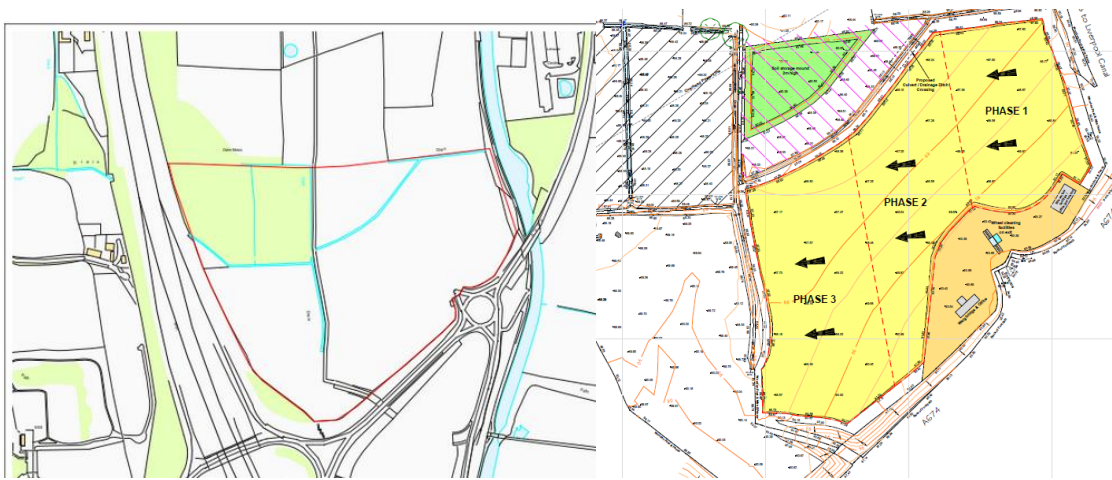
2.2 Background

The proposals are for the prior extraction of some 300,000 tonnes of sand and gravel. The sand and gravel would be extracted to a depth of approximately 4m below the surface (retaining a 1m stand-off from the local groundwater table).

The Site would be restored with approximately 300,000 tonnes of suitable inert materials to provide an engineered construction platform for the approved (outline) B2 industrial development at The Site and, should the industrial development not go ahead, create agricultural land with biodiversity set-aside areas.

The proposed prior extraction operations would be carried out in three phases, starting in the eastern extent of The Site and moving westwards (see figure).

Soil stripping would also be carried out in a phased manner. All stripped soils would be stored in storage mounds and be retained for use in restoration. It is noted that there is limited (less than 0.5m) of soils at The Site. The northern area would not be worked, instead only being used for storage of plant and equipment, or stockpiling of materials.



As stated, all extraction of sand and gravel would take place above the water table, using a loading shovel or hydraulic excavator.

It is intended that to reduce the total number of HGV movements, once restoration has commenced, HGVs arriving with restoration materials would leave the site loaded with sand and gravel, if possible.

The operational hours of the development are intended to be 07:30 – 18:00 Monday to Friday, and 08:00 to 13:00 on Saturdays. The site is expected to have a maximum of 50 two way HGV deliveries/collections per 10.5 hour working day, which equates to approximately 5-6 HGV movements per hour.

Location plans and site plans are included in Appendices C and D respectively.

3. Environmental Noise Survey

To characterise the sound profile of the area a long-term noise survey was carried out from the 26th of June to the 29th of June 2020.

3.1 Measurement Methodology

For the long-term monitoring, a sound level meter was attached to a lamppost approximately 3.5m from the ground and away from any other reflective surface. Furthermore, two short term measurements were taken near the NSRs. The monitoring positions were chosen in order to collect representative sound levels of the area during the proposed operational period. The measurement positions can be found in Figure 1.0.

3.2 Measurement Equipment

Piece of Equipment	Serial No	Calibration Deviation
CESVA SC310 Class 1 Sound level meter	T221722	≤0.5
CESVA CB006 Class 1 Calibrator	37771	

Table 1.0 – Measurement Equipment

All equipment used during the survey was field calibrated at the start and end of the measurement period with a negligible deviation of ≤0.5 dB. All sound level meters are calibrated every 24 months and all calibrators are calibrated every 12 months, by a third-party calibration laboratory. All microphones were fitted with a protective windshield for the entire measurements period. Calibration certificates can be provided upon request.

3.3 Weather Summary

As the environmental noise survey was carried out over a long un-manned period no localised records of weather conditions were recorded. All measurements have been compared with met office weather data of the area, specifically the closest weather station at Meteoware, Farington Moss, approximately 10.6 km to the north-west of the site. When reviewing the time history of the noise measurements, any time period that was thought to be affected by the local weather conditions has been omitted. The analysis of the noise data includes statistical and percentile analysis and review of minimum and maximum values, which aids in the preclusion of any periods of undesirable weather conditions. The weather conditions were deemed suitable for the measurement of environmental noise in accordance with BS7445 Description and Measurement of Environmental Noise. The table below presents the average temperature, wind speed and rainfall range for each 24-hour measurement period.

Weather Conditions - 26/06/2020 – 29/06/2020 - Meteoware, Farington Moss				
Time period	Air temp (°C)	Rainfall mm/h	Wind Speed (m/s)	Wind Direction
26/06/20 – 00:00 – 23:59	16.7– 27.0	0.5	0.0 – 1.1	SSE
27/06/20 - 00:00 – 23:59	13.0 – 20.9	1.2	0.3 – 4.2	SSE

28/06/20 - 00:00 - 23:59	11.3 - 14.2	0.1 - 1.3	0.3 - 4.2	SW
29/06/20 - 00:00 - 23:59	11.3 - 14.1	0.1 - 1.6	0.3 - 3.6	SSE

Table 2.0 – Meteorological Data

3.4 Results

3.4.1 Summary Results

The following table shows a summary of the sound survey results; L_{Aeq} , L_{Amax} , L_{A90} and the L_{A10} for the measurement period.

Measurement Position MP1				
Measurement Time Period ('t')	$L_{Aeq,t}$	$L_{Amax,t}$	$L_{A90,t}$	$L_{A10,t}$
Day 1 – 26/06/20 – 09:30 – 23:00	66.0	97.0	58.0	69.0
Night 1 – 26/06/20 – 23:00 – 07:00	59.0	95.0	49.0	62.0
Day 2 – 27/06/20 – 07:00 – 23:00	66.0	97.0	62.0	68.0
Night 2 – 27/06/20 – 23:00 – 07:00	58.0	85.0	50.0	60.0
Day 3 – 28/06/20 – 07:00 – 23:00	67.0	91.0	59.0	69.0
Night 3 – 28/06/20 – 23:00 – 07:00	65.0	87.0	52.0	70.0
Measurement Position MP2				
Measurement Time Period ('t')	$L_{Aeq,t}$	$L_{Amax,t}$	$L_{A90,t}$	$L_{A10,t}$
Day 1 – 26/06/20 – 10:30 – 11:00	61.0	87.0	60.0	62.0
Measurement Position MP3				
Measurement Time Period ('t')	$L_{Aeq,t}$	$L_{Amax,t}$	$L_{A90,t}$	$L_{A10,t}$
Day 1 – 26/06/20 – 09:30 – 10:00	61.0	85.0	56.0	63.0

Table 3.0 – Sound Survey Summary Results

The following table shows a summary of the sound survey results; L_{Aeq} , L_{Amax} , L_{A90} and the L_{A10} for the proposed operational periods at MP1.

Measurement Position MP1				
Measurement Time Period ('t')	$L_{Aeq,t}$	$L_{Amax,t}$	$L_{A90,t}$	$L_{A10,t}$
Day 1 – 26/06/20 – 07:30 – 18:00	67.0	97.0	65.0	69.0
Day 2 – 27/06/20 – 07:30 – 13:00	66.0	86.0	65.0	68.0

Table 4.0 – Sound Survey Summary Results – Operational Hours

3.4.2 Background Sound Level Summary Results

The following table shows a summary of the background sound levels measured during the proposed operational hours.

Measurement Position MP1				
Measurement Period ('t')	L _{A90,t}	Statistically most Repeated L _{A90,t}	Min. L _{A90,t}	Max. L _{A90,t}
Day 1 – 26/06/20 – 07:30 – 18:00	57.0	58.0	52.0	61.0
Day 2 – 27/06/20 – 07:30 – 13:00	57.0	57.0	56.0	59.0
Measurement Position MP2				
Measurement Period ('t')	L _{A90,t}	Statistically most Repeated L _{A90,t}	Min. L _{A90,t}	Max. L _{A90,t}
Day 1 – 26/06/20 – 10:30 – 11:00	60.0	59.0	57.0	62.0
Measurement Position MP3				
Measurement Period ('t')	L _{A90,t}	Statistically most Repeated L _{A90,t}	Min. L _{A90,t}	Max. L _{A90,t}
Day 1 – 26/06/20 – 09:30 – 10:00	56.0	51.0	49.0	61.0

Table 5.0 – Background Sound Level Summary Results

3.5 Subjective impression & Context

Whilst on site it was found that the acoustic environment of the area surrounding the site was of a moderate to high level, dominated by traffic noise from the M61 Motorway.

3.6 Assumptions

It is assumed that if the noise emissions are acceptable at the closest NSRs then the noise level will be acceptable in all other locations.

3.7 Uncertainty

BS4142:2014 section 10.0 states that uncertainty in the calculation of sound levels during the assessment process can arise from both the measured values and calculation methods.

To ensure the accuracy of the assessment consideration has been taken for the level of uncertainty in the measured data and associated calculations in the proposed methodology used to undertake the assessment. Where the level of uncertainty could affect the conclusion, reasonably practicable steps have been taken to minimise the level of uncertainty. Where the level of uncertainty is excessive, additional measurements and site visits have been conducted to increase the confidence in the results. In all instances the following steps have been taken to address the uncertainty;

- 1) Measured Values; A detailed understanding of the source of noise under investigation has been conducted including consideration for the complexity, variability over time and location,

the character and effect of the residual sound level in comparison with the source, the measurement location, quantity of measurements and distance/intervening ground conditions, measurement time interval and the range of times measurement were taken, the suitability of weather conditions, the level of rounding and the classification of the instrumentation used to conduct the assessment.

- 2) Calculation Methods; Consideration has been taken for the accuracy of the measured sound levels, the character of the sound emissions in question, the calculation method and the simplification of the real situation to “fit” the modelled situation. Recognised standards and validated methods and processes have been used to establish accurate values during the calculation process.

For the avoidance of doubt, the level of uncertainty will not be quantified. If appropriate consideration is taken for points 1 and 2 during the collection of data and analysis thereof, then the influence of uncertainty in the final result is at its lowest practical value.



4. Noise Assessment

4.1 BS4142:2014 Noise Assessment

In the following section, the noise emissions from on-site activities will be defined and assessed.

4.1.1 On-Site Activities

The activities that are proposed to be undertaken on site are as follows:

Gravel and Sand Extraction

Firstly, excavators and bulldozers will strip the soil (about 0.5m deep) and store it in mounds for use in restoration. Moreover, excavators will remove the gravel and sand on the site and load it into HGVs. The HGVs will take the material off the site. The HGVs will come to the site via M61 and enter and exit the site via the A674.

Ground Restoration

HGVs will deliver suitable inert materials to the site via A674. The material will be then unloaded on the Proposed Site and distributed around the site and the ground levelled. The HGVs will exit the site via A674 as well.

4.1.2 Development Phases

The client has stated that the proposed on-site activities have been divided into three phases. The following assumptions have been made:

- Phase 1: gravel and sand extraction is carried out in the eastern area.
- Phase 2: gravel and sand extraction takes place in the centre area while restoration activities start in the eastern area.
- Phase 3: gravel and sand extraction is carried out at the western area while the centre area is under restoration activities.

4.1.3 Specific Sound Level

Machinery

The table below shows the noise levels of the equipment which is to be used for the Proposed Development. It is noted that it is unlikely that all plant machinery will be operational simultaneously, and as such, the following assessment is deemed to be a worst-case scenario. The noise levels have been taken from BS5228:2009. The exact models of equipment are currently unknown, and as such, appropriate models have been chosen to provide example data.

The A-weighted sound levels for the plant equipment can be seen in the following table.

Description	Source of Information	Sound Pressure Level at 1m (dBA)	Calculated Sound Power Level (dBA)
Ground removal with a Diesel Powered Face Shovel	BS5228:2009	102.0	110.0
Levelling ground	BS5228:2009	96.0	104.0
Loading Gravel/Stone to Lorry	BS5228:2009	95.0	103.0
Unloading Gravel/Stone	BS5228:2009	104.0	112.0

Table 6.0 – Plant Equipment Noise Data

On-time corrections are then applied as shown in the following table to account for predicted usage per hour.

Description	Calculated Sound Power Level (dBA)	On-Time Per Hour (Mins)	Corrected Sound Power Level (dBA)
Ground removal with a Diesel Powered Face Shovel	110.0	60 (Continuous)	110.0
Levelling ground with a Dozer	104.0	60 (Continuous)	104.0
Loading Gravel/Stone to Lorry	103.0	30	100.0
Unloading Gravel/Stone	112.0	30	109.0

Table 7.0 – Plant Equipment Noise Data with On-Time Correction

HGV Movements

It is expected there will be 50 or fewer HGV movements per 10-hour working day, which equates to approximately 6 movements per hour (3 in and 3 out). The table below shows the noise levels for HGV movements, taken from BS5228:2009. Corrections have subsequently been applied to account for movement time per hour, considering a site speed limit of 10 mph (16 kph), an access road speed limit of 20 mph (32 kph), and the distance travelled in total. Each movement time has been rounded up to the nearest minute and a correction has been applied to account for time spent on the weighbridge.

Description	L _w (dB)	Maximum No. of Movements Per Hour	Maximum Distance (m)	Speed (km/h)	Approximate Movement Time (mins/hour)	Time Corrected L _w (dB)
HGVs Moving on Site – Phase 1	98.0	10	100	16	1	80.0
HGVs Moving on Site – Phase 2	98.0	10	150	16	2	83.0
HGVs Moving on Site – Phase 3	98.0	10	200	16	2	83.0
HGVs on Access Road	98.0	10	300	32	2	83.0

Table 8.0 – HGV Time Corrected Movement Noise Levels

The specific sound levels at the NSRs have been calculated using SoundPlan 8.1, which undertakes its calculations in accordance with the guidance given in ISO9613 – 1:1993 and ISO9613 – 2:1996.

The following assumptions have been made within the calculation software:

- To accurately model the land surrounding the development the topographical data has been taken from Google Maps, it is assumed this has an accuracy within the last 3 years.
- The ground between the site and receivers is a mix of acoustically ‘soft’ and ‘hard’ surfaces.
- The sound levels presented above have been inputted into the software.
- The HGV movement noise emissions have been modelled as line sources at heights of 1.5m.
- Screening, crushing, telehandler, and loading operations have been modelled at source heights of 2m.
- The grid height of the noise map is set to 1.5m.

The following figures show the grid noise maps for Phase 1, Phase 2 and Phase 3.



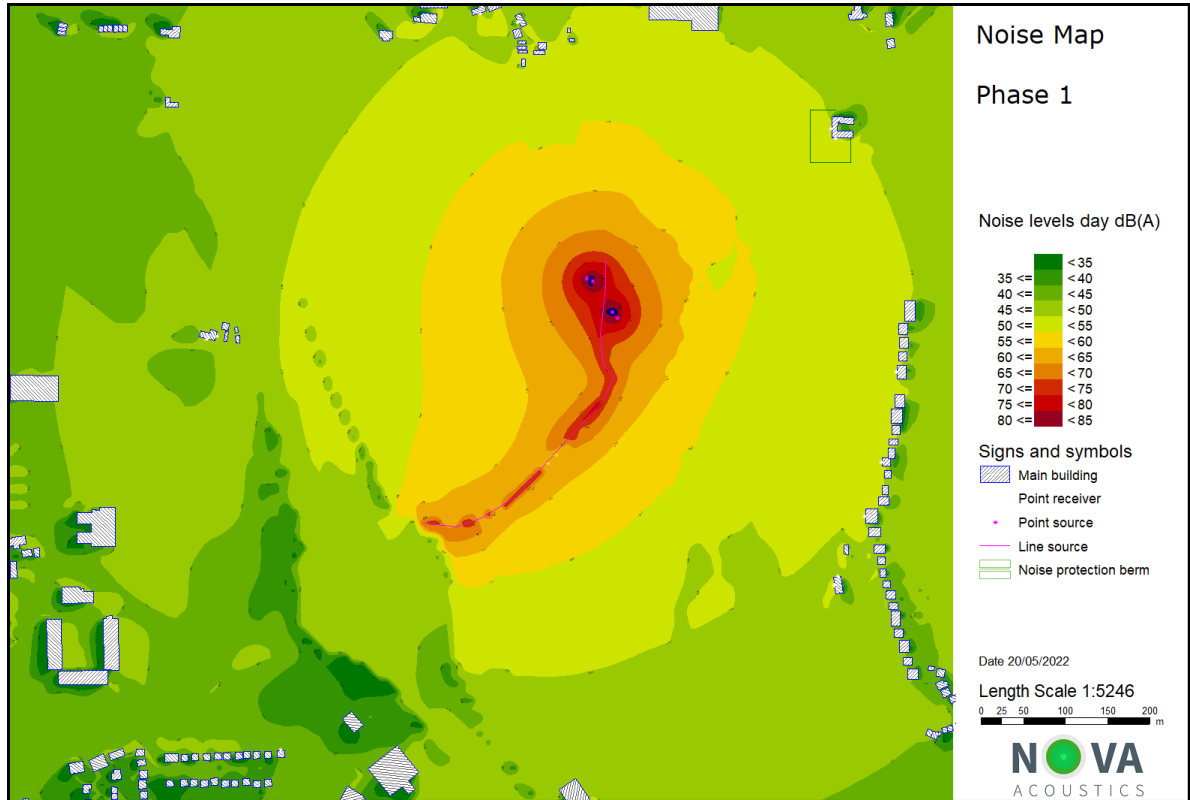


Figure 2.0 – Specific Sound Level Map – 1.5m Grid Height – Phase 1

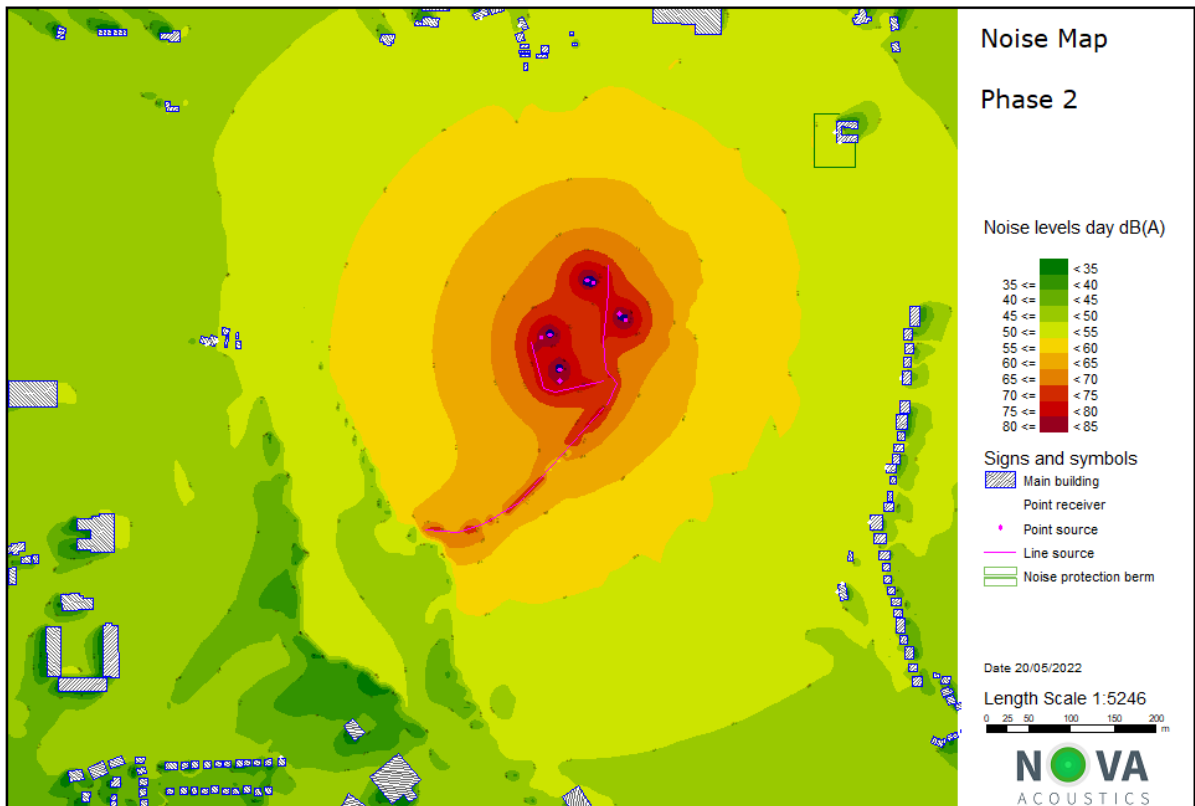


Figure 3.0 – Specific Sound Level Map – 1.5m Grid Height – Phase 2

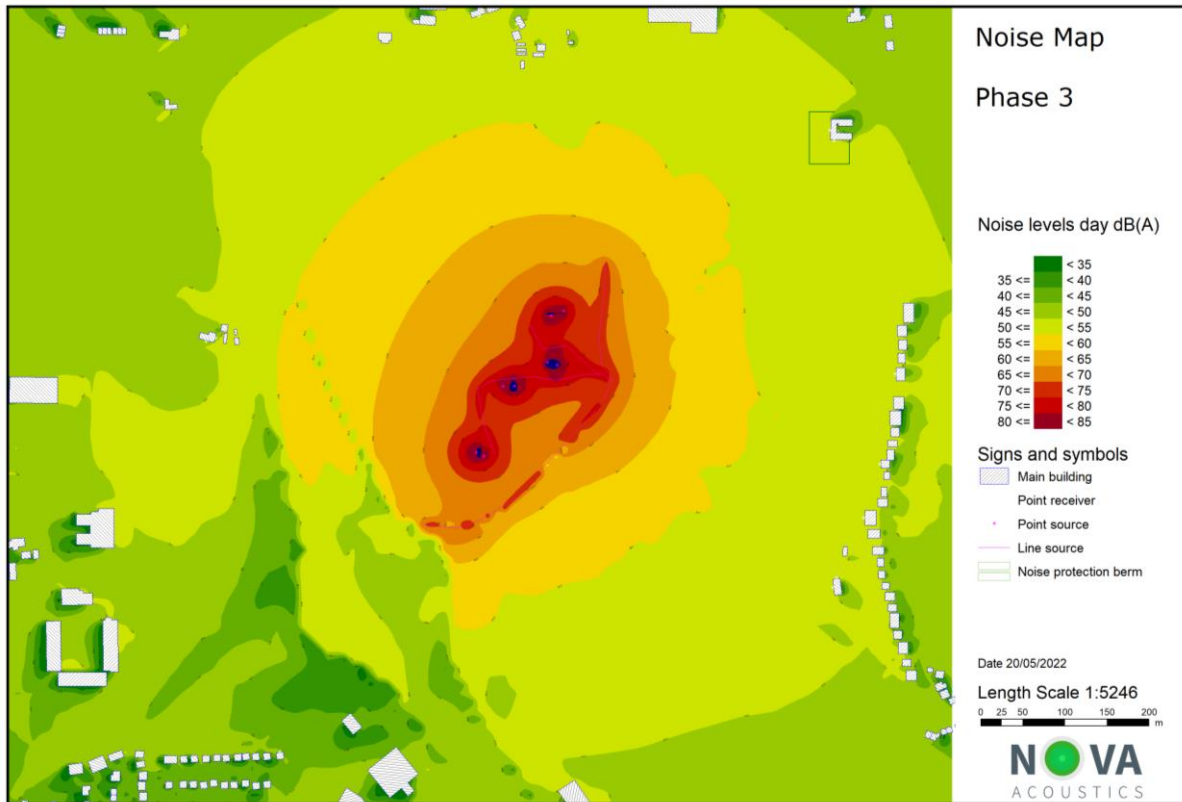


Figure 4.0 – Specific Sound Level Map – 1.5m Grid Height – Phase 3

A summary of the specific sound levels at the NSRs based on the sound map shown in Figure 2.0, 3.0 & 4.0 can be seen in the following table.

NSR	Specific Sound Level (dBA)		
	Phase 1	Phase 2	Phase 3
1	48.0	52.0	52.0
2	46.0	50.0	51.0
3	43.0	46.0	45.0
4	50.0	53.0	52.0
5	51.0	53.0	51.0

Table 9.0 – Specific Sound Levels at NSRs Summary

4.1.4 Rating Level

Rating Penalty

Section 9 of BS4142:2014 describes how the rating sound level should be derived from the specific sound level, by deriving a rating penalty.

BS4142:2014 states:

"Certain acoustic features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, add a character correction to the specific sound level to obtain the rating level. This can be approached in three ways:

- a) subjective method;*
- b) objective method for tonality;*
- c) reference method."*

Due to the nature of the development, the subjective method has been adopted to derive the rating sound level from the specific sound level. This is discussed in Section 9.2 of BS4142:2014, which states:

"Where appropriate, establish a rating penalty for sound based on a subjective assessment of its characteristics. This would also be appropriate where a new source cannot be measured because it is only proposed at that time, but the characteristics of similar sources can subjectively be assessed. Correct the specific sound level if a tone, impulse or other characteristics occurs, or is expected to be present, for new or modified sound sources."

BS4142:2014 defines four characteristics that should be considered when deriving a rating penalty, namely; tonality; impulsivity; intermittency; and other sound characteristics, which are defined as:

a) Tonality

A rating penalty of +2 dB is applicable for a tone which is "just perceptible", +4 dB where a tone is "clearly perceptible", and +6 dB where a tone is "highly perceptible".

b) Impulsivity

A rating penalty of +3 dB is applicable for impulsivity which is "just perceptible", +6 dB where it is "clearly perceptible", and +9 dB where it is "highly perceptible".

c) Other Sound Characteristics

BS4142:2014 states that where "the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinct against the residual acoustic environment, a penalty of +3 dB can be applied."

d) Intermittency

BS4142:2014 states that when the "specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time if the intermittency is readily distinctive against the residual acoustic environment, a penalty of +3 dB can be applied."

Rating Penalty Assessment

Considering the requirements of the rating penalty, an assessment of the various sound sources associated with the site, in terms of whether any rating penalties are applicable, and has been detailed in the following table.

Source	Tonality	Impulsivity	Intermittency	Other Sound Characteristics	Discussion
Internal Operations and HGV Movements	+2	+3	--	--	Possible perceptible tonality of vehicle engines. Possible perceptible impulsivity of loading and crushing operations.

Table 10.0 – Rating Penalty Assessment

Rating Level

Incorporating the rating penalties with the specific sound levels, the rating sound levels have been derived and have been detailed in the following table.

NSR	Rating Sound Level (dBA)		
	Phase 1	Phase 2	Phase 3
1	53.0	57.0	57.0
2	51.0	55.0	56.0
3	48.0	51.0	50.0
4	55.0	58.0	57.0
5	56.0	58.0	56.0

Table 11.0 – Rating Sound Levels at NSRs Summary

4.1.5 Background Sound Level

The background sound level is the underlying level of sound over a period, T, and is indicative of the relative quietness at a given location. It does not reflect the occurrence of transient and/or higher sound level events and is generally governed by continuous or semi-continuous sounds.

To ensure the background sound level values used within the assessment are reliable and suitably represent both the particular circumstance and periods of interest, efforts have been made to quantify a ‘typical’ background sound level for a given period. The purpose has not been to simply select the lowest measured value. Diurnal patterns have also been considered as they can have a major influence on background sound levels, for example, the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night time period for sleep purposes.

Since the intention is to determine a background sound level in the absence of the specific sound that is under consideration, it is necessary to understand that the background sound level can in some circumstances legitimately include industrial and/or commercial sounds that are present as separate to the specific sound.

The table below outlines a summary of the background sound level for the quietest operational period at MP1, which was Saturday morning, and the background sound level measured at MP2 and MP3.

Operational Hours ('t')	L _{A90,t}	Statistical L _{A90,t}	Min. L _{A90,t}	Max. L _{A90,t}
MP1 Day 2 – 27/06/20 – 07:30 – 13:00	57.0	57.0	56.0	59.0
MP2 Day 1 – 26/06/20 – 10:30 – 11:00	60.0	59.0	57.0	62.0
MP3 Day 1 – 26/06/20 – 09:30 – 10:00	56.0	51.0	49.0	61.0

Table 12.0 – Summary of Background Sound Levels

Discussion:

According to the statistical analysis the most repeated L_{A90,t} value during the proposed operational period at MP1 was 57.0 dBA. As can be seen in the table above the range of L_{A90} during this period is relatively low and the statistically most repeated value sits at the bottom of the range. As such, it is deemed to be 'robust' and 'conservative'. For this reason, this value will be used for the following assessment.

The statistical analysis shows that the most repeated L_{A90,t} value during the measurement period at MP2 was 59.0 dBA. However to ensure a 'robust' and 'conservative' analysis the lowest measured value of 57.0 dBA will be used for the following assessment.

At MP3, the statistical analysis shows that the most repeated L_{A90,t} value during the proposed operational period was 51.0 dBA. As can be seen in the table above the range of L_{A90} during this period is relatively high and the statistically most repeated value sits in the bottom of the range. As such, it is deemed to be 'robust' and 'conservative'. For this reason, this value will be used for the following assessment.

4.1.6 BS4142 Assessment

The rating sound level has been assessed in accordance with BS4142:2014 at all NSRs. The BS4142:2014 assessment at the most affected NSRs during the operational periods can be seen below. As shown in the section above the Operational Period Background Sound Level used for the assessment is 57.0 dBA. The following table shows the Excess of Rating over Background Sound Level for each NSR and each Phase.

NSR	Background Sound Level	BS4142:2014 Assessment - Excess of Rating over Background Sound Level		
		Phase 1	Phase 2	Phase 3
1	57.0	- 4.0	- 0.0	- 0.0
2	57.0	- 6.0	- 2.0	- 0.1
3	57.0	- 9.0	- 6.0	- 7.0

4	51.0	+4.0	+7.0	+6.0
5	51.0	+5.0	+7.0	+5.0

Table 13.0 – BS4142:2014 Assessment

Discussion

As can be seen in the assessment above, the noise emissions associated with each phase of the Proposed Development at NSR 1, 2 and 3 fall below the operational period background sound level.

However, the noise emissions at NSRs 4 and 5 fall up to 7.0 dB above the prevailing background, thus showing there is potential for a 'Significant Adverse Impact, depending on context' at the NSR. However further investigation into earth bunding and screening indicates a marginal reduction in noise levels at these NSRs. BS4142 states that when assessing the impact of development the context should also be taken into account. Given that this is a temporary development the actual impact is reduced somewhat. Further to this government guidance on noise from mineral extraction states the following:

"Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (LA90,1h) by more than 10dB(A) during normal working hours (0700-1900)."

As can be seen, the assessment indicates the rating noise level falls less than 10 dB above the background sound levels and thus the development falls within government guidance.

4.2 Increase in Ambient Noise Level Assessment

The following section analyses the expected increase in ambient noise levels in the surrounding area due to the operations of the Proposed Development. The specific sound emissions associated with the site are logarithmically added to the lowest measured residual sound level. The higher the increase in noise levels the higher the impact.

Description	L _p (dBA)				
	NSR1	NSR2	NSR3	NSR4	NSR5
Lowest Measured Ambient Noise Level	64.0	61.0	61.0	61.0	61.0
Specific Noise Level*	52.0	51.0	46.0	53.0	53.0
Resulting Noise Level	64.0	61.0	61.0	61.0	61.0
Increase in Noise Level	0.0				
Expected impact	None				

Table 14.0 – Increase in Ambient Noise Level Assessment

* Highest specific sound level of the three phases.

Discussion

As can be seen in the assessment above, the specific sound level emissions from the proposed site are predicted to have a 'none' impact on the amenity of the surrounding NSRs. This also equates to 'Not Observe Effect Level' (NOEL), when assessed with the NPSE and the NPPF. Thus, giving more context to the BS4142:2014 assessment.



Appendix A – Acoustic Terminology

Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.
Sound Pressure Level (Sound Level)	The sound level is the sound pressure relative to a standard reference pressure of 20µPa (20x10 ⁻⁶ Pascals) on a decibel scale.
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log ₁₀ (s1 / s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20µPa.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
L _{eq,T}	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
L _{max,T}	A noise level index defined as the maximum noise level during the period T. L _{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L _{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L _{90,T}	A noise level index. The noise level exceeded for 90% of the time over the period T. L ₉₀ can be considered to be the "average minimum" noise level and is often used to describe the background noise.
L _{10,T}	A noise level index. The noise level exceeded for 10% of the time over the period T. L ₁₀ can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Facade	At a distance of 1m in front of a large sound reflecting object such as a building façade.
Fast Time Weighting	An averaging time used in sound level meters. Defined in BS 5969.



In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided. The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at 1m away
110 to 130dB(A)	Jet aircraft on take-off
140dB(A)	Threshold of Pain

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

In accordance with logarithmic addition, combining two sources with equal noise levels would result in an increase of 3 dB(A) in the noise level from a single source. A change of 3 dB(A) is generally regarded as the smallest change in broadband continuous noise which the human ear can detect (although in certain controlled circumstances a change of 1 dB(A) is just perceptible). Therefore, a 2 dB(A) increase would not normally be perceptible. A 10 dB(A) increase in noise represents a subjective doubling of loudness.

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs.

For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest. In the UK, traffic noise is measured as the L_{A10} , the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the

time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq} .

This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound. To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3 dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows, represent changes of 1 dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS4142:2014 specifies background noise measurement periods of 1 hour during the day and 15 minutes during the night. The noise levels are commonly symbolised as $L_{A90,1hour}$ dB and $L_{A90,15mins}$ dB. The noise measurement should be recorded using a 'FAST' time response equivalent to 0.125ms.



Appendix B – Legislation, Policy and Guidance

This report is to be primarily based on the following legislation, policy and guidance.

National Planning Policy Framework (2021)

Government policy on noise is set out in the National Planning Policy Framework (NPPF), published in 2021. This replaced all earlier guidance on noise and places an emphasis on sustainability. In section 15, Conserving and enhancing the natural and local environment, paragraph 174e, it states:

Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;

Paragraph 185 states:

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- b) Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- c) Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

Noise Policy Statement for England

Paragraph 185 of the NPPF also refers to advice on adverse effects of noise given in the Noise Policy Statement for England (NPSE). This document sets out a policy vision to:

Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

To achieve this vision the Statement identifies the following three aims:

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;*
- Mitigate and minimise adverse impacts on health and quality of life;*
- Where possible, contribute to the improvement of health and quality of life.*

In achieving these aims the document introduces significance criteria as follows:

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur. It is stated that “significant adverse effects on health and quality of life should be avoided while also considering the guiding principles of sustainable development”.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected. It is stated that the second aim above lies somewhere between LOAEL and SOAEL and requires that: “all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also considering the guiding principles of sustainable development. This does not mean that such adverse effects cannot occur.”

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise. This can be related to the third aim above, which seeks: “where possible, positively to improve health and quality of life through the pro-active management of noise while also considering the guiding principles of sustainable development, recognising that there will be opportunities for such measures to be taken and that they will deliver potential benefits to society. The protection of quiet places and quiet times as well as the enhancement of the acoustic environment will assist with delivering this aim.”

The NPSE recognises that it is not possible to have a single objective noise-based measure that is mandatory and applicable to all sources of noise in all situations and provides no guidance as to how these criteria should be interpreted. It is clear, however, that there is no requirement to achieve noise levels where there are no observable adverse impacts but that reasonable and practicable steps to reduce adverse noise impacts should be taken in the context of sustainable development and ensure a balance between noise sensitive and the need for noise generating developments.

Any scheme of noise mitigation outlined in this report will, therefore, aim to abide by the above principles of the NPPF and NPSE whilst recognizing the constraints of the site.

IEMA Guidelines on Noise Impact Assessments

The IEMA Guidelines for Environmental Noise Assessment address the key principles of noise impact assessment and are applicable to all development proposals where noise effects may occur. The guidelines set out key principles for noise impact assessment relevant to all types of project regardless of size. The guidance provides advice with regards to the collection of baseline noise data, prediction of noise levels and how noise should be assessed. The guidance recognizes that the effect associated with a noise impact will be dependent on a number of factors including but not limited to the sensitivity of the receptor, frequency and duration of the noise source and time of day. The Guidelines accept that a simple change in noise levels using a single noise indicator may fail to adequately reveal the actual noise impact of the proposal. The character of the noise must be considered and the Guidelines suggest comparing several noise indicators such as the LAeq, LAmx and LA90 as a more rigorous approach.

Absolute levels such as those set out in WHO Guidelines are also considered and the Guidelines suggest that a change in noise levels in an area where the existing levels are above WHO Guidelines should be considered as having more of an adverse effect than a change in noise levels in an area where existing levels are well below.

The Guidelines stop short of providing specific assessment criteria which developments should achieve but instead suggests that the methodology adopted should be selected on a site by site basis regarding relevant national and local standards.

The Guidelines contain effect descriptors for changes in noise levels and for noise effect levels. These are summarized below:

Effect Descriptors	
Very substantial	Greater than 10 dB L_{Aeq} change in sound level perceived at a receptor of great sensitivity to noise
Substantial	Greater than 5 dB L_{Aeq} change in sound level at a noise sensitive receptor, or a 5 to 9.9 dB L_{Aeq} change in sound level at a receptor of great sensitivity to noise
Moderate	A 3 to 4.9 dB L_{Aeq} change in sound level at a sensitive or highly sensitive noise receptor, or a greater than 5dB L_{Aeq} change in sound level at a receptor of some sensitivity
Slight	A 3 to 4.9 dB L_{Aeq} change in sound level at a receptor of some sensitivity
None/Not Significant	Less than 2.9 dB L_{Aeq} change in sound level and/or all receptors are of negligible sensitivity to noise or marginal to the zone of influence of the proposals

Table 15.0 – IEMA Guidelines Effect Descriptors

Noise Effect Level		
Time	Lowest Observed Adverse Effect Level	Significant Observed Adverse Effect Level
07:00 - 23:00	50 dB $L_{Aeq,16\text{ hour}}$	60 dB $L_{Aeq,16\text{ hour}}$
23:00 - 07:00	40 dB $L_{Aeq,8\text{ hour}}$	55 dB $L_{Aeq,8\text{ hour}}$
	60 dB L_{AFMax} (at the facade)	80 dB L_{AFMax} (at the facade)

Table 16.0 – IEMA Guidelines Noise Effect Level

The Guidelines are not prescriptive as to how a noise impact assessment should be carried out, and allow assessors to consider factors such as frequency spectra, days and times of operation, frequency of operation and any other factor which allows the noise to be assessed in context.

BS4142:2014 'Methods for rating and assessing industrial and commercial sound'

BS4142:2014 sets out a method to assess the likely effect of sound from factories, industrial premises or fixed installations and sources of an industrial nature in commercial premises, on people who might be inside or outside a dwelling or premises used for residential purposes in the vicinity.

The procedure contained in BS4142:2014 for assessing the effect of sound on residential receptors is to compare the measured or predicted sound level from the source in question, the $L_{Aeq,T}$ 'specific sound level', immediately outside the dwelling with the $L_{A90,T}$ background sound level.

Where the sound contains a tonality, impulsivity, intermittency and other sound characteristics, then a correction depending on the grade of the aforementioned characteristics of the sound is added to the specific sound level to obtain the $L_{Ar,Tr}$ 'rating sound level'. A correction to include the consideration of a level of uncertainty in sound measurements, data and calculations can also be applied when necessary.

BS4142:2014 states: "The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs". An estimation of the impact of the specific sound can be obtained by the difference of the rating sound level and the background sound level and considering the following:

- "Typically, the greater this difference, the greater the magnitude of the impact."
- "A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context."
- "A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context."
- "The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a negligible impact, depending on the context."

Interpreting the guidance given in BS4142:2014, with consideration of the guidance given in the NPSE and NPPG Noise, an estimation of the impact of the rating sound is summarised in the following text:

- A rating sound level that is +10 dB above the background sound level is likely to be an indication of a Significant Observed Adverse Effect Level;
- A rating sound level that is +5 dB above the background sound level is likely to be an indication of a Lowest Observed Adverse Effect Level;
- The lower the rating sound level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating sound level does not exceed the background sound level, this is an indication of the specific sound source having a negligible impact, and would therefore be classified as a No Observed Adverse Effect Level.

During the daytime, the assessment is carried out over a reference time period of 1-hour. The periods associated with day or night, for the purposes of the Standard, are 07.00 to 23.00 and 23.00 to 07.00, respectively.

ISO 9613-2 Attenuation of sound during propagation outdoors

The ISO 1996 series of standards specifies methods for the description of noise outdoors in community environments. Part 2 of ISO 9613 is intended to enable noise levels in the community to be predicted from sources of known sound emission. The method is general in the sense that it may be applied to a wide variety of noise sources, and cover most of the major mechanisms of attenuation.

This standard provides guidance on the outdoor propagation of sound. It is widely used to establish the different attenuations that occur during the transmission of the sound from the sources to the receivers. The total attenuation is the sum of the following: geometrical divergence, atmospheric absorption, ground effect, barriers, and miscellaneous other effects.

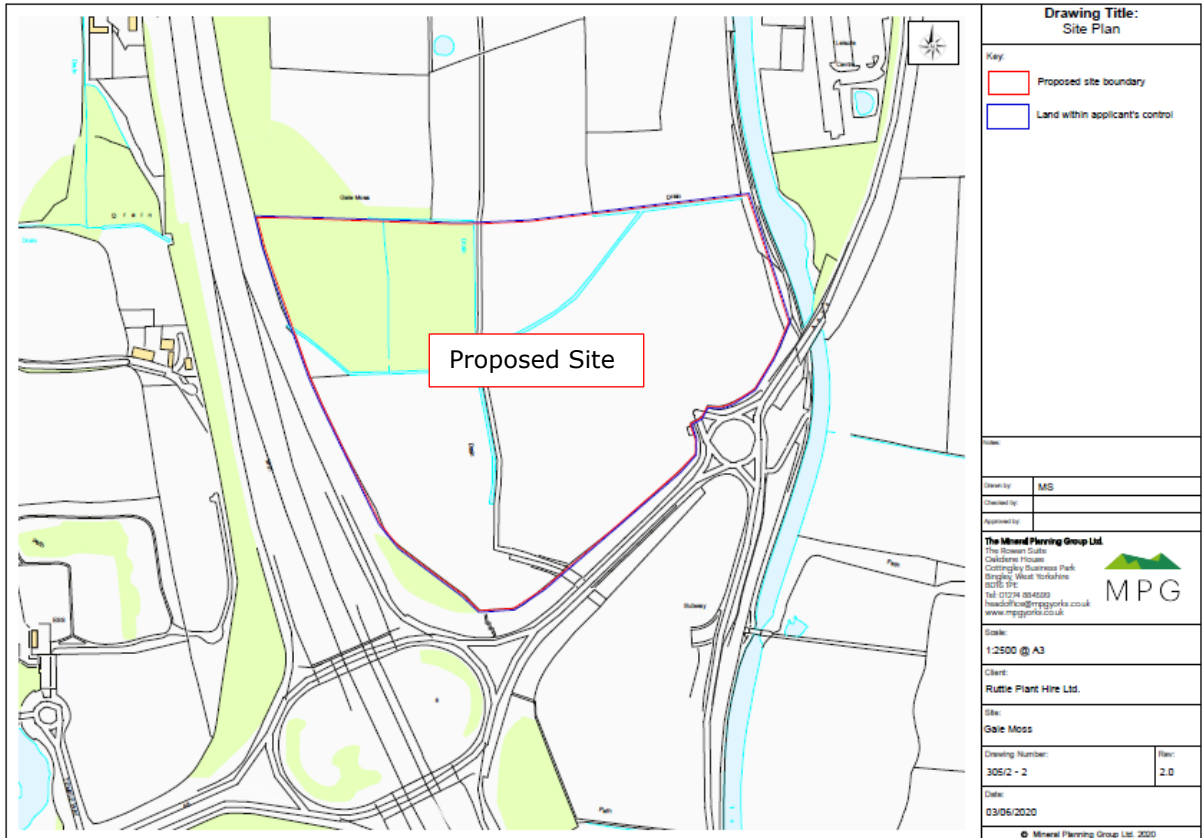
BS EN 12354-4 Building Acoustics

Estimation of acoustic performance of buildings from the performance of elements – Transmission of indoor sound to the outside

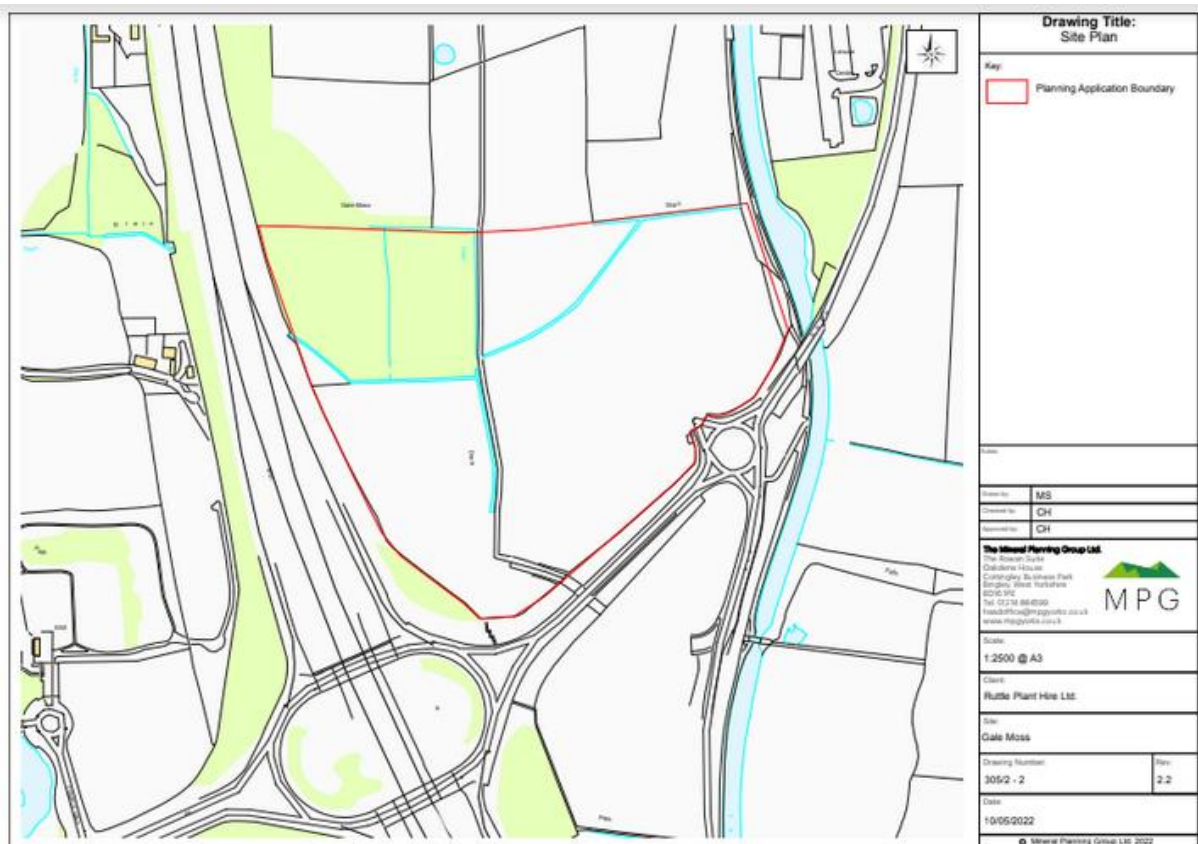
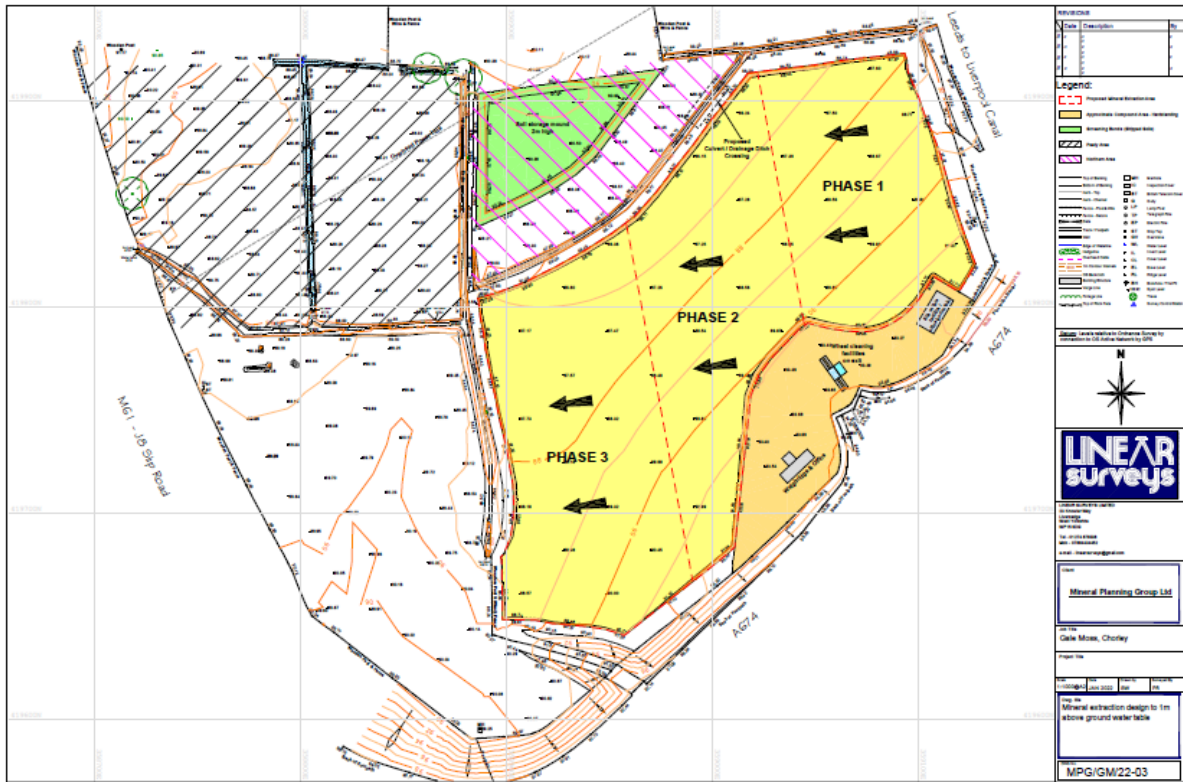
This European Standard describes a calculation model for the sound power level radiated by the envelope of a building due to airborne sound inside that building, primarily by means of measured sound pressure levels inside the building and measured data which characterize the sound transmission by the relevant elements and openings in the building envelope. These sound power levels, together with those of other sound sources in or in front of the building envelope, form the basis for the calculation of the sound pressure level at a chosen distance from a building as a measure for the acoustic performance of buildings.



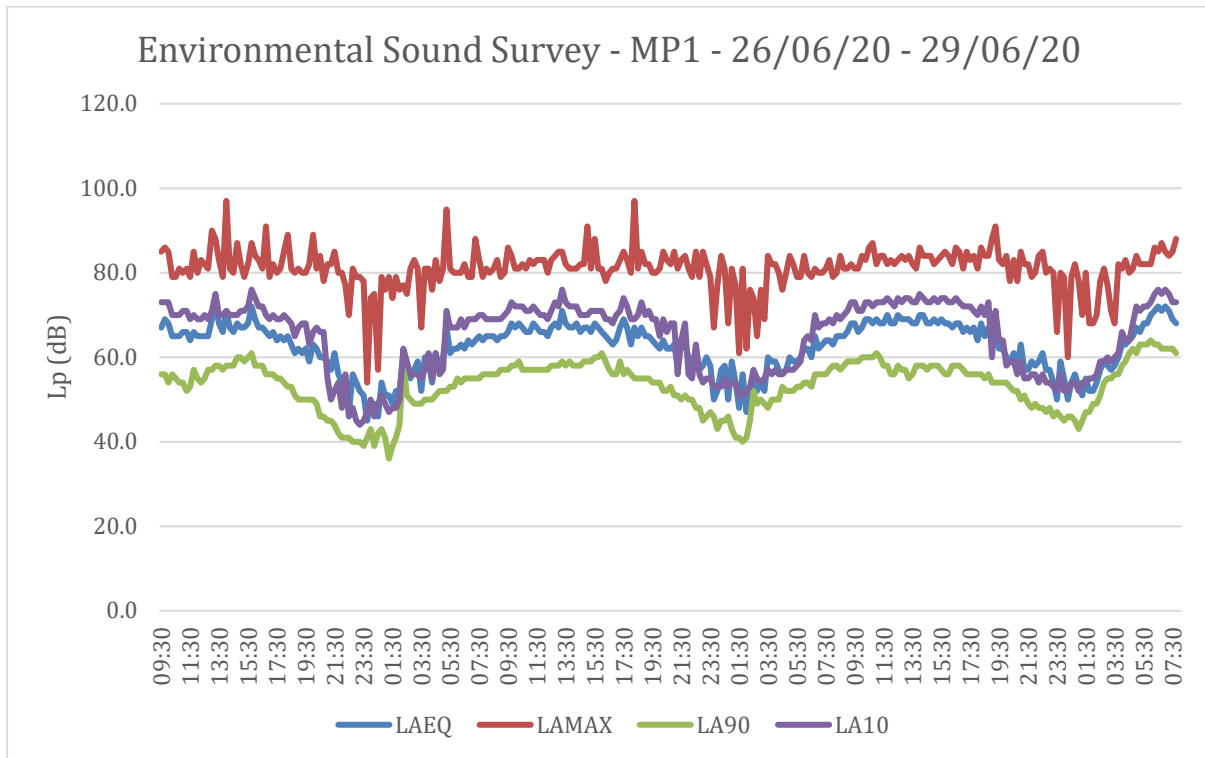
Appendix C - Location Plan

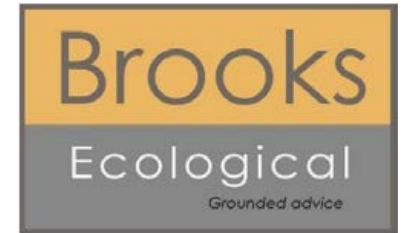


Appendix D – Site Plans



Appendix E – Environmental Sound Survey





Preliminary Ecological Appraisal Report
Land off Millennium Way, Chorley

Ruffle Group Ltd.

Report Reference: ER-4862-01A

22/10/2020

Report Title:	Preliminary Ecological Appraisal Report Land off Millennium Way, Chorley
Report Reference:	ER-4862-01A
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Date:	28.08.2020 Amended: 22.10.20

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Summary

This report is produced to inform Ruttle Group Ltd. of potential ecological constraints associated with the proposed development site.

Methodology

The report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in August 2020.

Findings - Key Points

- The site has been assessed as having a Biodiversity Unit score of 17.5 Habitat Units. Proposals should consider the NPPF hierarchy of Avoid - Mitigate – Compensate in minimising any loss of biodiversity. The LPA may be seeking gains for biodiversity. Efforts should be made to achieve this on Site but where this is not feasible the LPA could request that a contribution is made to address any residual shortfall in biodiversity gain, off-Site.
- Further bat survey has been recommended prior to a planning application being made.
- Some standard pre-commencement precautions have been recommended, whilst additional pre-commencement water vole survey has been recommended.
- Himalayan Balsam is present on site and adjacent areas, further precaution will be necessary to prevent the risk of spreading this species.
- A CEMP and BMP are recommended to protect and enhance habitats through and post development.

Introduction

1. Brooks Ecological Ltd was commissioned by Ruttle Group Ltd. to carry out a Preliminary Ecological Appraisal (PEA) of Land off Millennium Way, Chorley.
2. This report is produced with reference to British Standard BS:42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.
3. In anticipation of the adoption of DEFRA's Biodiversity Metric 2.0 we have used the UK Habitat Classification descriptions rather than the long established JNCC codes. These habitat classifications and 'the metric' are work in progress and could be subject to future change.

Purpose of a PEA

4. A PEA is an *initial assessment* of the baseline for a proposed development site and establishes whether the Site is likely to be constrained by ecology, and whether more information is needed to identify the ecological baseline.
5. The subsequent Preliminary Ecological Appraisal Report (PEAR) is intended to give guidance to a developer and assist with the early stages of project planning and design. Where a site is not complex or constrained, and no additional ecological input is necessary the PEAR may be sufficient, and suitable to support a planning application.
6. Biodiversity Accounting metrics are used to quantify the value of a Site in Biodiversity Units - which helps in the later stage of assessing the ecological impacts of the proposed development.
7. Biodiversity Units can help to inform avoidance, or on-Site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-Site) is required. Please be aware that they can significantly impact on costs and viability.

The Site

8. The application site 'the Site' is an open area of grassland intermittently used to host a car boot sale, on the northern fringe of Chorley.
9. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

Figure 1 The proposed extraction boundary.



Desk Study

Landscape

10. The site is located on the northern periphery of Chorley, with the M61 running north-south between the site and the residential and industrial units associated with the town. Further east and north the landscape opens up to a more rural, pastoral setting with occasional villages.
11. The site's underlying geology is comprised of a mix of sandstone and mudstone deposits, with a superficial glaciofluvial deposits and small area of peat adjacent to the northern boundary. The peat deposits are likely to be associated with wet, acidic conditions. An area to the north west of the site is shown on mapping as 'Gale Moss'.

Wildlife Corridors

12. The Leeds- Liverpool Canal cuts north to south through the area, located just off the eastern boundary of the site. This will act as a corridor to some wildlife as well as a boundary to other species trying to cross it.
13. Higher value habitat in the area consists of occasional woodland pockets, though these are only loosely connected to the site.
14. The M61 runs north – south along the western boundary of the site, this will act as a major barrier to the movements of many species.

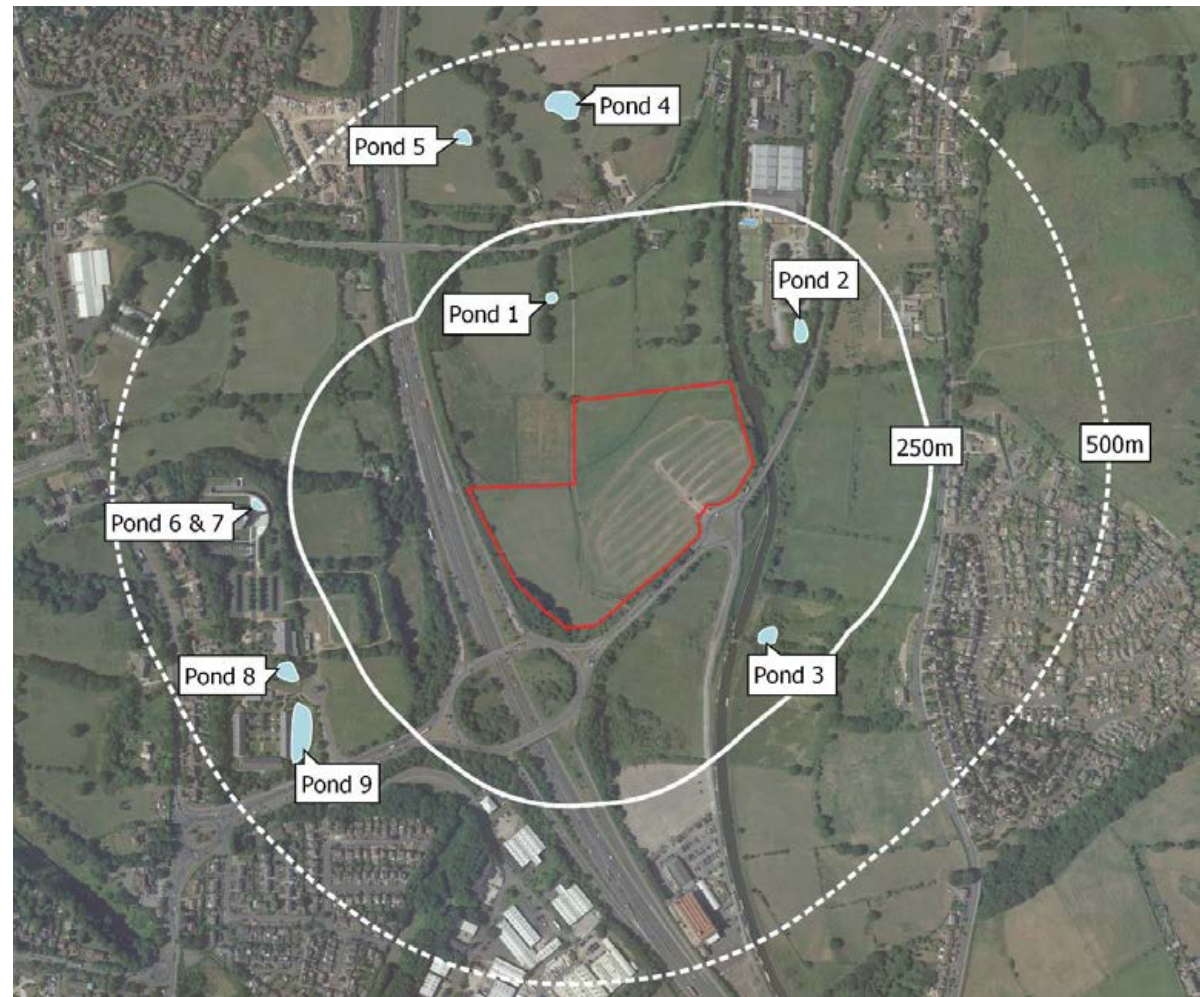
Figure 2 Analysis of wildlife corridors and higher value habitat in relation to the Site



Waterbodies

15. There are nine ponds shown on mapping within 500m of the site however only pond 1 is located within an area functionally linked to the site.
16. Pond 1 is located c. 150m north of the site, this being a seemingly large and well-established field pond.
17. Pond 2 is located within landscaping for a leisure centre car park, it is found c.115m to the east though separated from the site in relation to amphibian movement by the Leeds - Liverpool canal which has steep stone capped banks in this area.
18. Pond 3 is found c.150m south of the site but again separated from it by the Leeds – Liverpool canal and a road.
19. Ponds 4 and 5 are c.400m north but separated from the site by another road.
20. Whilst ponds 6 – 9 are found c. 400m, in close proximity to one another within the landscaping of a religious compound, these are separated from the site by the M61.

Figure 3 Local waterbodies



Designated Sites

Statutory Designations

- 21. A search has been made to identify any nationally designated sites within a 2km radius of the Site, or internationally designated sites within a 10km radius.
- 22. There are no internationally or nationally designated sites shown on mapping within 10km or 2km respectively.

SSSI Impact Risk Zones (IRZs)

- 23. The Site lies within the IRZ for the West Pennine Moors SSSI but does not fall into any of the highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.

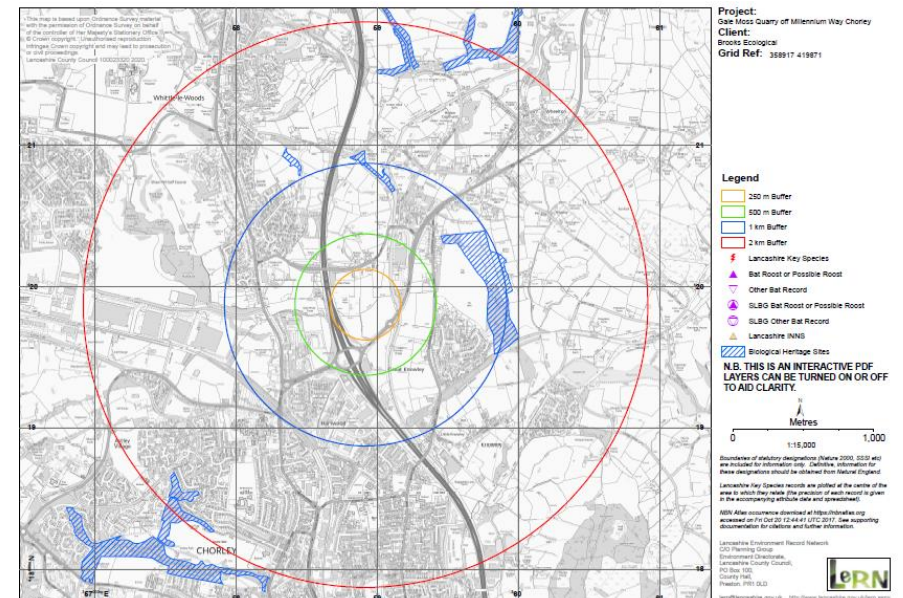
Non-Statutory Designations

- 24. There are five Lancashire Biological Heritage Sites (BHS) in the search area. Of these none are functionally linked to the site or of particular relevance to the application:
- 25. The nearest of the BHS's is Tan House Valley c. 500m east at its nearest point. The remaining sites are as follows; Ackhurst, Great, Jude, Damhead and Dog Trap Woods, the Leeds – Liverpool canal at Walton summit, Denham Wood and Lucas Lane Pasture.
- 26. Direct and indirect impacts on all the above sites as a result of this development are unlikely due to the sites' separation and distance.

Granted EPSM Licenses

- 27. There are no granted licenses within 1km of the Site.

Figure 4 Locally designated sites in relation to the application site.



Survey

Method

28. The survey was carried out during August 2020¹ and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).

Limitations

29. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.
30. Whilst the majority of the Site was accessible, at least 5% of the Site was inaccessible due to dense vegetation or water hazards, which could not be closely inspected. This could have concealed invasive species or protected species evidence.

Habitat Appraisal

Habitats identified

31. The Site supports of the following habitats:
 - Modified Grassland
 - Mixed Scrub
 - Neutral Grassland (Other)
 - Ditches
32. Each habitat is discussed in the following pages and the estimated area of these listed². The areas can be used to quantify the impacts of development in an Ecological Impact Assessment if this is required by the Local Planning Authority.

Condition Assessment

33. Our condition assessment for each habitat described references where available the criteria set out in The Biodiversity Metric 2.0 auditing and accounting for biodiversity TECHNICAL SUPPLEMENT Beta Edition.

Habitats Summary Evaluation

34. The habitats are ascribed our own qualitative value, based on their plant community make up. This evaluation is independent of faunal value which is considered in later sections.

¹ This Report has been prepared during August 2020 following a visit to the site in August 2020 and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation or deviation from the site conditions which affect the conclusions set out in this report.

² The location and areas of habitats in this report are estimated and should not be relied on as a definite location and extent of any habitat or feature.

G4 Modified Grassland

Area estimate: 7.1 ha

Figure 5a Approximate location and extent of habitat



35. The site primarily comprises a large, open expanse of highly improved and modified grassland. The sward is dominated by coarse, competitive grass species including perennial rye-grass (*Lolium perenne*), timothy (*Phleum pratense*), cocksfoot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*), with red fescue (*Festuca rubra*) also noted though rarely.
36. Forb cover amongst the sward is limited but includes occasional common species such as: dandelion (*Taraxacum* agg.), white clover (*Trifolium repens*), broad-leaved dock (*Rumex obtusifolius*), red clover (*Trifolium pratense*), greater plantain (*Plantago major*), ragwort (*Senecio jacobea*) and meadow buttercup (*Ranunculus acris*).
37. There are some areas of compaction noted at the entrance to the south where the site has been previously used to host car boot sales, this supports species such as knotgrass (*Polygonum aviculare*), marsh cudweed (*Gnaphalium uliginosum*) and pineapple weed (*Matricaria discoidea*).

Whilst a small number of immature hawthorn (*Crataegus monogyna*) are found around the peripheries.

Summary Evaluation

38. This is a highly disturbed habitat with low species diversity, unlikely to support any scarce or notable species.

Figure 5b Typical structure and composition of this habitat



Defra Metric Condition Assessment Poor

39. Meets 3 out of 6 criteria.

	Condition Assessment Criteria Grassland habitat type	Meets criteria?
1	Clearly and easily recognizable as a good example of this type of habitat.	No
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	No
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	No
4	Undesirable species and physical damage is below 5% cover.	Yes
5	Cover of bare ground greater than 10%	Yes
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Yes

H3h Mixed Scrub

Area estimate: 0.044 ha

Figure 6a Approximate location and extent of habitat



40. A small strip of scrub is present along the eastern boundary of the site, which continues further off site. A limited variety of immature tree species and competitive forbs are present in this area including; hawthorn (*Crataegus monogyna*), goat willow (*Salix caprea*), Himalayan balsam (*Impatiens glandulifera*), bracken (*Pteridium aquilinum*), bramble (*Rubus fruticosus*), nettle (*Urtica dioica*), thistles (*Cirsium* sp.), cocksfoot (*Dactylis glomerata*) and false oat grass (*Arrhenatherum elatius*).

Summary Evaluation

41. This a common and widespread habitat, supporting a limited array of common and ubiquitous species alongside invasives. It is unlikely to be of any significant ecological value.

Figure 6b Typical structure and composition of this habitat



Defra Metric Condition Assessment Poor

42. Meets 0 out of 5 criteria

	Condition Assessment Criteria: Scrub broad habitat type	Meets criteria?
1	There are at least three woody species, with no one species comprising more than 75% of the cover	No
2	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs	No
3	Pernicious weeds and invasive species make up less than 5% of the ground cover.	No
4	Well-developed edge with un-grazed tall herbs	No
5	There are many clearings and glades within the scrub.	No

G3c Neutral Grassland (Other)

Area estimate: 0.531 ha

Figure 7a Approximate location and extent of habitat



- 43. These are primarily unmanaged sections of less accessible ground adjacent to ditches, slopes or fences. The reduced access has allowed more common competitive species to establish. Grasses are similar to those previously noted though false oat grass (*Arrhenatherum elatius*) is abundant and compact rush (*Juncus conglomeratus*) is also found frequently.
- 44. Forbs are more abundant in this area than the neighbouring improved grassland, though still restricted to common species often associated with agricultural improvement. Hogweed (*Heracleum sphondylium*) was the most abundant, with nettle (*Urtica dioica*), tufted vetch (*Vicia cracca*), bush vetch (*Vicia sativa*), chickweed (*Stellaria media*), creeping thistle (*Cirsium arvense*), marsh woundwort (*Stachys palustris*), goats beard (*Tragopogon pratensis*), meadow vetchling (*Lathyrus pratensis*), common orache (*Atriplex patula*), red shank (*Persicaria maculosa*) and creeping buttercup (*Ranunculus repens*) also noted throughout.

Summary Evaluation

- 45. This represent species poor grassland, greatly influenced by adjacent agricultural improvement.

Figure 7b Typical structure and composition of this habitat



Defra Metric Condition Assessment Poor

- 46. Meets 3 out of 6 criteria

	Condition Assessment Criteria Grassland habitat type	Meets criteria?
1	Clearly and easily recognizable as a good example of this type of habitat.	No
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	No
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	No
4	Undesirable species and physical damage is below 5% cover.	Yes
5	Cover of bare ground greater than 10%	Yes
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Yes

R1 Ditches

Area estimate: 0.088 ha

Figure 8a Approximate location and extent of habitat



47. The ditches appear to be maintained, with open water present throughout, they are varied in depth with steep banks along the length throughout. The water is mostly clear, with peat visible along the bases of the ditch in several areas.
48. The ditches and immediately adjacent banks support an array of aquatic, marginal and riparian vegetation. The following species were all noted occurring sporadically throughout the standing water areas of the ditch; reed mace (*Typha latifolia*), water mint (*Mentha aquatica*), flote grass (*Glyceria fluitans*), watercress (*Nasturtium officinale*), forget me not (*Myosotis scorpioides*), duckweed (*Lemnoideae* sp.), starwort (*Callitriche* sp.) and unbranched bur - reed (*Sparganium emersum*). Wetland and marginal forb species more associated with the banks include; reed canary grass (*Phalaris arundinacea*), marsh thistle (*Cirsium palustre*), angelica (*Angelica archangelica*), gypsywort (*Lycopus europaeus*), purple loosestrife (*Lythrum salicaria*), meadowsweet (*Filipendula ulmaria*), sharp

flowered rush (*Juncus acutiflorus*) and cyperus sedge (*Carex pseudocyperus*). Whilst a number of common competitive species are also present more frequently along the banks including; false oat grass (*Arrhenatherum elatius*), bramble (*Rubus fruticosus*), goosegrass (*Galium aparine*), fox glove (*Digitalis purpurea*), horsetail (*Aquisetum* sp.) and clustered doc (*Rumex conglomeratus*). Himalayan Balsam (*Impatiens glandulifera*) is present at the eastern periphery of the ditch.

Summary Evaluation

49. Fairly diverse wetland vegetation. The most ecologically valuable habitat on site.

Figure 8b Typical structure and composition of this habitat



Defra Metric Condition Assessment Moderate

50. Meets 5 out of 9 criteria

51.	Condition Assessment Criteria Ditches habitat type	Meets criteria?
1	Good water quality, with no signs of pollution (water should not be green or turbid).	Yes
2	Clear water is dominated by plants, be they submerged or floating (note dominance of duckweed is a sign of eutrophication).	Yes
3	A range of submerged and floating leaved plants are present (at least 10 species per 20m of ditch, or 7 spp. Per 150m of canal).	No
4	A marginal fringe of emergent vegetation is present.	Yes
5	Water body is not impacted by use of riparian land.	No
6	If a fish assemblage is present, it comprises of a range of native spp.	No
7	Sufficient water levels are maintained; i.e. a minimum summer depth of c.50cm in minor ditch and 1m in main drain.	Yes
8	Less than 10% of ditch is heavily shaded.	Yes
9	Absence of non-native species.	No
10	Less than 10% cover of filamentous algae and/ or duckweed.	No

DEFRA Metric (Baseline)³

52. This metric sets out the baseline for the Site - proposals should seek to achieve at least a 'no net loss' situation through **Avoiding** areas of higher value, **Mitigating** any loss on-Site through retention and enhancement, or habitat creation. The Local Planning Authority may require you to **Compensate** any residual loss elsewhere - either through direct works or an off-setting contribution.

Ref	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Grassland	Grassland - Modified grassland	7.1	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	14.20
2	Heathland and shrub	Heathland and shrub - Mixed scrub	0.044	Medium	Poor	Medium	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.19
3	Lakes	Lakes - Ditches	0.088	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.77
4	Grassland	Grassland - Other neutral grassland	0.531	Medium	Poor	Medium	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	2.34
5									
6									
7									
8									
9									
Total site area ha			7.76					Total Site baseline	17.50

³ Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk.

Faunal Appraisal

The following pages discuss only the groups and species that could be reasonably expected to be found on the type of habitats present on, or adjacent to, the site.

Amphibians

Records

53. A total of 59 amphibian records have been returned for a combination of common frog, common toad, smooth newt, palmate newt and great crested newt (GCN).
54. Fifteen of the records are of GCN, though the most recent is from 2001 with the rest being from mid-80's to early 90's. These are primarily centred on Tan House Wood c.400m east of the site at its closest, as shown on the adjacent figure. A single isolated record is found c.350m west of the site. All these records are in locations separated from the site by roads.
55. Two records with four figure grid references are centred 80m north of the site but also dated to 1982 and 1983.
56. Ponds 1 and 2, as well as the on-site ditches were subject to four presence / absence amphibian surveys, carried out by Bowland Ecology in 2017, though no GCN were found.

Field Evidence

57. None found.

Summary Evaluation

58. The site largely appears isolated from surrounding habitats by a road c. 230m to the north, the Leeds – Liverpool Canal off the eastern boundary, the A674 along the southern boundary and the M61 along the western boundary.
59. Great crested newt is historically well recorded within the wider area, however more recent survey of the site ditches and nearby ponds in 2017 has shown an absence of this species. Given the site is largely isolated from surrounding areas by roads and a canal, the risk of colonisation of the site appears low and a likely absence of this species is concluded.
60. More common species of amphibian, such as frog and smooth newt, were recorded during surveys undertaken in 2017, though they may find some suitable habitat on site, impacts upon these species are unlikely to be significant.

Further Surveys

61. No further surveys are recommended.

Figure 9 GCN records in relation to the Site



Bats

Records

62. A total of 80 records have been returned for the area, the vast majority of which are of common pipistrelle or pipistrelle species, with few records of brown long eared, daubenton's, noctule, serotine and myotis species. None of the records are centred upon the site or immediately adjacent.

Field Evidence

Potential Roost sites

63. No potential roost features have been identified within site boundaries.

Foraging and commuting habitat

64. The site is open and featureless and presents limited opportunities for foraging or commuting. A tree band is present along the southern boundary and the canal running north – south off the eastern boundary, which will offer some increased opportunities for foraging and commuting, though these features are of reduced value adjacent to the site due to lighting from adjacent roads.

Summary Evaluation

65. The site appears to be of very limited value to this group for both commuting and foraging, and of no value to roosting.

Further Surveys

66. As the site appears to be of such limited value to bats a single bat activity survey is recommended to confirm this or otherwise indicate the need for any further survey should activity levels be notable. This should be undertaken during the optimal bat activity period.

Birds

Records

67. A limited, though fairly diverse array of bird records have been returned, representative of the mix of the pastoral, upland and urban environments present in the area. Many of the records are associated with general four figure grid references, with non-associated with the site itself or otherwise being particularly noteworthy.

Field Evidence

68. A small number of common bird species were noted during the survey, mainly limited to low numbers of corvid and columbidae bird families around the peripheries of the site. A single buzzard was also noted in adjacent areas.

Summary Evaluation

69. The site will support a limited number of bird territories, many of which will be associated with its peripheries. Impacts in these areas will be limited but displacement of some territories is inevitable. However, the site is highly unlikely to support key or otherwise notable species and the significance of this is low and it is unlikely.

Further Surveys

70. No further surveys are considered necessary to demonstrate current baseline in respect of birds.
71. Standard precautions apply in relation to pre-clearance.

Otters

Records

72. No otter records have been returned for the area.
73. The site and adjacent was surveyed, by Bowland Ecology, for the presence of otter in 2017 though none was found.

Field Evidence

74. None found.

Summary Evaluation

75. It is possible otter have an occasional presence in the area and may intermittently pass through the nearby canal and could also cross over land on to the site. However, the ditches are highly unlikely to be of any specific value to otter and the risk of the above scenario appears highly unlikely. Accordingly otter presence on the site is likewise considered highly unlikely.

Further Surveys

76. Further survey for this species is not recommended.

Water vole

Records

77. A total of six records have been returned. None of the records are centred on the site, with the nearest and most recent located c. 220m to the south along the Leeds – Liverpool Canal and dated 2005.
78. The site and adjacent ditches were subject to water vole survey by Bowland Ecology in 2017 though none, or evidence thereof, was found.

Field Evidence

79. None was found despite walking the length of the ditches on site.

Summary Evaluation

80. The ditches on site do offer suitable water vole habitat and are loosely connected to areas supporting a limited number of historic water vole records. The ditches on site appear to drain into a culvert c.15m from the canal banking but otherwise occupy somewhat of a 'dead end' of potential habitat for this species due to the presence of surrounding roads elsewhere. Furthermore, survey in 2017 has found an absence of this species and as such the current risk of presence at the site would appear reduced.

Further Surveys

81. Much of the ditch length on site will be outside of the development footprint and the risk of presence and subsequent impacts upon this species appears low. A pre – commencement check is recommended of impacted areas to confirm the continued absence of this species.

Badger

Records

82. A total of 6 badger records have been returned for the area. Whilst all are recent from 2018 and 2019, they are all separated by either the motorway or Leeds – Liverpool Canal.

Field Evidence

83. No signs were noted during the walkover survey.

Summary Evaluation

84. The site does support some suitable habitat for this species but it is unlikely to be of any specific value to badger and is not linked to areas that are likely to be of higher value to this group. The relatively wet nature of the site suggests that it may be less suitable to support setts.

Further Surveys

85. The risk of badger presence at the site appears low and further survey in respect of this species is not recommended.

Hedgehog

Records

86. Hedgehogs are recorded within the search area.

Field Evidence

87. No evidence of hedgehogs was found on site.

Summary Evaluation

88. The Site provides suitable habitat for this species and measures to allow them to access gardens need to be planned for.

Further Surveys

89. Presence assumed no further surveys are considered necessary.

Reptiles

Records

90. A total of three reptile records have been returned, all located c.1.8 or 2.4km south west of the site within parkland. Two are records of slow worm dated to 2008 and common lizard record dated to 1998.

Field Evidence

91. No field evidence was found.

Summary Evaluation

92. The site is primarily comprised of open grassland of limited value to the above species or other reptiles. The site's limited connectivity for reptiles within the landscape further reduces its value to this group.

Further Surveys

93. No further surveys or precautions are considered necessary.

White clawed crayfish

Records

94. No records in search area.

Field Evidence

95. No evidence of this species was noted. The ditches are likely to offer sub-optimal habitat for this species and it is generally considered to be extinct in many low land areas throughout much of England

Summary Evaluation

96. Absence of records makes it very unlikely that this species is present or is at risk from development activities.

Further Surveys

97. Further surveys for this species is not recommended.

Invasive Non-Native Species (INNS)

98. INNS are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild. The following species were noted⁴:

- Himalayan balsam

Survey constraints

99. This site presents a low risk of supporting undetected INNS based on the following factors:

- Areas of site inaccessible to survey
- Potential for recent earthworks or management which may have obscured viable material
- Proximity to nearby potential sources of infection
- Potential for tipping of material

100. Should further assurances be needed in relations to INNS you should commission a dedicated Invasive Weed Survey.

Figure 10 Invasive Himalayan Balsam stand at the north eastern corner of the site.



⁴ Whilst our ecologists are trained in the identification of invasive species this report is not a dedicated invasive species survey. Detectability of invasive plant species can be affected by several factors, and conclusive determination status, or extent, is not possible through preliminary survey alone. As the

presence of invasive species can generate significant costs to development, the client may wish to instruct a dedicated invasive species survey prior to entering into contracts.

Ecological Constraints

101. There is a considerable and apparently well – established Himalayan Balsam growth towards the north eastern boundary - care will need to be taken to prevent the spread of this species.
102. There is a risk of pollution via site run-off or spillage of chemicals into the ditches and precautions should be taken to prevent this.
103. An area shown on mapping as 'Gale Moss' is located off the north western boundary. These areas often support bog type habitats, although from a brief visual inspection this area appears dominated by rank grassland. However, plans should be drawn up to mitigate any drawn down of the water table to reduce the risk of impacting upon this area.
104. Measures need to be put in place to address the small risk of the presence of water vole during the first stages of clearance. Suitable precautions would comprise of:
 - A pre-start water vole survey to confirm the continued absence of this species.
105. These measures could be secured by standard condition.

Figure 11 Constraints identifiable at the PEA stage*



*(further constraints may be identified by any additional surveys recommended in this or other reports.

Ecological Opportunities

106. The Gale Moss area to the north west lies within the blue line. This area may present opportunities for enhancement to offset impacts within the red line boundary. Any offsetting would need to be proceeded by a survey of the area to confirm the suitability of this.
107. The ditches on site support a good array of wetland flora. Future management could incorporate a wider buffer strip from the bank tops and managed sympathetically to encourage the proliferation of such flora and further protect the ditches from agricultural run – off in future.

Figure 12 Ecological Opportunities



Conclusions and Recommendations

108. The site is made up of a limited number of common habitats of limited ecological value, unlikely to present a significant constraint development. The ditches are of some elevated value relative to much of the site and should be retained and protected where possible.
109. Riparian mammal and great crested newt (GCN) surveys were undertaken of the site in 2017. These found an absence of water vole, otter and GCN respectively. As the site presents marginal otter habitat and appears well separated from any surrounding GCN populations further updating survey for these species has not been recommended. Similarly, water vole appears unlikely to be present at the site however due to a slightly elevated risk of colonising the site a pre-commencement check for this species has been recommended.

Planning considerations		
Recommendation	Rationale	When
R1 Further survey	Further detailed survey will be required into the following species/ groups, to confirm presence or likely absence and collect an accurate baseline for the Site. <ul style="list-style-type: none"> Bat Activity (Scoping survey) 	Optimal activity period May – August
R2 Produce a layout which minimises loss of biodiversity.	The site has been assessed as having a Biodiversity Unit score of 17.5 Habitat Units. Proposals will need to consider the NPPF hierarchy of Avoid - Mitigate – Compensate in minimising any loss of biodiversity. The LPA is likely to be seeking at least a no-net-loss situation and could request that a contribution is made to address any residual loss here, off-Site. Engage with the Constraints and Opportunities set out above, involve your ecologist in designs at an early stage.	During the design process
R3 Produce a CEMP (Biodiversity)	To show how the site will be remediated and built without affecting surrounding habitats. The CEMP will detail protection measures, dealing with invasive species and pre/during clearance ecology checks for protected species or additional Invasive species.	Suitable for planning condition.
R4 Updating Water Vole survey	To confirm continued absence of this species: can be included in the CEMP.	Pre-start.
R5 Produce a Biodiversity Management Plan	To specify in detail how the development will cater for biodiversity on site and to show how habitats will be maintained in the condition that the Biodiversity Calculations were based on.	Suitable for planning condition.

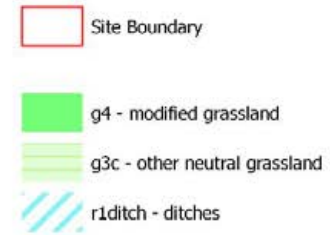
* Due to the increasing adoption of biodiversity net gain Brooks Ecological has taken the step of providing our own in-house landscape design team, we are in a position to help you produce any of the landscape plans needed for submission. Please contact our team for further details.

Other considerations (managing legal or financial risks)		
Issue	Rationale	When
R6 Nesting bird management	As with most sites the standard precaution in relation to birds would apply: To prevent the proposed works impacting on nesting birds, any clearance of vegetation will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any clearance required during the breeding bird season should be preceded by a nesting bird survey to ensure that the law is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development. Nesting management can be set out in the CEMP if one is produced.	Pre- and during -clearance
R7 INNS Management Plan	Likely to be light touch at this Site - this provides a formal INNS Survey and sets out management prescriptions and timings in detail. It can provide security for the Main Contractor and assurance for future Site operators / purchasers / owners.	Best initiated at an early stage (INNS Survey would ideally be complete April - October)

References

- The Biodiversity Metric 2.0 auditing and accounting for biodiversity TECHNICAL SUPPLEMENT, Beta Edition 29th July 2019
- The UK Habitat Classification Habitat Definitions Version 1.0 UK Habitat Classification Working Group May 2018
- Andrews H. L. (2011) *A habitat key for the assessment of potential bat roost features in trees.*
- Bat Conservation Trust (2016) *Bat Surveys For Professional Ecologists – Good Practice Guidelines*
- BSI (2013) British Standards Institute *BS:42020:2013 Biodiversity — Code of Practice for Planning and Development.*
- CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal.*
- English Nature (2004) *Bat Mitigation Guidelines.* English Nature, Peterborough.
- English Nature (2001) *Great Crested Newt Mitigation Guidelines.* http://www.naturalengland.org.uk/Images/GreatCrestedNewts_tcm6-21705.pdf
- Fay N. (2007) *Defining and Surveying Veteran and Ancient Trees* <https://www.treeworks.co.uk/about-treework/publications>
- Gent T and Gibson S, 2003, *Herpetofauna Workers' Manual*, JNCC
- Hill et al. 2005, *Handbook of Biodiversity Methods.* Cambridge
- JNCC (2004) *The Bat Workers Manual.* 3rd Edition.
- Ministry of Housing, Communities and Local Government (July 2018) *National Planning Policy Framework*
- Ratcliffe, D.A. (1977) *A Nature Conservation Review*, Cambridge University Press

Appendix 1 Habitats and Ecological Features



Appendix 2 Explanatory Notes and Resources Used

Site Context

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains.

Designated Sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

When assessing these we consider whether the Site could be functionally linked to them, considering links such as;

- Hydrological links - is the Site upstream downstream, or could ground water issues affect it?
- Physical links - is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
- Recreational links - do footpaths and roads make it likely that increased recreational pressure could be felt?
- Habitat links - is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones of habitat of similar form or function.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

Faunal Appraisal

This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

Records of notable species supplied from a 2km area of search by Lancashire Environmental Records Network are used to inform this appraisal.

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Species/group	Habitat
Black-tailed Godwit	Arable Farmland
Farmland Birds	Broadleaved and Mixed Woodlands
Hen Harrier	Calcareous Grassland
Lapwing	Limestone Pavement
Reed Bunting	Moorland and Fell
Skylark	Mossland
Song Thrush	Reedbed
Twite	Rivers and Streams
Bats	Salt Marsh and Estuarine Rivers
Brown Hare	Sand Dune
Otters	
Red Squirrel	
Water Vole	
Belted Beauty Moth	
Dorus Profuges- a hoverfly	
High Brown Fritillary	
Large Heath Butterfly	
Northern Brown Argus	
Pearl-bordered Fritillary	
Shining Guest Ant	
Southern Wood Ant	
Wall Mason Bee	
Freshwater Pearl Mussel	
Freshwater White-clawed Crayfish	
Jennings Proboscis Worm	
Whorl Snails	
Birds-eye Primrose	
Black Poplar	
Dwarf Cornel	
Flat-Sedge	
Great Butterfly Orchid	
Lady's-slipper Orchid	
Lancaster Whitebeam	
Narrow Small-Reed	
Purple Ramping-fumitory	
Rock Sea Lavender	
Sea Bindweed	

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Bat Roosting Suitability of Buildings and Trees

Suitability	Criteria
<i>Negligible</i>	Negligible habitat features on site likely to be used by roosting bats.
<i>Low</i>	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by a larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
<i>Moderate</i>	A structure or tree with one or more potential roost sites that could be used due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
<i>High</i>	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protections, conditions and surrounding habitats.

Evaluation

In evaluating the Site, the ecologist will take into account a number of factors in combination, such as;

- the baseline presented above,
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Appendix 3 Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2016) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;
- the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines -

'The Guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement.'

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the Site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

The site lacks features generally considered to be of value to bats, dominated by habitat of minimal value to both commuting and foraging bats and being open and featureless. Furthermore, the adjacent motorway and A- Road will sever bat movements through the area, whilst there is also considerable light spill onto the site from the A-road further reducing its value. Due to the perceived very low value of the site to bats, a single scoping survey has been recommended to ascertain if activity levels align with this. If such survey reveals higher levels of bat activity, notable species assemblage or both then further survey will be recommended in line with guidance.

Appendix 4 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites

Statutory EU / International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, water vole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or from certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera*), japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF):

The National Planning Policy Framework was updated in February 2019. The most relevant paragraphs from the NPPF are set out below.

The approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is and this falls under one of three objectives of the planning system – the 'environmental objective' applying in this case. Paragraph 8c (P8c) of the NPPF states that sustainable development should “*contribute to protecting and enhancing our natural environment*” and “*help to improve biodiversity*”. P10 sets out the Framework’s presumption in favour of sustainable development.

Section 11 of the NPPF details making effective use of land. The Framework states that planning policies and decisions should “*take opportunities to achieve net environmental gains – such as developments that would enable new habitat creation*” and should “*recognise that some undeveloped land can perform functions for wildlife*” (P118).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be “*protecting and enhancing sites of biodiversity value*”, “*recognise the intrinsic character and beauty of the countryside*” and contribute to conserving and enhancing the natural environment and reducing pollution (P170). Allocations of land for development should, “*prefer land of lesser environmental value, where consistent with other policies in this Framework and take a strategic approach to maintaining and enhancing networks of habitats*” (P171).

The Framework sets out ways to minimise the impacts on biodiversity through “*identifying, mapping and safeguarding components of local wildlife rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity*” and the “*conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and (the need to) identify and pursue opportunities for securing measurable net gains for biodiversity*” (P174).

It is made clear in P175 that local planning authorities should apply principles when determining planning applications. Planning permission should be refused “*if significant harm to biodiversity resulting in development cannot be avoided, adequately mitigated, or, as a last resort, compensated for*”. Development should not normally be permitted where an adverse effect on a SSSI is likely and “*opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*”.

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.

This strategy builds on the Natural Environment White Paper (June 2011) - Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

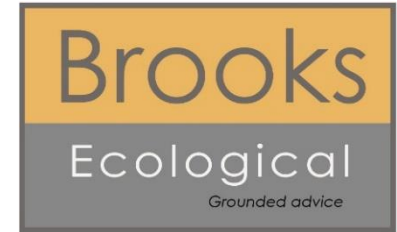
The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity — Code of Practice for Planning and Development.

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.



Bat Activity Survey
Land off Millennium Way, Chorley

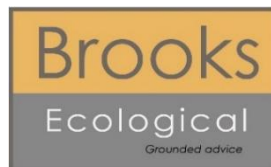
Ruttle Group Ltd.

Report Reference: ER-4862-02

21/10/2020

Report Title:	Bat Activity Survey Land off Millennium Way, Chorley
Report Reference:	ER-4862-02
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Date:	21/10/2020

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Summary Statement

The Site appears to support limited levels of bat activity on an ad-hoc basis, by a limited range of common bat species.

Significant impacts associated with proposals would not be anticipated provided some standard precautions are implemented to mitigate impacts.

Introduction

1. Brooks Ecological was commissioned by the Ruttles Group Ltd. to carry out detailed Bat Activity Survey at the proposed development Site at land off Millennium Way, Chorley.
2. Survey is required to provide evidence of the baseline use of the Site by the local bat population, which in turn will then enable mitigation and enhancement strategies to be devised to support a planning application.
3. The scope of the survey has been devised based on an assessment of the habitats present and in accordance with current best practice guidelines (BCT, 2016). It was concluded that in this instance given the very low value of much of the site for bat activity, a single survey would likely be sufficient during the peak bat activity period to assess bat activity.

Figure 1 Site location plan



Method

4. Surveys were directed by Joshua Birchall BSc (Hons) Grad CIEEM. Josh has over 5 years of professional bat survey experience, is a member of the South Lancashire Bat Group and is also registered to use the Class Survey Licence WML CL17 (Level 1).
5. The objective of the survey was to collect up to date information on the Site's use by local bat populations, so that an accurate assessment of the potential impacts of development could be made. A transect and remote monitoring survey was carried out to collect the following data (BCT survey guidelines 2016):
 - The assemblage of bat species using the site;
 - The relative frequency with which the site is used by different species;
 - The nature of activity for different bat species, for example foraging, commuting and roosting.

Survey Conditions

6. Walked transects were undertaken during optimal survey conditions, as summarised below:

Table 1 Survey Conditions

Date	Sunset	Weather	Invertebrate Activity
24.08.20	20:15	18°C, 80% cloud cover and dry. Beaufort 1.	High

Transects

7. Transects began around sunset and continued up to two hours after when all bats were thought to have emerged, and thus were actively foraging and commuting.
8. The transects were walked by a team of two surveyors, equipped with a heterodyne detector as well as a Titley Scientific Anabat Express, used to track the transect route and aid species identification. Notes taken during the survey were then used to produce the activity 'heat map' seen in the below figures.

Remote Monitoring

9. To supplement data collected during the walked transect, a static monitoring device (Wildlife Acoustic SM4) was deployed in a strategic location within the centre of the Site prior to the start of the walked transect.
10. Data collected during the period of remote monitoring has been run through Kaleidoscope Pro software, which can identify bat calls down to species level (except for *Myotis*). Identification is generally correct when using this software; however, results are double checked to ensure accurate data analysis.
11. Every effort is made to split up *Myotis* calls down to species level. This is done by analysing calls on Anabook software and looking at parameters such as inter-pulse interval, call duration, slope and maximum / minimum / peak call frequency. However, this can often be difficult when registrations are short in duration, faint or distorted by cluttered environments.

Limitations

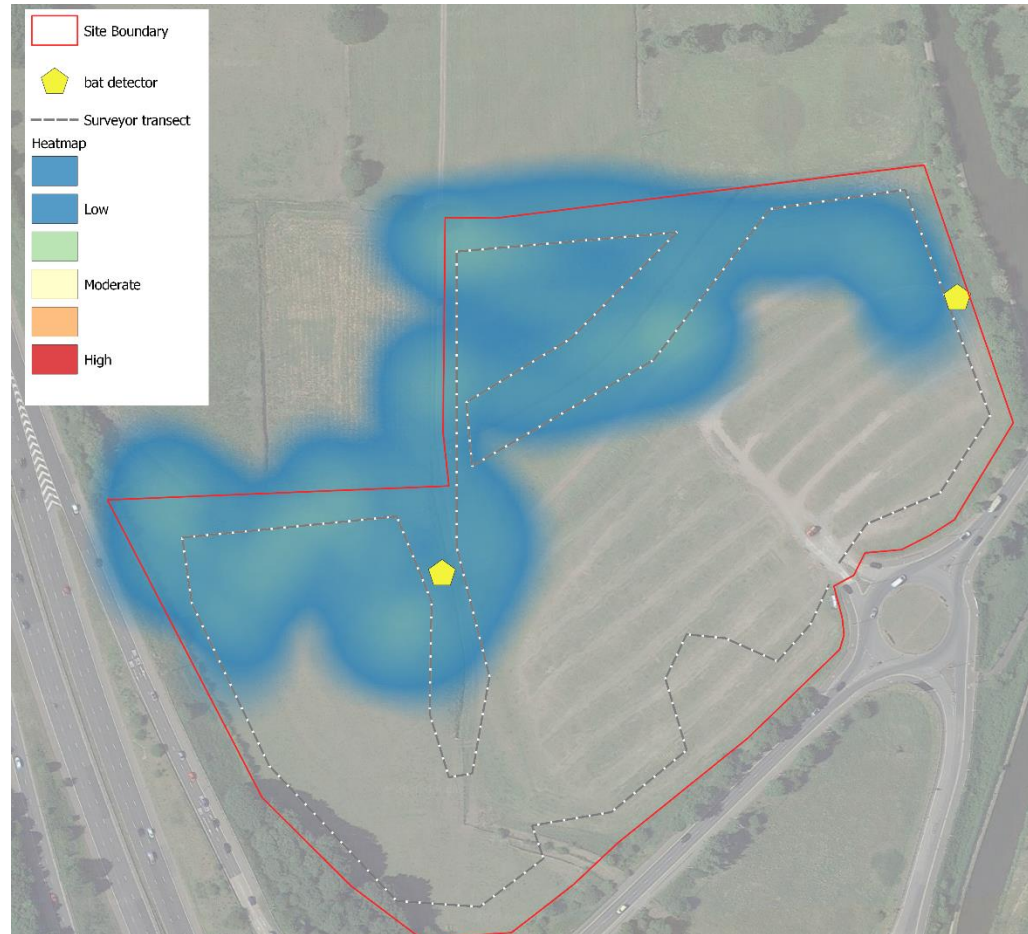
12. Static monitoring can only reliably provide information on what species of bat are regularly making use of a site. More detailed information on bat activity, such as frequency of bats, nature of activity (foraging, commuting, flight path), etc. can only be gleaned through walked transects.
13. The frequency of calls recorded can, to some extent, suggest whether activity on site is low, moderate or high, by comparing data collected with that of similar sites that have been surveyed.
14. A single registration can account for up to 15 seconds of continuous bat call. Large batches of registrations can be interpreted in several different ways, i.e. a single bat foraging continuously for only an hour can result in many hundreds of registrations being logged; similarly, many hundreds of bats commuting quickly past the detector can result in the same number of registrations.

Results

Walkover Transect

15. The transect began at the field access off Millennium Way along the southern boundary. It then proceeded in an anticlockwise direction, taking in any areas which are likely to attract bat activity including boundaries and ditches.
16. The first bat encountered was a common pipistrelle heard but not seen along the western boundary at 20:46, foraging somewhere offsite. A single bat was observed in this area again later in the survey at 21:11, possibly the same individual.
17. The next encounter was of another common pipistrelle, again heard but not seen along the northern boundary, activity appearing similar to the previous encounter. This activity was then observed extending further south at 21:25 with a single common pipistrelle seen foraging.
18. The next bat contact was made at 21:31, when two common pipistrelle were observed foraging at the north-western corner of the site.
19. Activity overall can be considered low, and focused along Site boundaries/ immediately adjacent land.

Figure 2 Summary of bat activity observed during walked transect



Results

Remote Monitoring

20. Two remote detectors (Anabat SMZC) were deployed in locations as shown in Figure 2, with one approximately at the site's centre and one at the eastern boundary. These were left to run for 6 consecutive nights, from the 24th to the 30th August 2020. Results from the eastern boundary are shown overleaf.
21. Activity recorded at the central location can be considered very low, and is likely to be attributed to solitary or low numbers of individuals foraging over the site – as was seen during the transect.
22. The number of registrations per hour are higher earlier in the evening before dropping off to zero/ very low numbers. This suggests that bats are briefly foraging/ passing through the site soon after emergence, before heading to better habitat elsewhere in the wider landscape.
23. Activity is dominated by common pipistrelle, with limited numbers of other species.

Table 2 Total number of registrations logged for each bat species, per day at the site's centre.

Species	24 th	25 th	26 th	27 th	28 th	29 th	30 th
C. pipistrelle	72	11	4	30	1	10	2
S. pipistrelle	0	0	0	0	0	1	0
Noctule	1	0	1	1	0	0	0
Brandt's/ Whiskered	0	0	2	0	0	0	0

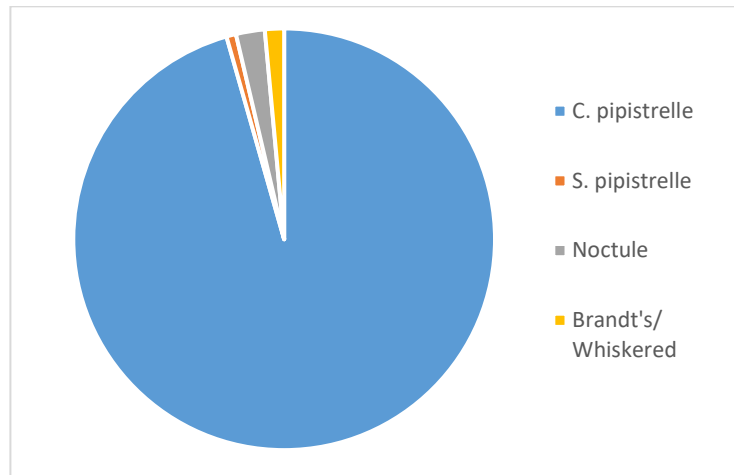


Figure 3a

Proportion of bat activity attributed to each bat species.

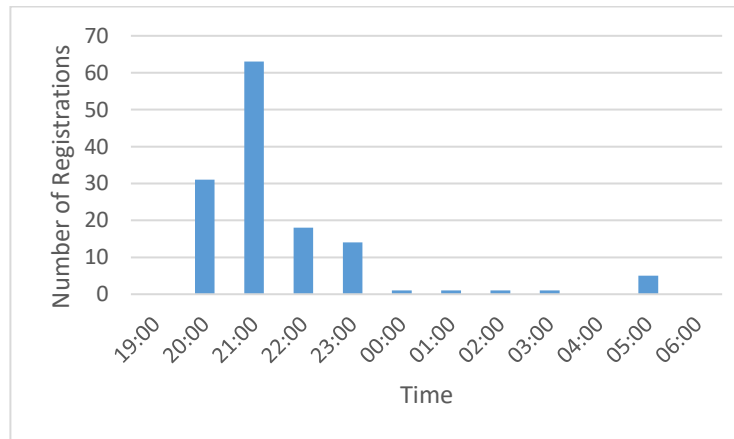


Figure 3b

Total number of bat registrations logged for each hour of the monitoring period.

Results continued

- 24. Slightly higher levels of activity have been recorded at the eastern boundary, with a similar species mix, in very similar proportions.
- 25. The number of registrations is more consistent throughout the night in this location suggesting more continuous foraging activity. This could be due to the presence of better habitat (canal) being present offsite.
- 26. As with at the sites centre, overall the number of registrations is low, and does not indicate that the Site is of any significant importance to any local bat populations.

Table 3 Total number of registrations logged for each bat species at the eastern boundary

Species	24 th	25 th	26 th	27 th	28 th	29 th	30 th
C. pipistrelle	125	12	12	4	17	27	16
S. pipistrelle	0	1	0	0	0	0	0
Noctule	2	1	1	0	1	0	0
Brandt's/ Whiskered	1	1	0	1	0	4	1

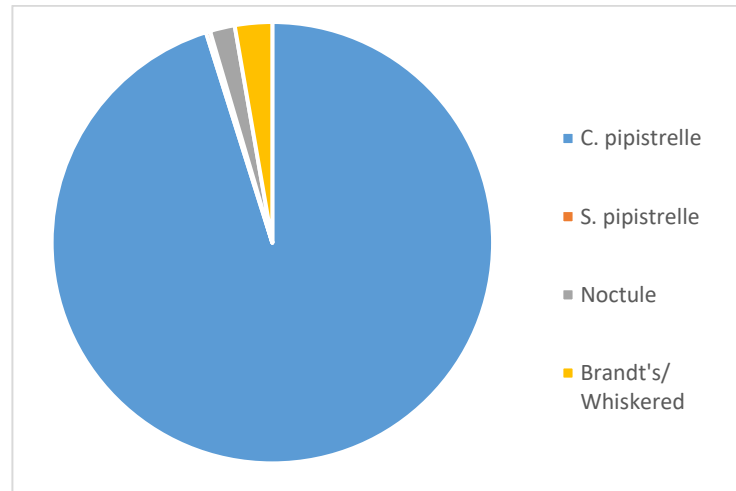


Figure 4a

Proportion of bat activity attributed to each bat species.

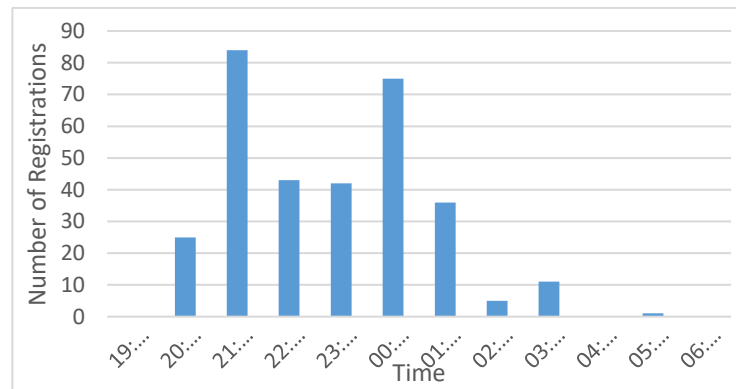


Figure 4b

Total number of bat registrations logged for each hour of the monitoring period.

Conclusions & Recommendations

27. A dedicated bat activity survey, encompassing a walked transect and period of remote monitoring, has found that the Site attracts only very low-levels of bat activity.
28. Only a small number of common bat species are recorded making use of the Site, with common pipistrelle being the most abundant and consistent.
29. There was considerable variation in the number of registrations logged each night throughout the monitoring period, suggesting that low numbers of bats forage over the Site, in low numbers and on an *ad hoc* basis.
30. The data collected does not indicate that the Site is of any significant importance to any particular local bat populations and the proposals are therefore unlikely to impact significantly on any local bat populations.
31. To minimise any impacts upon this group, the following mitigation is recommended.
 - A sensitive lighting plan should be designed to show how light spill will be minimised/ avoided across the site and into adjacent off site areas
 - Bat boxes should be installed in suitable locations on suitable trees around the site, particularly along the eastern boundary.

References

BS:42020 2013. Biodiversity - Code of practice for planning development. BSI

Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists – Good Practice Guidelines

Conservation of Habitats and Species Regulations 2010 <http://www.legislation.gov.uk/ukxi/2010/490/contents/made>

English Nature (2004) Bat Mitigation Guidelines. English Nature, Peterborough.

Institute of Lighting Professionals (2018) Bats and artificial lighting in the UK. Bat Conservation Trust Guidance Note 08/18.

<https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

JNCC (2004) The Bat Workers Manual. 3rd Edition.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System
<http://www.communities.gov.uk/publications/planningandbuilding/circularbiodiversity>





Callidus Transport and Engineering

**Proposed Sand and Gravel Extraction, Gale Moss,
Chorley, Lancashire**

Transport Statement

on behalf of The Mineral Planning Group Ltd

DOCUMENT VERIFICATION

Job No: TE/1504		Job Title: Proposed Sand and Gravel Extraction, Gale Moss, Chorley, Lancs						
File Ref: /501		Document Title: Transport Statement						
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I INTRODUCTION

I.1 About this Report

- I.1.1 Callidus Transport and Engineering Ltd (the consultant) has been commissioned by The Mineral Planning Group Ltd (the client) on behalf of the applicant to provide transport advice in support of the planning application for a proposed sand and gravel extraction site at Gale Moss, Chorley, Lancashire.
- I.1.2 The location of the site is shown in Appendix A, Figure 1. It is located to the north-east of Chorley town centre, bounded by the M61 to the west and the A674 directly to the south of the site, which routes north-east of junction 8 of the M61.
- I.1.3 This report forms the Transport Statement (TS) that is required to support the planning application for the proposed development. It has been prepared in line with the recommendations set out in the National Planning Policy Framework, Planning Practice Guidance on ‘Travel Plans, Transport Assessments and Statements in decision making’ (DCLG 2014).
- I.1.4 Undertaking a TS is considered appropriate in this case because the forecast trip generation numbers are relatively low. Therefore, a more comprehensive traffic impact analysis as part of a Transport Assessment (TA) is considered to be unnecessary for this site.
- I.1.5 Callidus contacted Lancashire County Council regarding scoping the TS, which is recommended by the NPPF. A response was received from the Council’s Principal Planning Officer on 21/05/21 that referred to the comments in the planning application consultation in which it is stated that:

The scoping response clearly states a Transport Assessment should be submitted - this is not included in the documentation on the website

Given the nature of the of the development highway capacity is not an issue and as such I would accept a Transport Statement.

The TS should include;

- *a road safety review of the A674 in the vicinity of the site*
- *swept path analysis of the site access and roundabout*
- *details of access control*
- *details of wheel wash facilities*
- *details of internal road ways*
- *comment on impact of committed developments (Botany Bay)*

- *details of PROW diversion*
- *breakdown of vehicle movements*
- *vehicle routeing details*

1.1.6 The TS addresses these points in the following chapters.

1.2 Report Structure

1.2.1 After the introductory chapter, the following matters are reported on:

- Chapter 2 describes in more detail the proposed development and means of access;
- Chapter 3 reviews the policy context for the site in light of national and local policies;
- Chapter 4 examines the site's baseline conditions;
- Chapter 5 forecasts the trip generation from the development, the likely mode split for travel and trip distribution;
- Chapter 6 reports on the traffic impact assessment and impact on the local highway network;
- Chapter 7 describes the mitigations proposed, including vehicle routeing and construction traffic management; and
- Chapter 8 provides a summary and conclusions.

2 PROPOSED DEVELOPMENT

2.1 Site Context

- 2.1.1 The site is located to the north-east of Chorley and is bounded by the M61 to the west and the A674 to the south. The site measures approximately 9.9 hectares in area and currently consists of agricultural fields with a Public Right of Way (PRoW) footpath through the site (see Figure 2-1).
- 2.1.2 Access to the site is taken directly from the A674 from an unused fourth arm of an existing roundabout. Junction 8 of the M61 is then only 250m away to the west providing convenient access to the national strategic road network (SRN).
- 2.1.3 There are few properties in the vicinity of the proposed site. To the north is open farm land, to the east is the Leeds and Liverpool Canal and to the south across the A674 is a regeneration site known as Botany Bay.
- 2.1.4 A PRoW (9-2-FP 26) runs through the site and connects the A674 to Knowley Bridge and across the Leeds and Liverpool Canal.

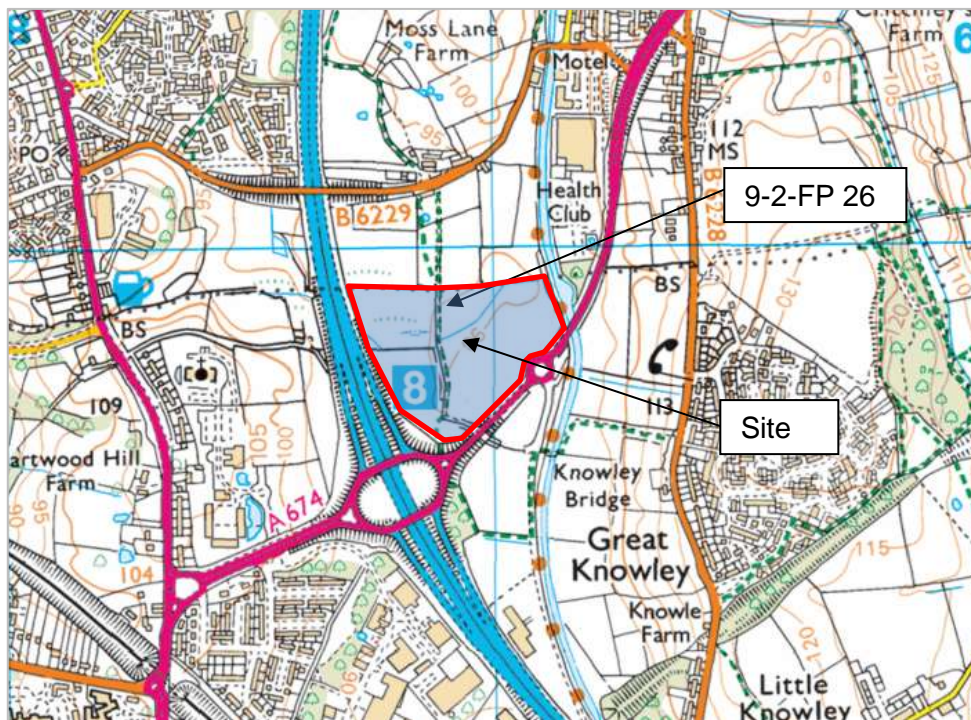


Figure 2-1: Public Rights of Way 9-2-FP 26 (Source: OS)

2.2 Proposed Development

- 2.2.1 The proposed development seeks to extract approximately 160,000 tonnes of sand and gravel and then to restore the site in phases. It is anticipated that the extraction will take

2-3 years to complete, extracting between 75,000 and 150,000 tonnes per year. Restoration would equally take 2-3 years to complete. It is expected that some excavation and some restoration will take place concurrently but that all operations at the site would be completed within 4-6 years.

2.2.2 For the purposes of analysis, it has been assumed that extraction will take 2 years, with 100,000 tonnes per year of sand and gravel being extracted. It has also been assumed that the restoration of the site will take an additional 2 years, with some excavation and restoration being carried out at the same time.

2.2.3 It is proposed that the site will be worked on a phased basis of up to three phases in total. Each phase will be excavated using a long arm excavator and the minerals transported to the process area via Tipper trucks. Following excavation of a phase, inert material will be imported to the site to allow the phase to be restored. It is proposed to import approximately 100,000 tonnes per year of inert infill materials.

2.2.4 Appendix A, Figure 2 shows the site plan for the Gale Moss extraction site. It illustrates the location of the site processing area, the secure compound, weighbridges, offices, and wheel washing facilities.

2.3 Operations

2.3.1 The proposed extractions are to be carried out in three different phases, starting with phase one in the eastern extent of the site and moving westwards. The phase sequence can be seen in Appendix A, Figure 3

2.3.2 The proposed working hours for the site are given as 07:00-18:00 on Weekdays and 07:30-13:00 on Saturdays. No extractions or restoration will be carried out on Sundays or Bank Holidays.

2.4 Proposed Access Arrangements

2.4.1 The development proposals include a site access taken directly from an existing 4-arm roundabout on the A674. The access in and out of the site is to remain operational for the entirety of the proposed development. A roundabout splitter island with dropped kerbs provides a safe crossing for pedestrians on this arm of the roundabout. The junction is also fully lit. The proposed site access can be seen below in Figure 2-2.

2.4.2 The access to the site will be gated such that out-of-hours the gates will be securely locked. During operational hours, the gates will be open to ensure the free flow of vehicles into the site.



Figure 2-2: Access gates in and out of the site

2.5 Swept Paths

- 2.5.1 A swept path analysis can be seen in Appendix B, drawing 001 and 002. This demonstrates that a 15.5m articulated truck with a 2-axle trailer (this has a larger swept path than a 3-axle 16.5m truck) can safely access the site along with a rigid Tipper truck.
- 2.5.2 A swept path analysis has been carried out to show the internal movement of the site. It has been assumed that HGV vehicles will enter the site and make a left turn movement on entry to the weighbridge and office area. Cars will take a right movement on entry to the site parking and welfare facilities.

2.6 Parking provision

- 2.6.1 Sufficient car parking is to be provided to ensure that all car parking is contained on the site. The site will be accessed directly from the A674 so there is no risk of there being indiscriminate parking on surrounding roads. The parking allocation includes spaces for cars for both employees and visitors
- 2.6.2 The proposed parking provision for the Site is shown in Table 2-1.

Parking Spaces	Cars (staff)	Cars (visitors)
Total	10	6

Table 2-1: Proposed parking provision

2.6.3 Further space is available on site to accommodate the truck arrivals and departures for the transportation of extraction and infill materials.

2.6.4 Parking for the site represents ‘operational parking’ and is not specifically covered by the car parking standards set out in the Joint Lancashire Structure Plan Parking Standards.

2.7 Committed Development

2.7.1 There is a proposed development (planning application ref: 21/00439) that is awaiting decision on the Botany Bay site to the south of the A674. The hybrid planning application for a business park consists of 10 independent blocks of development from A-J. The development will consist of the following:

- Detailed planning for:
 - 36,996 sqm GIA of Use class E (light industry), B2 and B8
 - Retention of vehicular access from the A674
 - Emergency access from the south, internal roads, parking and landscaping
- Outline planning for:
 - 181 sqm GIA of use class E (food and drink) & 484 sqm GIA of use class E
 - Access, parking and landscaping

2.7.2 A Transport Assessment that accompanied the planning application includes forecast trip generation for the site. The four-arm roundabout on the A674 from where the Botany Bay development will take access was tested in the Transport Assessment for traffic capacity.

2.7.3 This analysis was carried out for 2022 and 2027 ‘with’ and ‘without’ development and the results showed no capacity related issues for the Botany Bay development traffic with ratio of flow to capacity (RFC) in 2027 ‘with development’ less than 0.50 (1.00 indicates a junction at capacity and 0.85 should be required for design capacities of new junctions) .

2.7.4 With the addition of the proposed traffic from the sand and gravel extraction proposal, there should be no capacity related issues on this roundabout as the additional traffic demand is very low and mostly off-peak.

3 POLICY CONTEXT

3.1 National Policy

National Planning Policy Framework (2012)

3.1.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how they are expected to be applied. It identifies three dimensions to sustainable development; economic, social and environmental.

3.1.2 The NPPF identifies the need for a Transport Statement or Transport Assessment to support all developments that generate significant amounts of movement. Plans and decisions should consider whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and
- Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

3.1.3 The NPPF identifies the need to protect and exploit opportunities for the use of sustainable transport modes for the movement of goods and people. One of the core planning principles in the NPPF is to actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.

3.1.4 The location of the extraction site means that exploiting sustainable transport alternatives cannot be easily applied to the movement of minerals and is therefore limited to the people who work on the site. However, in the case of the latter, shift working can mean that using sustainable forms of transport remains difficult e.g. public transport for example may be unavailable, if at all, at the start of shift for some members of staff. Opportunities for sustainable travel are reviewed in Chapter 4 of this report

Travel Plans, Transport Assessment and Statement in Decision Making (2014)

3.1.5 The above web based supplementary NPPF guidance replaces The Guidance on Transport Assessments (GTA) that was withdrawn in 2014. It sets out some overarching principles in the preparation of TAs, TSs and TPs.

- 3.1.6 The guidance provides information on when assessments are required. However, unlike the GTA, it is less prescriptive and leaves the ultimate decision making with the Local Authorities. It advises that a TS is a 'lighter touch' assessment whereas a TA is a more thorough assessment. A TS can be used in the case of developments with anticipated limited transport impacts.
- 3.1.7 The guidance highlights that TAs, TSs and TPs are important because they can positively contribute to:
- Encouraging sustainable travel;
 - Lessening the traffic generation and its detrimental impacts;
 - Reducing carbon emissions and climate impacts;
 - Creating accessible, connected, inclusive communities;
 - Improving health outcomes and quality of life;
 - Improving road safety; and
 - Reducing the need for new developments to increase existing road capacity or provide new roads.
- 3.1.8 The guidance states that in general, assessments should be based on normal traffic flows and usage conditions (e.g. non-school holiday periods, typical weather conditions). Traffic projections should use local traffic forecasts such as TEMPRO, drawing where necessary on National Road Traffic Forecasts for traffic data.
- 3.1.9 The guidance requires that the need, scale, scope and level of detail in a TS or TA should be established early on in the development management process. For the majority of the development projects that Callidus works on, we undertake a scoping exercise with the local Highway Authority. The scoping response for this project was received as part of the pre-application advice from the LPA with comments received on highways on 21/05/21 (see Chapter 1). The correspondence is contained in Appendix C.

3.2 Local Policy

Chorley Local Plan (2012-2026)

- 3.2.1 The Chorley Local Plan does not consider waste and mineral matters which is a County planning function. However, in the Chorley Local Plan, Policy EPI.3 covers the development site. The policy allocates the site for future employment development use. The proposed sand and gravel extraction is an interim arrangement that will take place prior to the site's development for prospective employment.

Lancashire County Council Minerals and Waste Plan (2013)

3.2.2 This plan sets out the County Council's planning policies, allocations and detailed development management policies for minerals and waste in the area covered by Lancashire County Council.

3.2.3 Policy DM2 – Development Management states that proposal for minerals and waste will be supported where it can be demonstrated that a positive contribution can be made to (in transport terms):

- *Reduction in the length and number of journeys made.*

And that this will be achieved through for example:

- *The control of the numbers, frequency, timing and routing of transport related to the development.*

3.2.4 The plan also states that:

In relevant circumstances applicants will be required to submit a Transport Assessment in support of their planning application.

3.3 Summary

3.3.1 In providing this supporting TS and for the reasons given in the content of this report, the development proposals are compliant with national and local transport policy.

4 BASELINE CONDITIONS

4.1 Introduction

4.1.1 This chapter considers the existing transport conditions, access, and the opportunities to use sustainable modes of transport for future users of the proposed development. Baseline traffic flows are examined, and road safety is also considered in this chapter.

4.2 Sustainable Transport

4.2.1 The use of specific vehicle types to the site e.g. tipper trucks and heavy goods vehicles etc means that is not possible to easily transfer these operations to other, more sustainable modes of transport at source. Although transfer to for example rail, might be an option further up the supply chain, it is most likely that aggregates will be supplied direct to the end users.

4.2.2 The site will be operated with a small workforce that are all assumed to arrive between 07:00 and 09:00 and leave between 16:00 and 18:00. It is possible that some staff at the site might live near the site and therefore might be in position to use sustainable modes of transport such as buses, walking or cycling. The travel options for staff are considered below.

4.2.3 The site is well served by public transport. The nearest public bus stop is located approximately 700m away from the site on the A674, a walk time of approximately 10 minutes. The bus services shown in Table 4-1 below.

Service	Route	Buses / hr (peak)	First*	Last*
24	Blackburn – Ewood Hub – Feniscowles – Brinscall – Lower Wheelton – Chorley	1	05:50	18:10

Note: *First and Last are based on timing points at Blackburn bus station

[Table 4-1: Local bus services to the site](#)

4.2.4 The route of the service is shown in Figure 4-1.

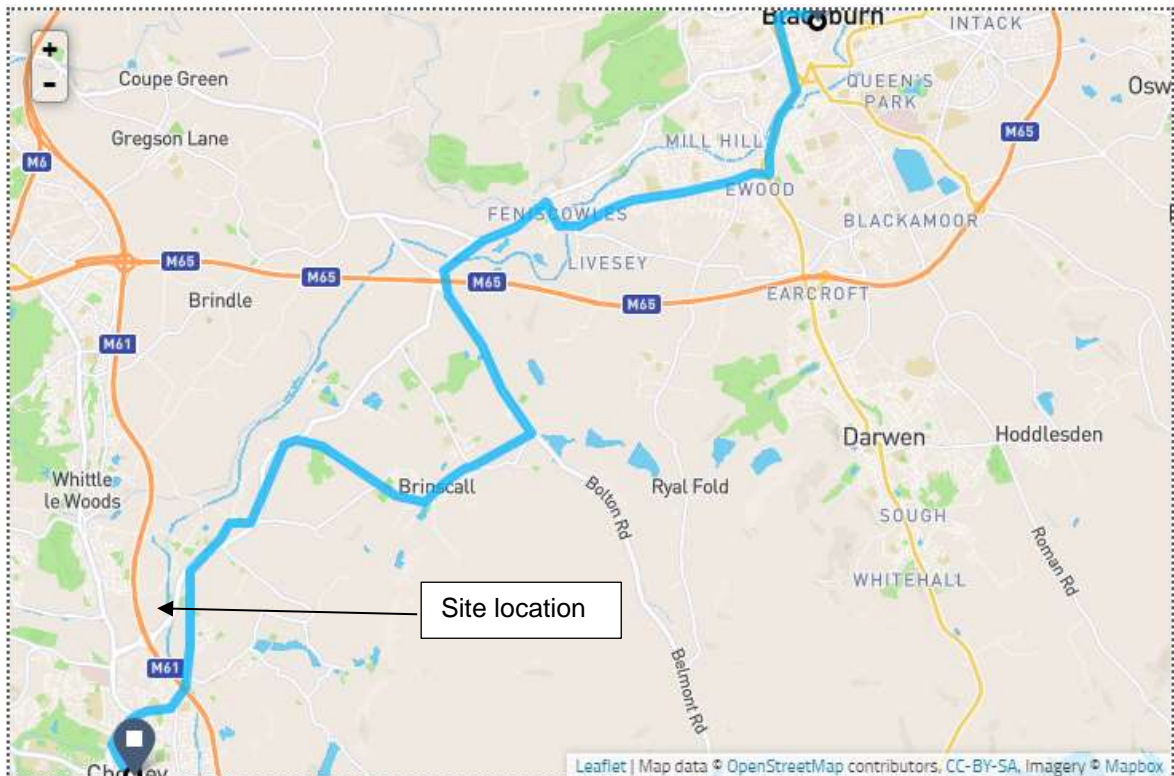


Figure 4-1: Route of bus service 2 (source: Traveline)

- 4.2.5 The nearest railway station is Chorley station. This provides local services north to Preston as well as services to Manchester. Chorley station is approximately 2.6km away from the site, a walk time of approximately 45 minutes.
- 4.2.6 There are options for cyclists to cycle to the site. This includes a shared footway/cycleway along the north side of the A674 (see Figure 4-2). This includes controlled crossings of junction 8 of the M61. There is also the National Cycle Network running along the south side of the A674 and a cycle route along the Leeds and Liverpool Canal (see Figure 4-3). It is therefore possible to travel to the site by bike along mostly traffic free routes.
- 4.2.7 Walking to the site requires walking along the A674, which has a footway along both north and south sides of the carriageway. There are also controlled crossings at junction 8 of the M61. A PROW (see chapter 2) crosses the site and also provides a link to the Leeds and Liverpool Canal. The centre of Chorley is over 2km away but there are residential areas between the site and the town centre from where workers could be sourced and who would be within an acceptable walking distance of the site..



Figure 4-2: Off-road cycle facilities on A674

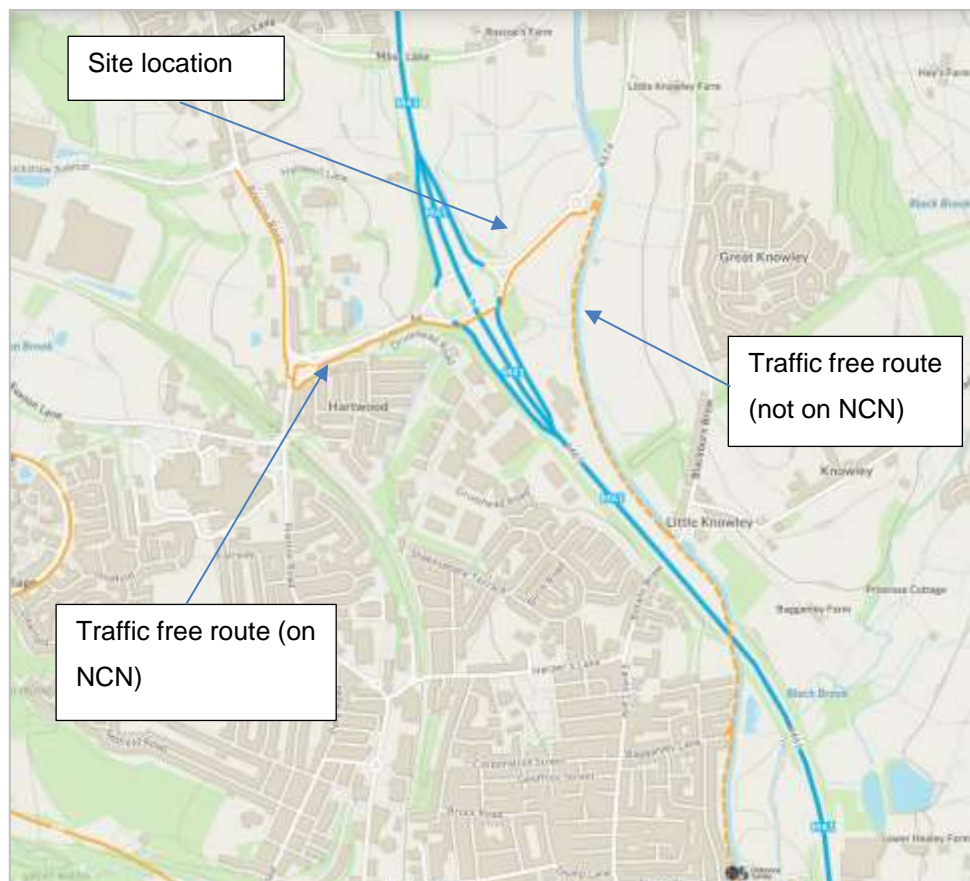


Figure 4-3: Designated cycle routes (source: Sustrans)

4.3 Baseline Traffic

4.3.1 A Traffic Survey was undertaken in May 2021 for seven days at the location shown in Appendix A, Figure 4. This can be summarised as follows:

Type	Location	Date	Duration
ATC	A674 (west of the site)	18th to 24 th May 2021	7 days

Note: ATC = Automatic Traffic Counter

Table 4-2: Traffic Survey schedule

Daily traffic flows

4.3.2 Figure 4-4 shows the two-way traffic flow data by day. The figure shows that the busiest day is a Wednesday with approximately 9388 vehicle trips two-way, 1054 of these being HGV trips.

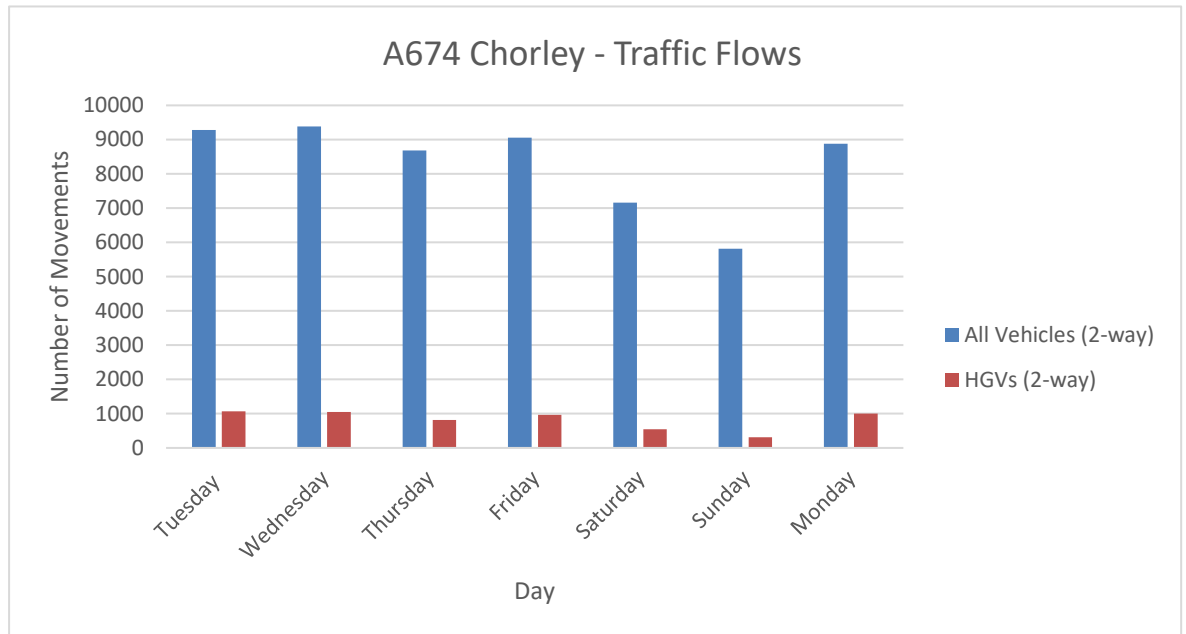


Figure 4-4: A674 Chorley daily traffic flows

4.3.3 Goods vehicles (7.5t and above) traffic is also shown (red bar). Goods vehicles typically account for about 11% of general traffic on a weekday.

Hourly traffic flows

4.3.4 Using the above data, it has been determined that the busiest day for site traffic and general traffic combined is Wednesday. This has been used in the subsequent analysis.

4.3.5 Figure 4-5 shows the directional traffic flow data for the ATC site located on the A674 by hour on Wednesday 19th of May 2021. It can be seen that there is clearly a tidal flow pattern towards the M61 and Chorley. Westbound traffic levels tend to peak in the morning between 0700-0800 and eastbound traffic levels peak in the afternoon between 1700-1800.

The morning peak hour has around 746 vehicles 2-way between 0800 and 0900, and an afternoon peak hour of around 911 vehicles 2-way between 1700 and 1800.

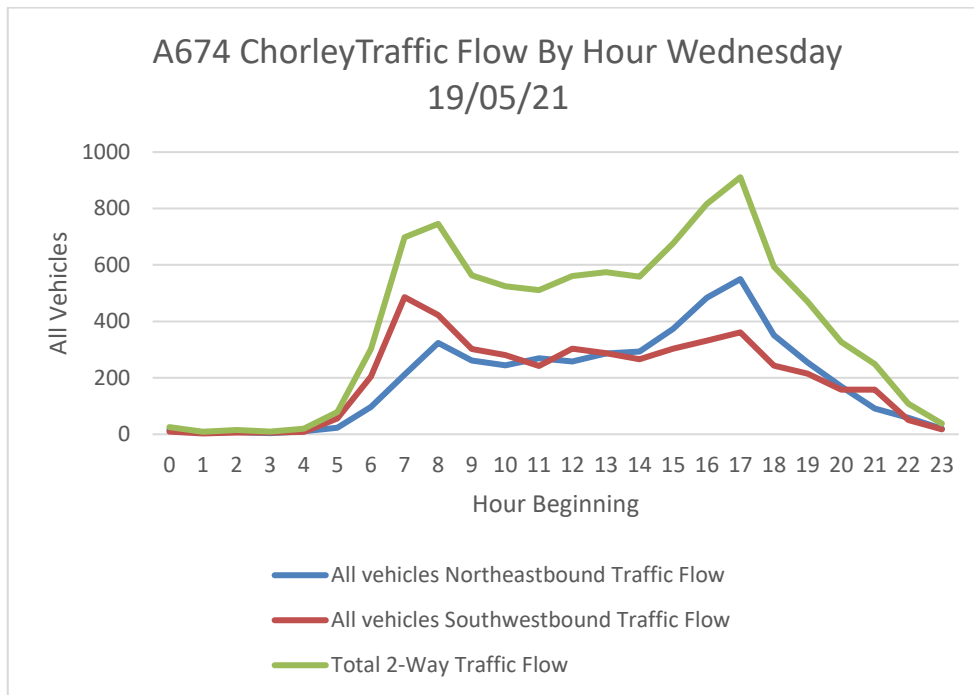


Figure 4-5: A674 Chorley hourly flows

4.4 Road Safety (using CrashMap)

- 4.4.1 Personal injury accident (PIA) data has been obtained from CrashMap for the most recent five-year period. The area of search for the accident data is shown in Figure 4-6 along with the accident data. Accident data was requested from Lancashire Constabulary but at the time of writing had not been received.
- 4.4.2 There has been a total of 3 recorded accidents resulting in 4 casualties. The severity of the accidents has been classified as 2 'slight' and 1 'serious'.
- 4.4.3 There were no accidents recorded on the section of the A674 outside the site or at the roundabout junction from where the site will take access.

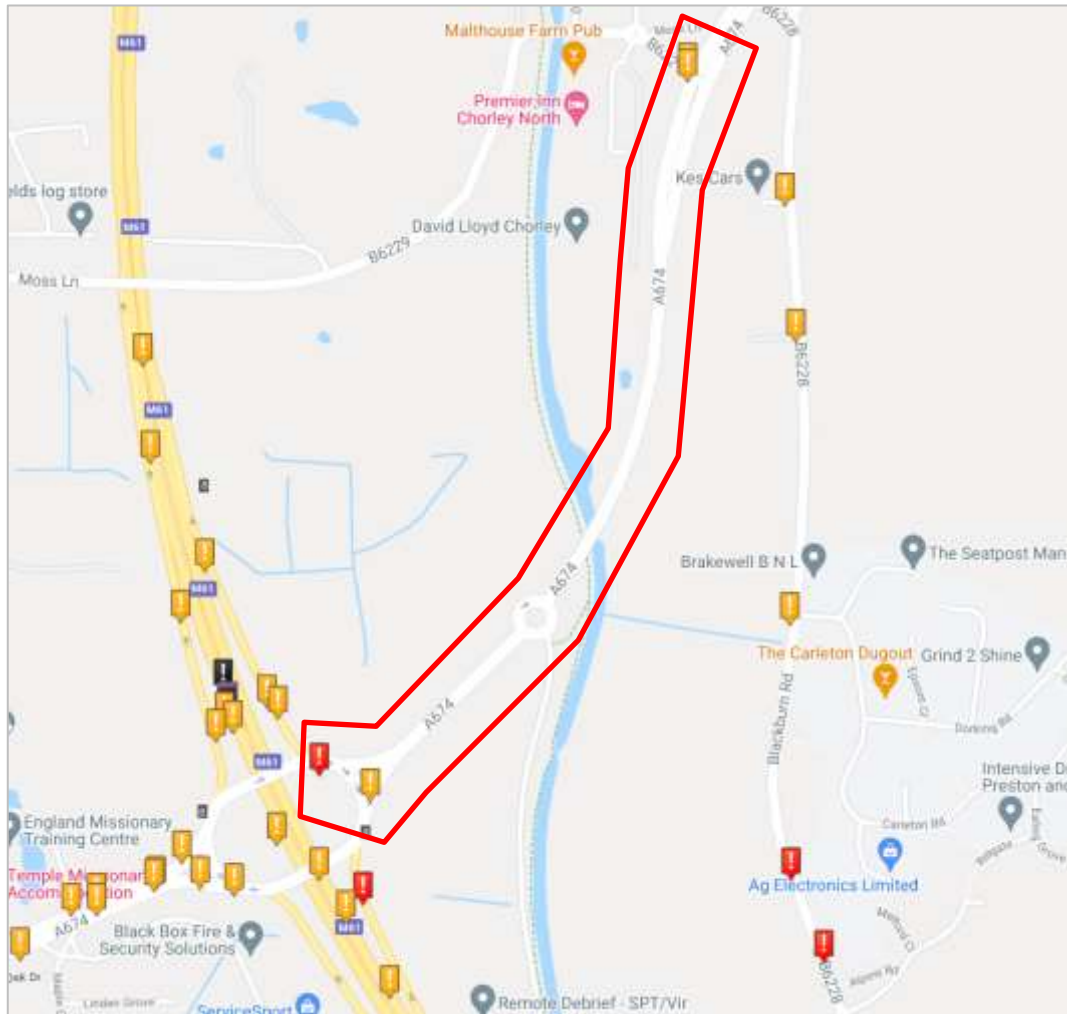


Figure 4-6: 5 years accident data results (Source: CrashMap)

5 TRIP GENERATION

5.1 Methodology

5.1.1 The trips generated from the proposed development have been estimated from a 'first principles' point of view, using the maximum tonnage that the site will be able to process and vehicle payloads to calculate the number of HGV arrivals and departures. A similar approach to employee trips has also been undertaken based on the numbers of employees and the time periods that they will work. The trip forecast results are presented in this chapter.

5.2 Extant trips

5.2.1 The development site currently consists of an agricultural field. Therefore, there are no current extant trips to consider within this analysis.

5.3 Proposed Trips

5.3.1 The estimated trips generated by the development proposal based on the above methodology has been undertaken (see detailed breakdown in Appendix D). The following assumptions have been made:

- The site will be operational 295 days per year, which allows for Saturday operations but no operations on Sundays or a bank holiday.
- Materials OUT:
 - Assume HGV 32t (Average Payload 22t): Daily 5 empty IN and 5 laden OUT = circa 32450tpa
 - Assume HGV 32t (Average Payload 16t): Daily 14 laden IN and 14 laden OUT = circa 66080tpa (OUT part of backhaul)
 - Total Material out = 98,530tpa
- Materials IN:
 - Assume HGV 26t (Average Payload 15t): Daily 6 laden IN and 6 empty OUT = circa 26550tpa
 - Assume HGV 32t (Average Payload 16t): Daily 14 laden IN and 14 laden OUT = circa 66080tpa (IN part of backhaul)
 - Total Material in = 92,630tpa

5.3.2 To calculate the likely peak period trips for materials, it is assumed that trucks will arrive and depart at a steady rate throughout the day. This equates to approximately 6 two-way trips per hour through the operational hours of 0700 to 1800, including for the 0800-0900 AM peak period. Trips are expected to slightly less for the 1700-1800 PM peak period of 4 two-way.

5.3.3 The trips forecast for the minerals extraction and infill operations at the proposed development are shown in Table 5-1 below.

Trucks	IN	OUT	TOTAL
			(2-way)
AM (0800-0900)	3	3	6
PM (1700-1800)	2	2	4
Daily	25	25	50

Table 5-1: Proposed trips for materials (trucks)

5.3.4 The site is anticipated to be operate between 0700 and 1800 weekdays and between 0730 and 1300 on Saturdays, with staff arriving and departing at staggered times in the AM and PM hours. This will mean all staff will have arrived on site before 0900 and the final members of staff will leave during the PM peak hour. The trip forecast for staff and visitors are shown in Table 5-2 below.

Cars & vans	IN	OUT	TOTAL
			(2-way)
AM (0800-0900)	2	0	2
PM (1700-1800)	0	2	2
Daily	8	8	16

Table 5-2: Proposed trips for staff and visitors (cars and vans)

5.3.5 This analysis shows that the operations on site would involve 50 two-way truck movements per day. In addition, there would be a small amount of trip generation from staff to the site. Using the modal split from Chorley that can be seen below, it has been assumed that of the 10 staff that will be present on site, 8 members will drive to the site. This will provide an additional 8 IN and 8 OUT (16 2-way) vehicle movements.

5.4 Modal Split

5.4.1 The mode split for site staff has been derived from census data for the Chorley ward. This is shown in Table 5-3. Car driver trips make up 76% of all trips to work for the ward, 6% are as a car passenger, 10% on foot and 2% by bicycle. These mode splits may be applicable to staff travelling to Gale Moss, Chorley. However, the site-specific constraints for travel by sustainable modes identified in Chapter 4 need to be considered.

Mode	Persons	%
Underground, metro, light rail	34	0
Train	1298	2
Bus	1596	3
Taxi	157	0
Motorcycle	381	1
Car Driver	38472	76
Car Passenger	3027	6
Bicycle	779	2
On foot	4912	10
Other	237	0
Totals	50893	100

Table 5-3: Mode Split (based on Census journey to work data for Chorley ward)

5.5 Trip Distribution

5.5.1 The distribution of trips to and from the site has taken into account the prevailing traffic conditions and considered the likely attraction of trips to key settlements and the strategic road network within and beyond Chorley. The exact distribution is unknown and will depend on where orders for aggregates comes from. However, the following trip distribution is felt to be representative of where construction works are likely to happen and has been applied for the traffic impact work:

- Towards Blackburn East 33%
- Towards Manchester South 33%
- Towards M61 Preston North 33%

5.5.2 A small amount of traffic may travel in a west direction; however, this will only be a small amount.

5.5.3 As can be seen from the above, the development traffic is forecast to be distributed equally between north and south on the M61 and the A674 to Blackburn.

6 TRAFFIC IMPACT ASSESSMENT

6.1 Introduction

6.1.1 This chapter reports on the work undertaken to assess the impact of traffic of the proposed development. A link assessment has been undertaken to consider the operational performance of the local road network. This has involved a comparison between the base traffic flows and forecast traffic flows ‘with development traffic’ on the A674.

6.2 Link Assessment

6.2.1 A link assessment has been undertaken for the purpose of assessing the traffic impacts of the proposed development on the surrounding highways network.

6.2.2 A standard approach to link assessment is to consider the impact of development traffic against the base traffic flows for the year of opening of the proposed development as this is when the greatest proportional increase will take place. The links chosen for the assessment are those that will be most impacted upon by the development.

6.2.3 A qualitative appraisal of the traffic impact has been undertaken using the significance criteria set out below. Significance can be classified as either ‘beneficial’ or ‘adverse’. Such criteria are typically used in qualitative assessments for Environmental Impact Assessments.

Significance	Criteria
Major	Represented as a change in traffic flows or HGV movements over baseline of 60-90% for medium sensitivity receptors.
Moderate	Represented as a change in traffic flows or HGV movements over baseline of 30-60% for receptors of medium to high sensitivity
Minor	Represented as a change in traffic flows or HGV movements over baseline of 30-60% for receptors of some sensitivity.
Negligible	Represented as a change in traffic flows or HGV movements of less than 10% of the baseline for receptors of very low sensitivity.

Table 6-1: Appraisal Criteria

Note: Based on ‘Guidelines for the Environmental Assessment of Road Traffic’ (Institute of Environmental Assessment, 1992) and amended with traffic flow significance.

6.2.4 A comparison of the daily traffic link flows has also been undertaken for the year 2021 for the A674 identified link. The additional development traffic has been added to the data from

the ATC survey that was carried out between 18/05/21 to 24/05/21. The results can be seen below in Table 6-2.

Link	Base 2021	With Dev. 2021	Net with Dev. increase	% With Dev. change	Impact Assessment
Link 1: A674	9388	9438	50	0.53%	Negligible

Table 6-2: Comparison of daily link flows 2021 (2-way)

6.2.5 Table 6-2 shows that a ‘negligible adverse’ impact can be anticipated to the identified links over the course of a day. The level of trips forecast from the proposed development is considerably less than likely weekday variations in traffic (calculated as <7% variations in daily traffic flow based on the ATC data). The traffic impact on the surrounding links throughout the day can be considered to be negligible.

Link	HGV Base 2021	HGV With Dev. 2021	Net with Dev. increase	% With Dev. change	Impact Assessment
Link 1: A674	1054	1104	50	4.5%	Negligible

Table 6-3: Comparison of daily HGV link flows 2021 (2-way)

6.2.6 Table 6-3 shows that a ‘negligible adverse’ impact can be anticipated to the identified HGV links over the course of a day. The level of trips forecast from the proposed development is considerably less than likely weekday variations in traffic (calculated as <7% variations in daily traffic flow based on the ATC data). The traffic impact on the surrounding links throughout the day can be considered to be negligible.

6.2.7 The assessment of traffic impacts to links demonstrates that there will be no detrimental impact upon the flow along the A674.

Additional development HGV traffic to baseline HGV traffic

6.2.8 Figure 6-1 shows the two-way traffic flow data for when the development traffic HGVs have been added to the baseline traffic data. The figure shows that the busiest day is a Tuesday with approximately 1117 HGVs two-way of which 50 are development traffic HGV trips.

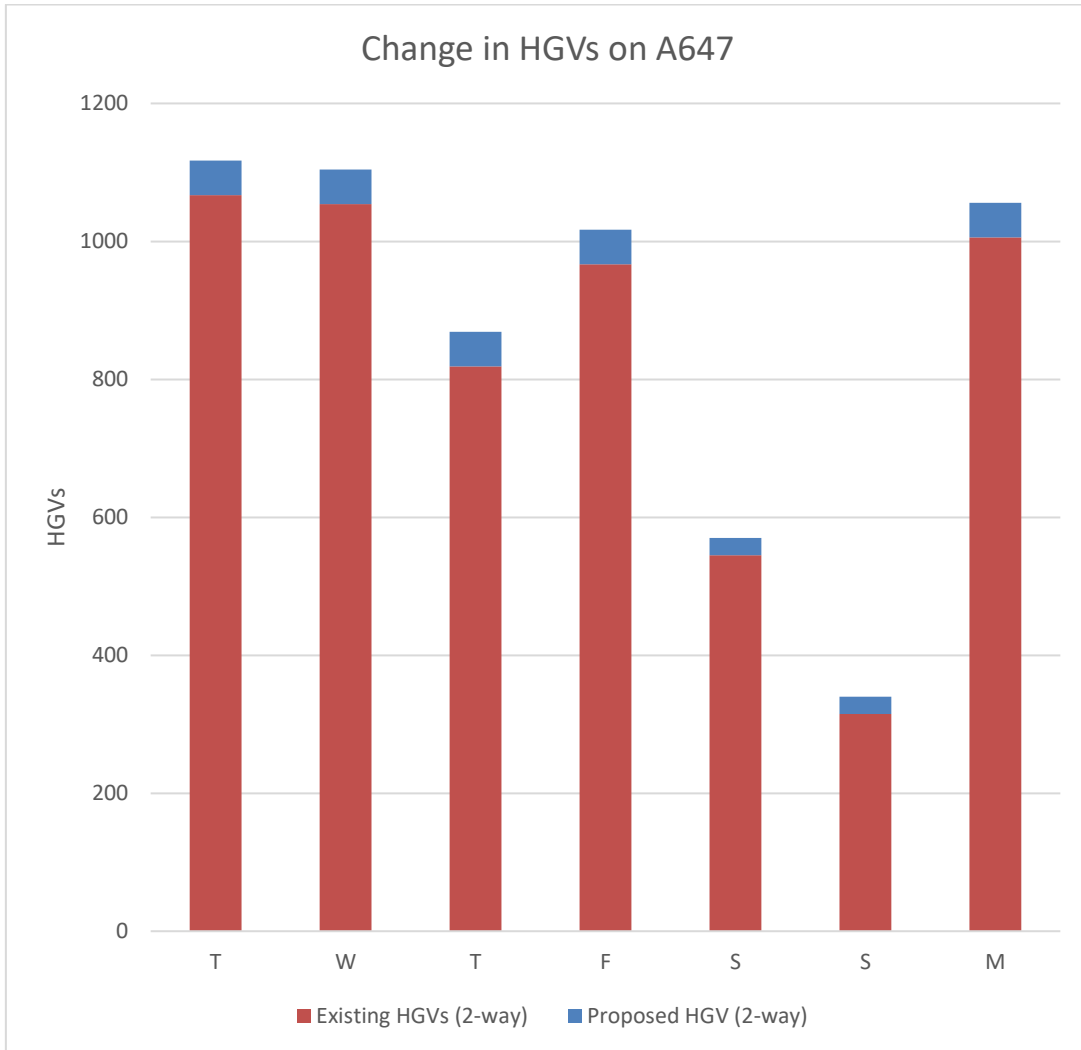


Figure 6-1: A674 Chorley daily traffic flows with additional development traffic

6.2.9 The graph shows that the addition of the development traffic is only a small proportion of the overall HGV traffic on any day of the week.

6.3 Summary

6.3.1 This chapter has examined the increase in the development traffic on the local road network immediately outside of the site where the development traffic will be the most intensive. It has found that the development will represent only a small increase in daily traffic numbers that will be less than the daily variations in baseline traffic. Therefore, the impacts of the development traffic should be imperceptible.

7 MITIGATION

7.1 Introduction

7.1.1 Whilst it is expected that there will be no perceptible impacts from the development, the following measures will contribute to the management of trips from the site.

7.2 Vehicle Routing

7.2.1 Information will be provided to hauliers showing, for example, maps of the preferred routes to the site, where to unload on arrival, contact information etc. The site will tend to have regular haulage suppliers who will be familiar with the arrangements for site access. However, all new hauliers will be provided with the information, either as information packs or via a website.

7.2.2 The vehicle movements to and from the Gale Moss site will be monitored. Vehicles will be logged in to and out of the site including details about what they are carrying, the vehicle type and load weight.

7.3 Construction Traffic Management Plan

7.3.1 This section sets out the transport issues associated with the construction phase of the development. It reflects the limited information that is available about the construction of the proposed development at the pre-consent stage. Following consent, details about the construction phase will be worked up with a preferred contractor. This will include a Construction Traffic Management Plan (CTMP). Construction of the site though is expected to be minimal with surfacing of the access road, creation of stoned-up haul roads, site office and welfare facilities, parking and other ancillary uses.

Interface Between On-site and Off-site Road Movements

7.3.2 Wheel washing and dust suppression measures will be implemented. Wheel washing will minimise the spread of materials from the areas of excavation and construction. Dust suppression will consist of damping down dust accumulation from loads and on surfaces.

Monitoring and Management

7.3.3 The CTMP will be managed and monitored to ensure it remains effective. A record of all deliveries will be kept at a point of delivery and will include origin of the materials. Monthly reports will be produced showing the number and type of deliveries and this will be checked against the CTMP. The monthly reports will identify any required changes to the CTMP.

Mitigation

- 7.3.4 The construction, and on-going operation, of the site will utilise the access from the A674 4-arm roundabout. It will be possible to create a safe construction access at this location from the outset.
- 7.3.5 Prior to construction on site, the CTMP will be prepared. Other stakeholders may be consulted in its preparation e.g. the police. The CTMP will typically include the following:
- A programme of construction works and anticipated deliveries;
 - A route plan for all contractors and suppliers to be advised on;
 - Identification of appropriate signage and their locations;
 - Timings of deliveries so as to avoid where possible peak traffic periods;
 - A framework for managing abnormal loads;
 - Wheel cleaning and dust suppression measures; and
 - Temporary traffic management measures where necessary.

8 SUMMARY & CONCLUSIONS

8.1 Summary

- 8.1.1 Callidus Transport and Engineering Ltd (the consultant) has been commissioned by The Mineral Planning Group Ltd (the client) on behalf of the applicant to provide transport advice in support of a planning application for a proposed sand and gravel extraction site at Gale Moss, north of Chorley.
- 8.1.2 This report represents the Transport Statement (TS) to support the proposed development, which will consist of approximately 160,000 tonnes of sand and gravel extraction and restoration of the site back to agriculture use. Annual output is envisaged to be some 75,000 to 150,000 tonnes a year with similar input, giving a site lifespan of approximately 4 to 6 years, where extraction and restoration will have some concurrent activity. The site has a proposed extraction area of 9.9 hectares.
- 8.1.3 A single Public Rights of Way footpath (9-2-FP-26) currently crosses the site. This is to be retained in the scheme.
- 8.1.4 There is a current access to the site that is to remain off the A674 4-arm roundabout. This is positioned approximately 250 metres east of the M61. The proposed site access off the 4-arm roundabout will form the only point of access and will be gated, the gates being open during working hours and closed outside of working hours.
- 8.1.5 The swept path analysis shows the internal movements for a Tipper truck and a 15.5m articulated vehicle. The swept paths show that each vehicle can access the site using the current access arrangement and enter the site with no issues. The swept paths also show that there are no issues with respect to internal movements within the site and the vehicles can access the given area for the weighbridge and office once an internal road is constructed. The vehicles have also been tested with respect to the current 4-arm roundabout. This analysis showed no issues with regards to movements to and from the site using the 4-arm roundabout.
- 8.1.6 Botany Bay located directly opposite the site has a mixed use development proposal that is awaiting planning consent. This involves 10 independent blocks that have a B2 and B8 use. The capacity for the 4-arm roundabout from which the site and the Botany Bay development will take access has been tested by the Botany Bay applicant for the years 2022 and 2027 for the proposed trips generated by the Botany Bay development. This capacity analysis showed no capacity related issues with respect to the Botany Bay

development. The capacity analysis showed that there was spare capacity forecast within the junction. This will be more than sufficient to accommodate the additional development traffic produced from the sand and gravel extraction.

- 8.1.7 Relevant national and local policies have been reviewed in the TS. The production of the TS is in line with the NPPF good practice and the County Council's Minerals and Waste Plan.
- 8.1.8 Sustainable transport has been assessed for the local transport network around the site for the use of staff working on the site. A bus stop is located approximately 700m away, providing services towards Blackburn and Chorley. There is also a train station located with a walk time of approximately 45 minutes, providing services to and from Preston and Manchester. The site is also accessible by cycling, as there is an off-road cycle path that runs along the A674 providing connections to the east (and south on the canal) and west.
- 8.1.9 A review of road accidents has been undertaken for injury accidents reported in the last five years. For the section of the A674 considered, 3 accidents were recorded, involving 4 casualties. There were no specific locations where accidents seemed to be occurring according to any discernible pattern.
- 8.1.10 Baseline traffic data has been assessed by carrying out an Automatic Traffic Counter for a 7-day period along the A674. The results showed that the busiest day was a Wednesday with approximately 9388 two-way vehicles trips, with 1054 of these being HGV trips.
- 8.1.11 The development has been forecast to generate in the order 50 two-way truck movements per day (25 IN and 25 OUT). In addition, there would be a small amount of trip generation from staff on the site, estimated to be in the order of 16 two-way trips per day (8 IN and 8 OUT). Trucks are anticipated to arrive and depart at a steady rate throughout the day, with approximately 6 two-way trips per hour (assumed as a worst-case scenario and representing 3 IN and 3 OUT) through the operational hours of 0700-1800.
- 8.1.12 A link assessment of the A674 has been undertaken to consider the operational performance of the surrounding road network. With the addition of the development traffic added to the observed baseline traffic data, this provides a combined total of 9454 two-way vehicles, with 1104 of these being HGV trips. The developments trips represents an increase in daily trips on this link of 0.53% for 'all-vehicles' and 4.5% of 'HGVs'. Using a qualitative assessment from the IEA, this increase represents a 'negligible' adverse traffic impact.

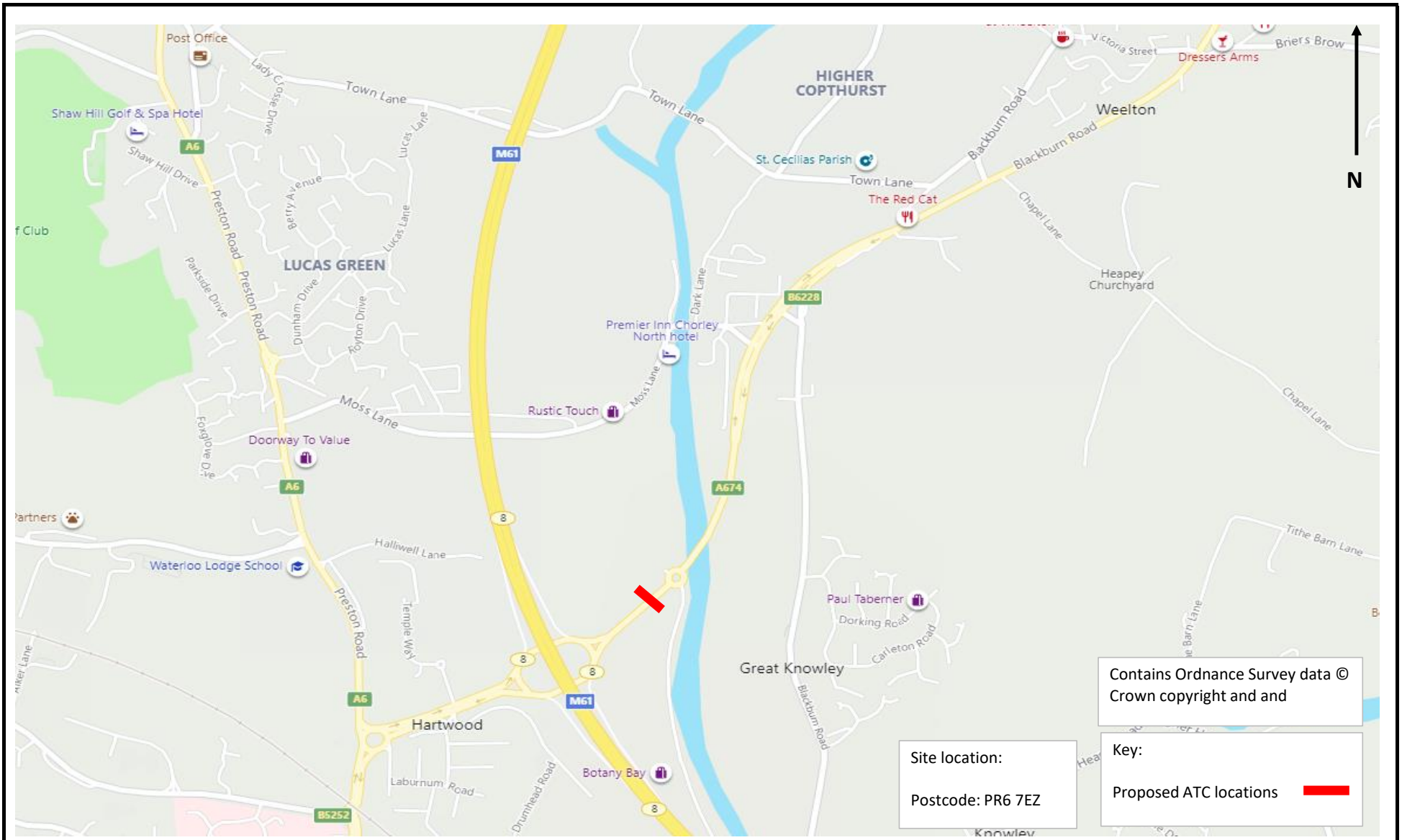
8.1.13 Although the impacts of the development are forecast to be negligible, it is proposed that any impacts are mitigated through vehicle routing to ensure that any heavy goods vehicles use the strategic road network around the site. Furthermore, during the construction stage of the project, a Construction Traffic Management Plan will be prepared to manage the construction traffic phase of the project.

8.2 Conclusion

8.2.1 For the reasons given in this TS, the proposed development represents a modest generator of traffic that will have minimal detrimental impacts on the local highway network. The site is well located to benefit from good access to the strategic road network for the HGV traffic that it generates. Furthermore, it has good access to alternative sustainable modes that will benefit employees of the site. Therefore, there should be no reasons on transport and highways grounds why this proposal should not be acceptable to the determining Authority.

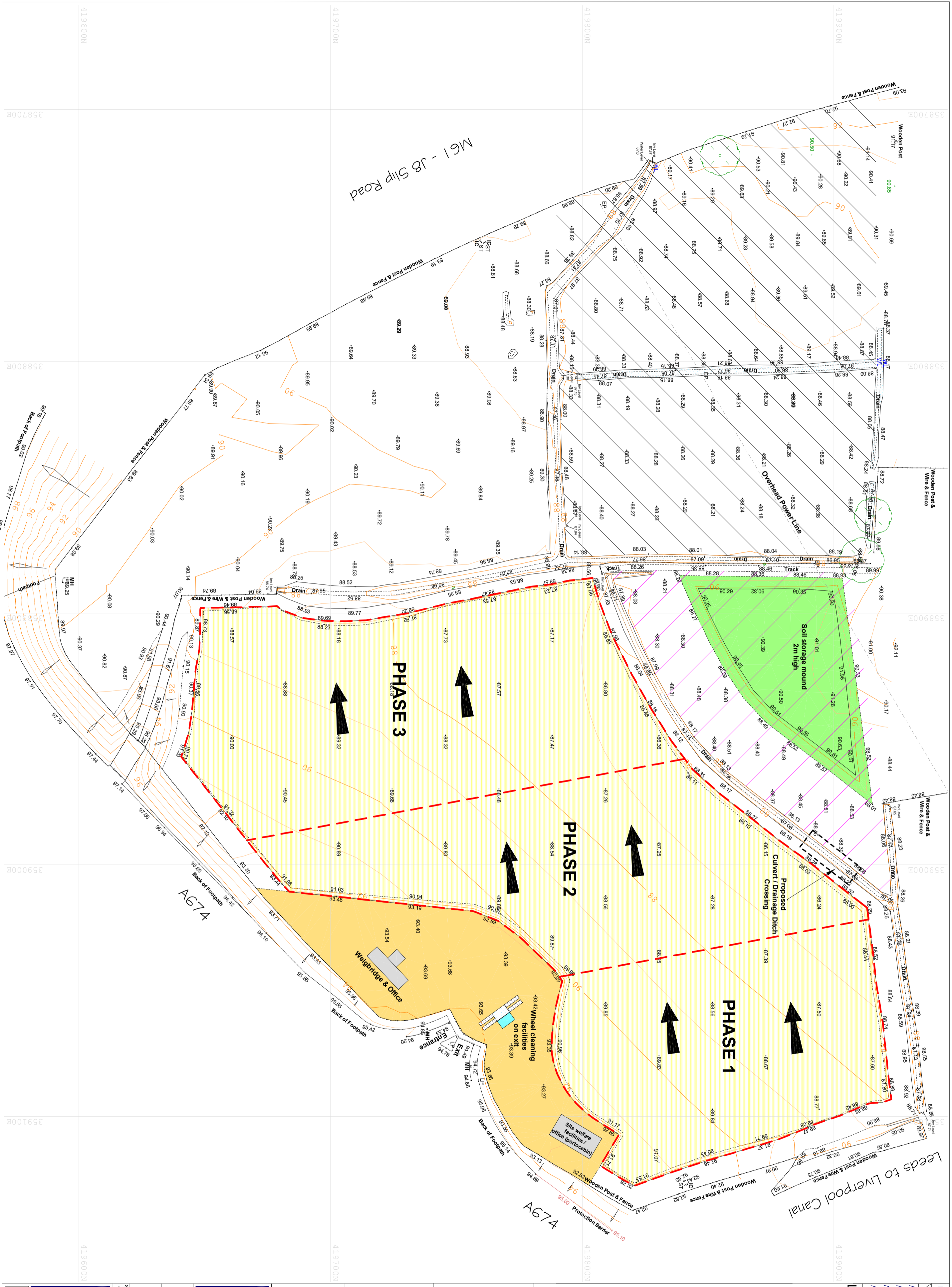
APPENDIX A

FIGURES



Title: ATC Survey Schedule

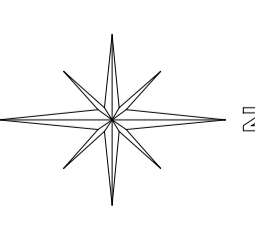
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Job Number:	TE1504	
Client:	The Mineral Planning Group Ltd	
Status:	Planning	Figure No:
Scale:	NTS	4



REVISIONS		
Date	Description	By

- Legend:**
- Proposed Mineral Extraction Area
 - Approximate Compound Area - Hand-drawn
 - Screening Bunds (Striped Soils)
 - Paity Area
 - Northern Area
 - Top of Banking
 - Bottom of Banking
 - Manhole
 - Key - Top
 - IC
 - Inspection Cover
 - British Telecom Cover
 - Key - Channel
 - BT
 - Key - Fence
 - LP
 - Lamp Post
 - Key - Fence - Post & Wire
 - EP
 - Electric Pole
 - Key - Track / Footpath
 - ST
 - Slip Trip
 - Key - Wall
 - GV
 - Gate Valve
 - Key - Edge of Waterline
 - WL
 - Water Level
 - Key - Overhead Cable
 - CL
 - Cable Level
 - Key - OS Boundary
 - EL
 - Earth Level
 - Key - Building Structure
 - RL
 - Ridge Level
 - Key - Invert Level
 - BH
 - Benchmark / True RI
 - Key - Cover Level
 - IL
 - Invert Level
 - Key - 1:33.92
 - Spd Level
 - Key - Survey Control Station
 - Top of Rock Face

Datum: Levels relative to Ordnance Survey by connection to OS Active Network by GPS



LINEAR
surveys

LINEAR SURVEYS LIMITED
23 Knowler Way
West Yorkshire
WF15 9DS
Tel: 01274 893388
Mob: 07854545452
e-mail: linear@linear.co.uk

Client
Mineral Planning Group Ltd

Job Title
Gale Moss, Chorley

Project Title

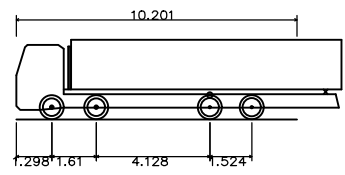
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Drawn title
Mineral extraction design to 1m above ground water table

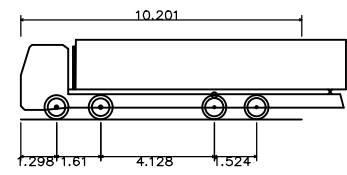
DWG No
MPG/GM/22-03

APPENDIX B

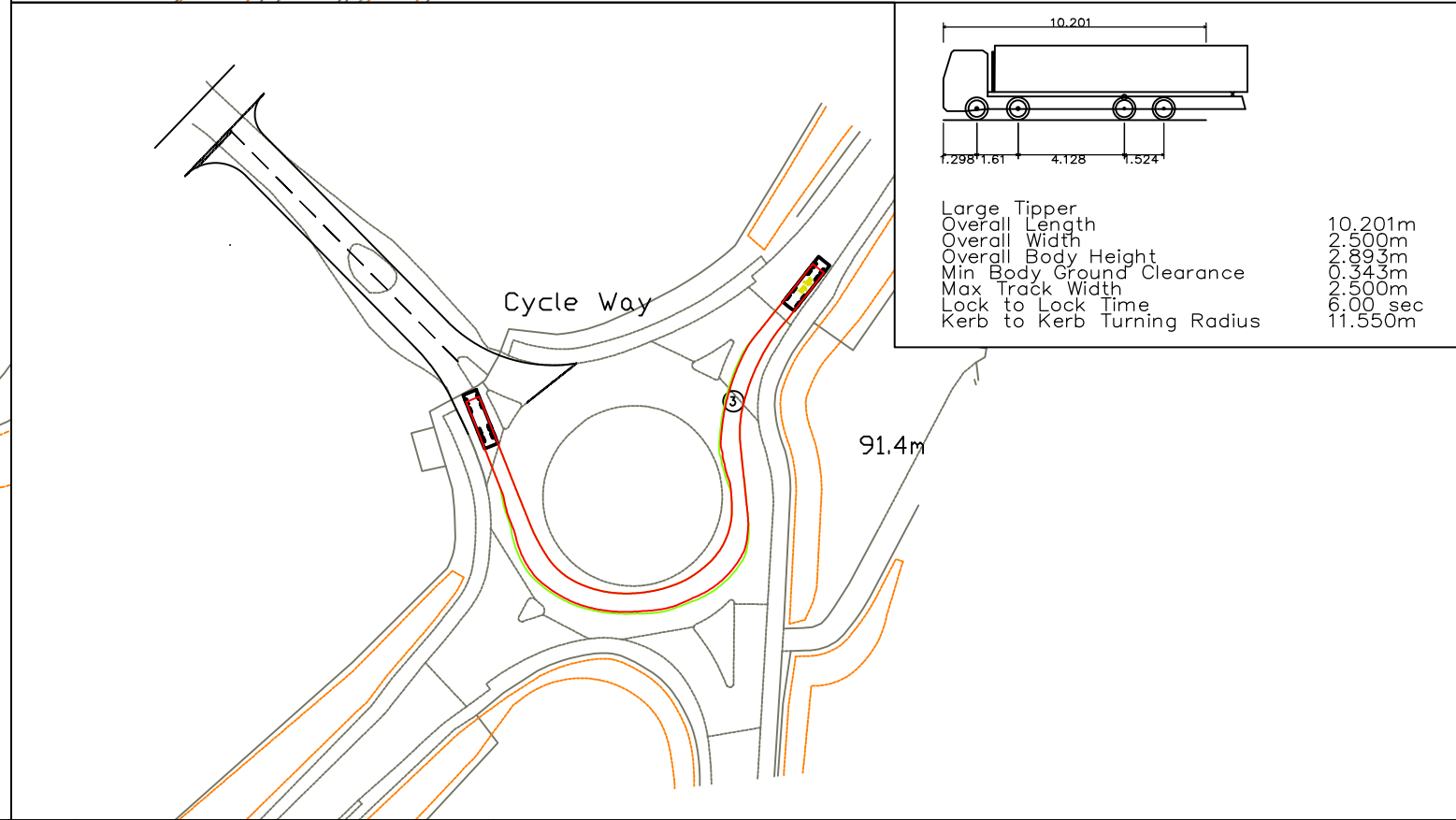
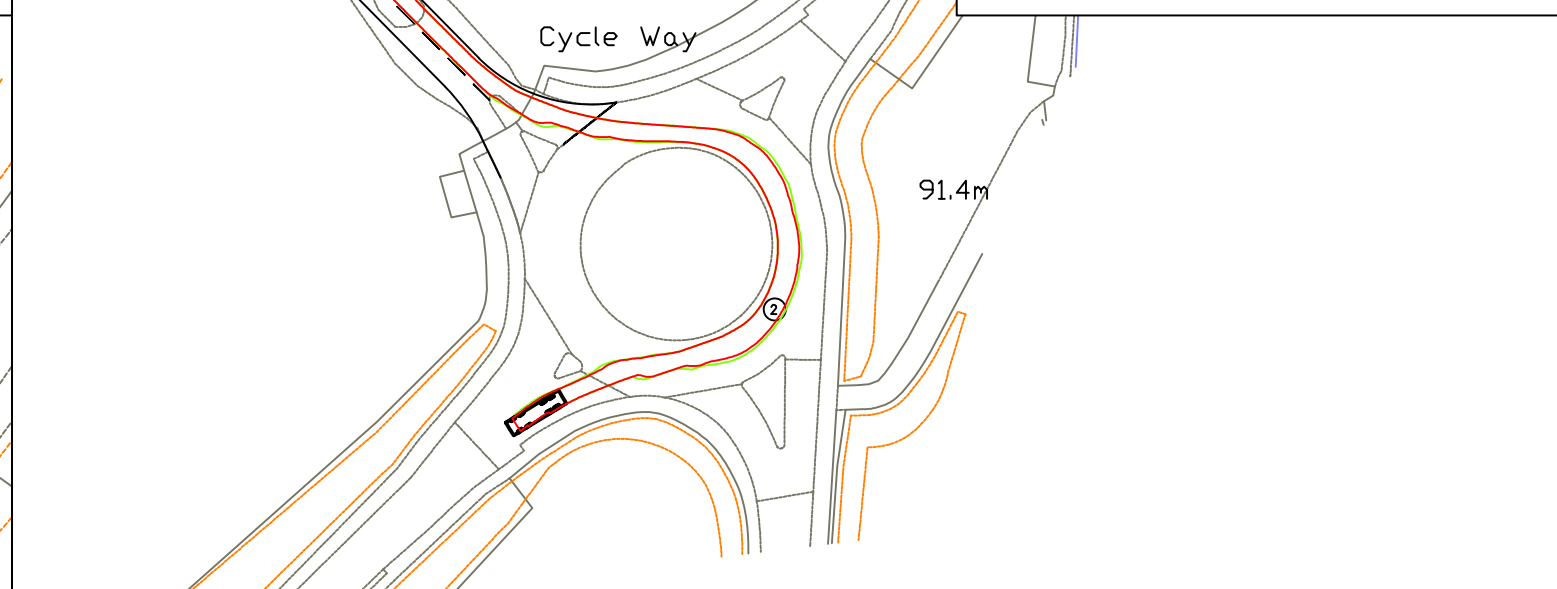
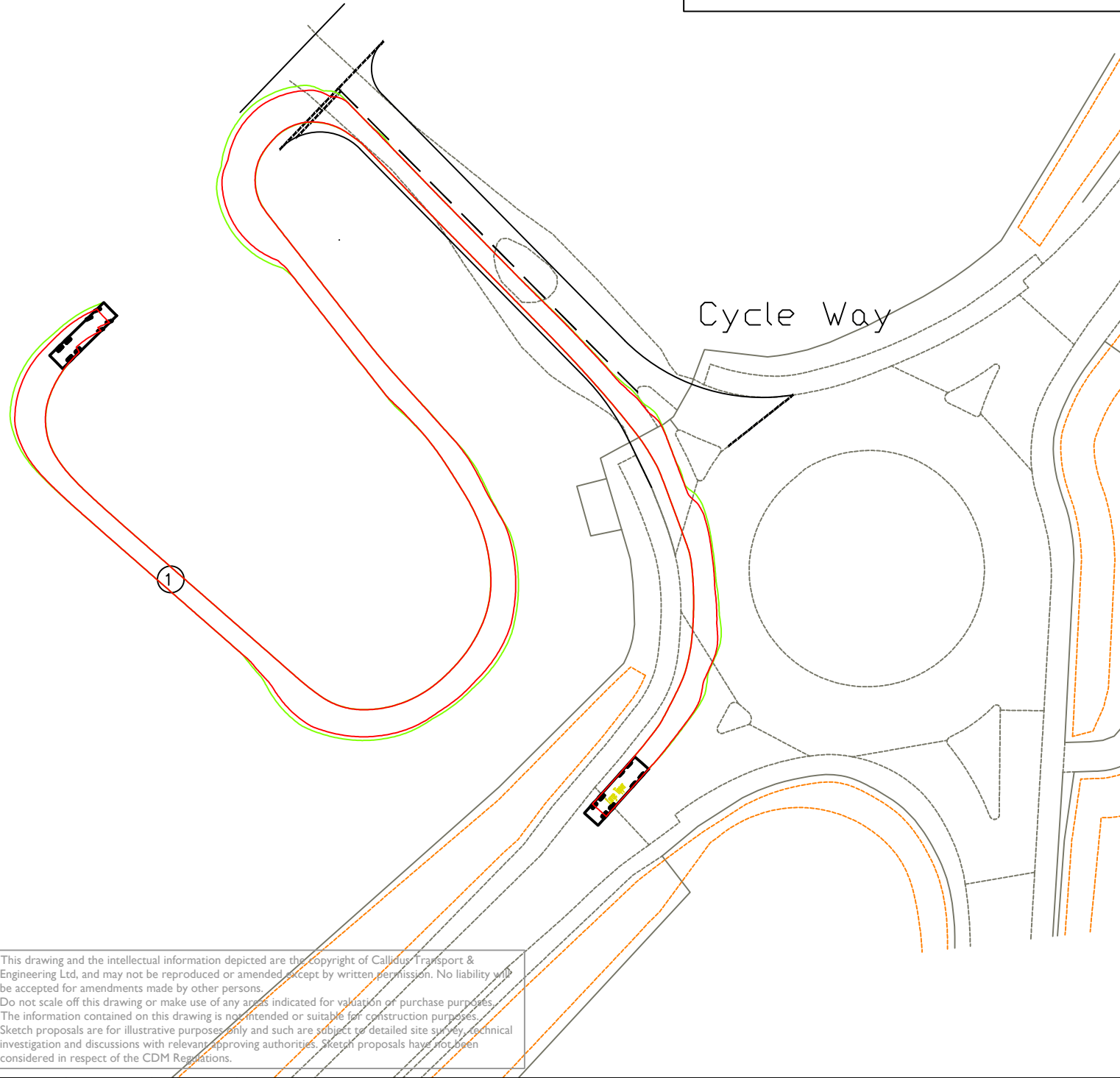
DRAWINGS



Large Tipper
 Overall Length 10.201m
 Overall Width 2.500m
 Overall Body Height 2.893m
 Min Body Ground Clearance 0.343m
 Max Track Width 2.500m
 Lock to Lock Time 6.00 sec
 Kerb to Kerb Turning Radius 11.550m




Large Tipper
 Overall Length 10.201m
 Overall Width 2.500m
 Overall Body Height 2.893m
 Min Body Ground Clearance 0.343m
 Max Track Width 2.500m
 Lock to Lock Time 6.00 sec
 Kerb to Kerb Turning Radius 11.550m



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REVISIONS				

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 E info@callidusgroup.co.uk
 W www.callidusgroup.co.uk
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Callidus Project No: TE1504

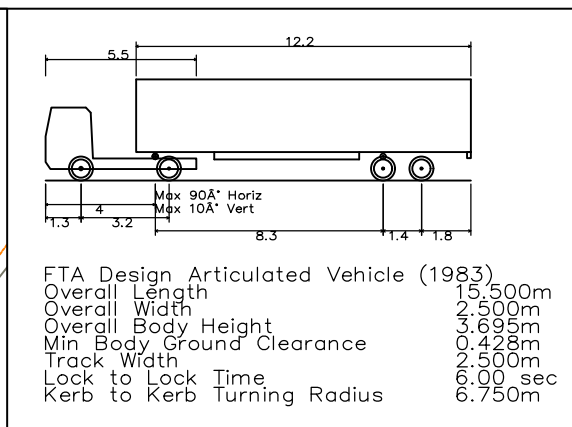
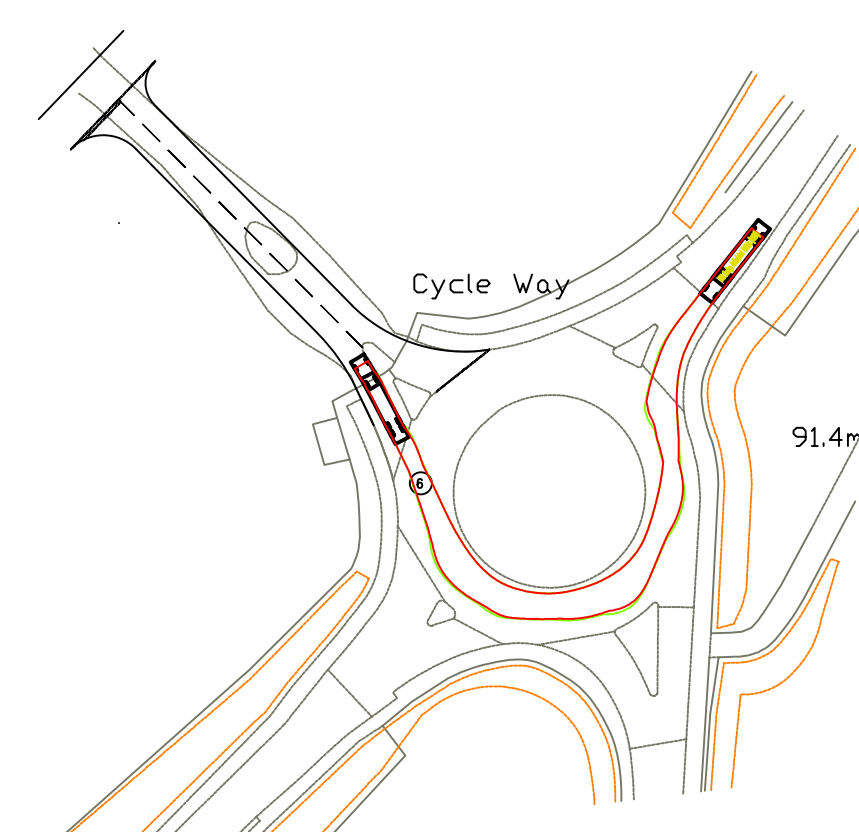
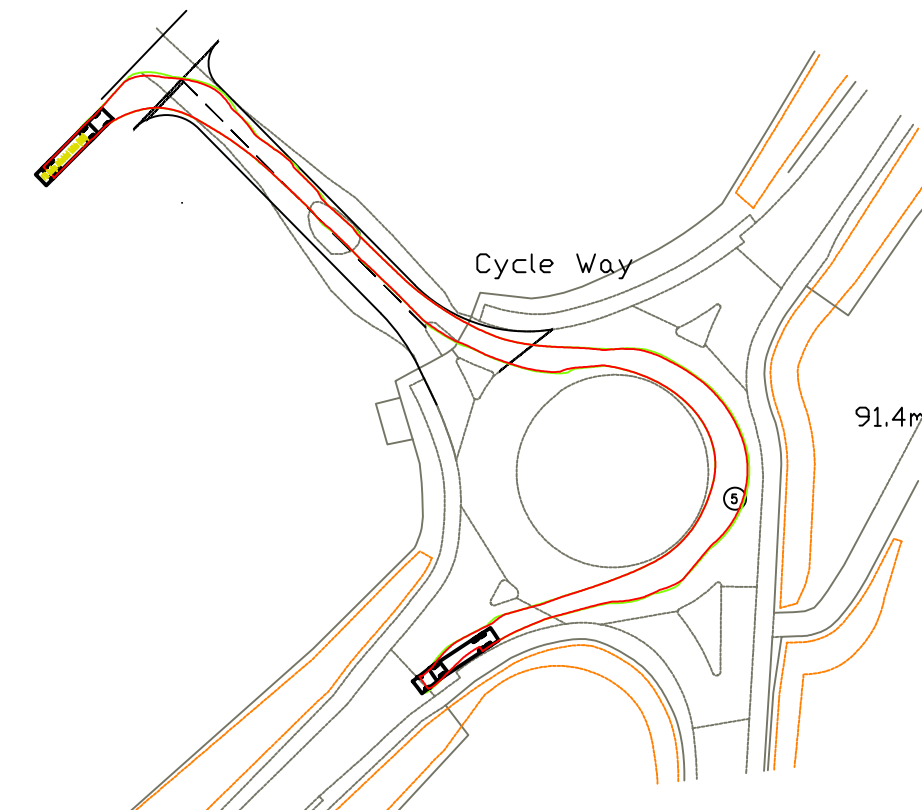
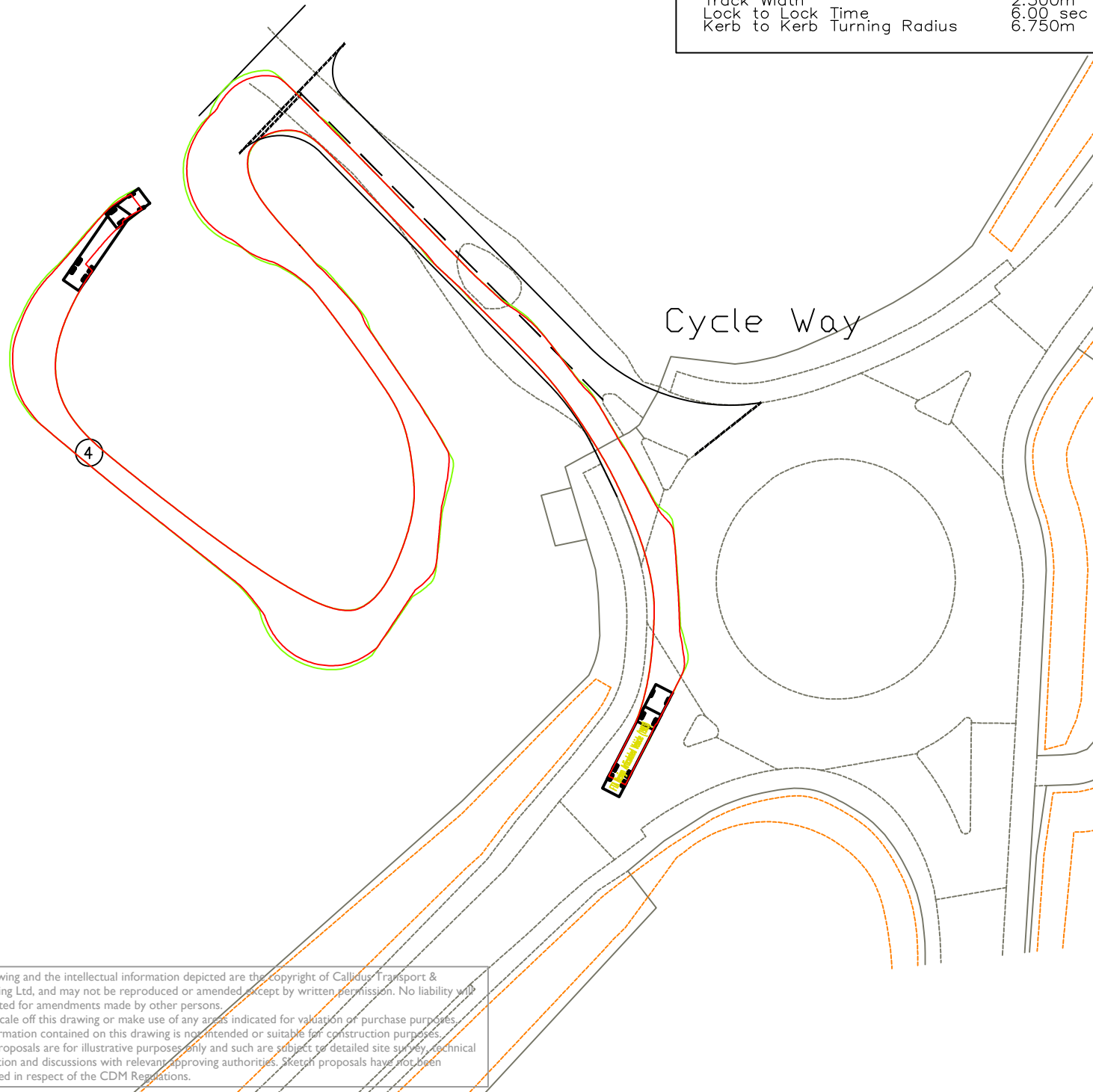
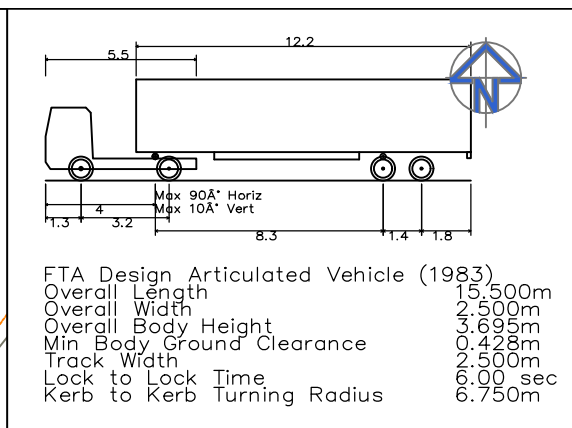
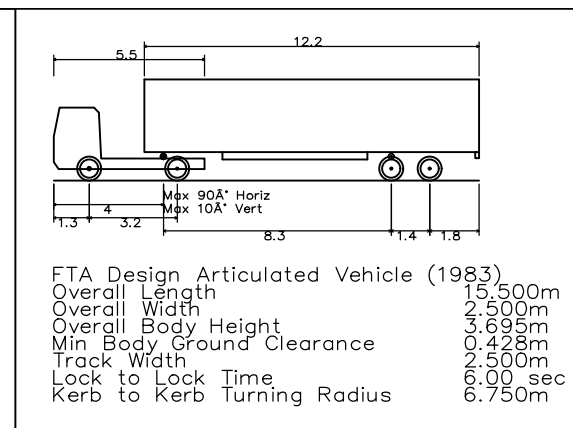
Dwg. No: I504-CAL-VI-ZZ-DR-D-0001

Project Title: Gale Moss, Chorley

Drawing Title: Tipper Swept Path Analysis

Client: The Mineral Planning Group Ltd

Rev:	P01
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REVISIONS				

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Callidus
Transport & Engineering

Callidus Project No: TE1504

Dwg. No:	I504-CAL-VI-ZZ-DR-D-0002	Rev:	P01
Project Title:	Gale Moss, Chorley		
Drawing Title:	15.5m Artic Swept Path Analysis		
Client:	The Mineral Planning Group Ltd		

APPENDIX C

CORRESPONDENCE

Subject: FW: Gale Moss, Chorley

From: Hope, Rob [<mailto:Rob.Hope@lancashire.gov.uk>]

Sent: 21 May 2021 11:34

To: david.cox@callidusgroup.co.uk

Subject: RE: Gale Moss, Chorley

Hi David

The Highways officer is on sick leave at the moment. You'll just have to follow the comments set out in his initial consultation response. I've copied them below:

'I've had an initial look at the information submitted in support of this application and find I lacking in detail.

The scoping response clearly states a Transport Assessment should be submitted – this is not included in the documentation on the website – has one been submitted?

Given the nature of the of the development highway capacity is not an issue and as such I would accept a Transport Statement.

The TS should include;

- *a road safety review of the A674 in the vicinity of the site*
- *swept path analysis of the site access and roundabout*
- *details of access control*
- *details of wheel wash facilities*
- *details of internal road ways*
- *comment on impact of committed developments (Botany Bay)*
- *details of PROW diversion*
- *breakdown of vehicle movements*
- *vehicle routeing details*

Without a Transport Statement the development proposal cannot be fully assessed.'

Thanks

Rob Hope
Principal Planning Officer
Development Control Group
Lancashire County Council
County Hall
Preston
PR1 0LD

01772 534159

rob.hope@lancashire.gov.uk

From: David Cox <david.cox@callidusgroup.co.uk>
Sent: 21 May 2021 10:41
To: Hope, Rob <Rob.Hope@lancashire.gov.uk>
Cc: james.lister@callidusgroup.co.uk; robert.spriggs@callidusgroup.co.uk
Subject: Re: Gale Moss, Chorley

Good morning Rob,

Callidus Transport & Engineering Ltd has been appointed by our client, MPG Ltd, to prepare the transport evidence in support of the above proposed development for sand and gravel extraction, detailed in planning application reference number LCC/2021/0007.

We would like to scope the extent of the transport work required with the relevant case officer for the Highways at Lancashire County Council.

Are you able to provide contact details for the highways case officer on this application?

Thanks in advance.

Kind regards,

David

DAVID COX
SENIOR TRANSPORT PLANNER



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www.callidusgroup.co.uk

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APPENDIX D

TRIP GENERATION

Table 1: 2-year operation

Operator	Vehicles		Laden		Route	Average Daily Trips (vehicles)			Average Hourly Trips (vehicles)			Average Daily Material		Annual Material (tonnes)		Comments
	Type	Payload (t)	IN	OUT		IN	OUT	2-Way	IN	OUT	2-Way	IN	OUT	IN	OUT	
HGV	32 t	22	Empty	Laden		5	5	10	0.6	0.6	1.1	0	110	0	32450	
HGV	32t	16	Laden	Laden		14	14	28	1.6	1.6	3.1	224	224	66080	66080	Backhaul
HGV	26t	15	Laden	Empty		6	6	12	0.7	0.7	1.3	90	0	26550	0	
			Laden	Empty		0	0	0	0.0	0.0	0.0	0	0	0	0	
								0	0.0	0.0	0.0	0	0	0	0	
TOTAL						25	25	50	3	3	6	314	334	92630	98530	

Callidus

TRANSPORT

HIGHWAYS

DRAINAGE

FLOOD RISK

PLANNING SUPPORT SERVICES



Callidus Transport & Engineering Ltd

3 Princes Street, Bath, BA1 1HL

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APPENDIX A: Lancashire County Council Screening Opinion

LANCASHIRE COUNTY COUNCIL'S SCREENING OPINION ON:

THE EXTRACTION OF SAND AND GRAVEL AND RESTORATION WITH IMPORTED INERT WASTE ON LAND TO THE NORTH EAST SIDE OF JUNCTION 8 OF THE M61, GALE MOSS, CHORLEY

Applicant's Proposal

A screening opinion is requested for the extraction of sand and gravel and restoration with imported inert waste at a site with an area of 7.85 hectares. The applicant estimates that approximately 300,000 tonnes of sand and gravel would be extracted to a depth of around 4m, with a similar tonnage of infill.

The extraction rate is anticipated to be 75,000 to 150,000 tonnes per year over the course of 2-4 years. Restoration would be at the same rate, but that would follow on after extraction has been completed. The applicant anticipates that the development would be completed within approximately 6-8 years.

Observations on Selection Criteria for Screening Schedule 2 Developments

The proposed development would relate to a type set out in Schedule 2 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Schedule 2, Paragraph 2(a) refers to *Extractive Industry*, and Paragraph 11 (b) refers to *'Installations for the disposal of waste'* for a site over 0.5 ha or within 100m of controlled waters.

Planning guidance set out in the *Planning Practice Guidance* (PPG) to accompany the *National Planning Policy Framework* includes indicative criteria and screening thresholds and states that quarries covering more than 15ha or involving the extraction of more than 30,000 tonnes of mineral per year are more likely to require Environmental Impact Assessment. It advises that the likelihood of significant effects will tend to depend on the scale and duration of the works, and the likely consequent impact of noise, dust, discharges to water and visual intrusion. In respect of the disposal of waste the PPG states that in relation to installations for the disposal of non-hazardous waste, sites seeking only to accept inert wastes are unlikely to require EIA. The key issues to consider could be the scale of the development and the nature of the potential impact in terms of discharges, emissions or odour.

Characteristics of the development

a) Size and design of development

See 'applicant's proposal' above.

b) Cumulative impact with other development

The nature of the proposal would mean that significant environmental effects through cumulative impacts would be unlikely. There are no other mineral extraction or waste disposal developments taking place in the vicinity of the site.

c) Use of natural resources

The application would involve the extraction of natural resources.

d) Production of waste

Any extracted mineral waste would be utilised within the site as part of the overall restoration.

e) Pollution and nuisance

Elements of the proposed development would have the potential to generate noise and dust impacts through the operation of plant and machinery within the quarry, and the movement of HGV's to and from the site. Consideration of these impacts must take into account the proximity of sensitive receptors. However, the site is located next to the M61 Motorway and the A674 where existing noise levels are significant.

Water pollution could be caused through the leakage and spillage of fuel and lubricant from mobile plant and haulage vehicles, contaminated waste materials, and from sediment laden surface water discharges. The hydrogeological environment would need to be fully understood as watercourses/drains run through the site and the site is adjacent to the Leeds-Liverpool Canal. It is likely that a hydrogeological assessment would be needed to establish fluctuations in groundwater levels through the year. There may also be Environmental Permitting issues associated with the importation of waste materials.

f) Risk of major accidents and/or disasters

The potential risk is considered to be low.

g) Risks to human health

The proposed development would be unlikely to pose a risk to human health so long as adequate pollution control measures would be employed.

Location of the development

a) Existing and approved land use

The site is known as Gale Moss, which is currently agricultural land occasionally used as the location for weekend car boot sales. The land is allocated in the Chorley Local Plan as Employment Land and it also falls within a mineral safeguarding area. Fields to the north are in Green Belt but would not form part of the proposal. The site has outline planning permission for employment use (Use Classes B2 and B8) with associated highways, landscaping provision and ancillary development. All matters are reserved except for access, which is proposed off the existing A674 roundabout (ref. 17/00713/OUTMAJ – Chorley Council).

b) Quality and regenerative capacity of natural resources in the area

Appropriate and acceptable restoration of the quarry could provide habitat opportunities and/or reinstated reusable pasture land. However, the longer term end use of the site could be determined by the approval of planning permission details

associated with employment land development, and subsequent implementation of that permission.

c) The absorption capacity of the natural environment

The development would be unlikely to have any significant impact on designated wetlands, coastal zones, mountain and forest areas, nature reserves and parks or landscapes of historical, cultural or archaeological significance.

Characteristics of the potential impact

a) The magnitude and spatial extent of the impact

The extent of the potential impacts would generally be limited to the site and the immediate surroundings.

b) The nature of the impact

Visual Impact

The operational development would be unlikely to generate visual impact to an extent that would warrant environmental impact assessment (EIA). The site is not located within an area that is covered by any higher tier landscape designations and the proposal would be to return the land largely to its previous condition. Following that the site may be developed for employment uses.

Habitat

The site is not subject to any European or national level ecological designations. There is unlikely to be any major areas of ecological potential on the site although a baseline survey would be required as a minimum. There could be some ecological value in the ditches through the site.

Transport

The development would involve traffic movements associated with the export of sand and gravel and the importation of waste materials. However, access would be to an A-road via an existing roundabout and close to a motorway junction. A traffic assessment would be required but impacts are unlikely to be environmentally significant.

Cultural Heritage

Impacts on features of cultural significance are unlikely.

c) The transboundary nature of the impact

There is no likely potential for impacts of a transboundary nature.

d) The intensity and complexity of the impact

The proposed development would not be of a significant intensity or complexity.

e) The probability of the impact

The probability of a likely significant adverse environmental effect is low.

f) The expected onset, duration, frequency and reversibility of the impact

Although minerals would be removed from the site, the impact of the proposal on the landscape has the potential to be reversed through the implementation of a restoration scheme to return the land to a similar condition to existing. The proposed operations would be anticipated to take 6-8 years.

g) The cumulation of the impact with the impact of other existing and/or approved development

No significant impacts are anticipated.

h) The possibility of effectively reducing the impact.

No significant impacts are anticipated. However, appropriate controls on the depth of working and pollution control measures could be applied.

Conclusion

Overall, it is considered that in view of the scale, location and characteristics of the proposed development and the criteria set out in Schedule 3 of the Regulations it would not be likely to have significant effects on the environment and does not constitute Environmental Impact Assessment (EIA) development. Any potential impacts of the development would be likely to be of local importance; the development would not result in significant effects on environmentally sensitive or vulnerable locations, and would not be likely to have unusually complex or potentially hazardous effects. Any potential impacts could be addressed through the normal planning and Environmental Permitting process.

Screening Opinion

That the proposed development is not EIA Development for the purposes of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

A Mullaney

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APPENDIX B: Surface Water Flood Risk Map

