Environmental Risk Assessment

Folly Farm Waste Management Facility

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[1] Introduction

[1.1] Report Objectives

This Environmental Risk Assessment (ERA) has been prepared by ByrneLooby Partners (UK) Limited (BLP) to support a variation application by Shotley Holdings Limited (SHL, the Operator) to Environmental Permit referenced EPR/SP3239BB for Folly Farm Waste Management Facility (the Site). The Site is currently permitted as an integrated waste management facility which includes an active landfill site, a former unlined landfill site which stopped accepting waste in 2003 (Closed Landfill) and a waste treatment and transfer station.

A permit variation application is being submitted to:

- add a soil wash plant activity to Table S1.1 (activities);
- update the company address.

No changes are being made to the landfilling activities on site. The proposed changes relate to the waste treatment and transfer station only.

The soil wash plant will treat soils, stones and construction and demolition wastes from the existing transfer station to produce a saleable aggregate. The designated location for the soil wash plant is below ground level and screened from external receptors. The soils wash plant will be located adjacent to the already permitted screening plant to reduce on site plant movements. The soils wash plant will be positioned within the waste treatment and waste transfer station boundary as illustrated on drawing reference K6157.1001.

The indicative illustration of the soil wash plant is shown on drawing reference E2186-PD-003-01, the final layout of all elements of the plant will need to be flexible to meet operational requirements.

[1.2] Environmental Risk Assessment

This risk assessment has been undertaken in accordance with the Environment Agency's electronic guidance on 'Risk Assessments for your Environmental Permit'[1] to assess the potential risks associated with the proposed changes to the permitted activities at the site. The guidance requires a risk assessment to be carried out to accompany applications for new, or variations of, bespoke permits.

The guidance identifies the following steps to be taken when presenting the risk assessment:

- Risk/Hazard identification;
- Receptor identification;
- Pathway Identification;
- assessment of the risks which are relevant to the site's activities; and
- consideration of methods for risk mitigation and management controls.

[1] Risk assessments for your environmental permit - GOV.UK (www.gov.uk)

The guidance indicates that the following potential risks should be considered and, where applicable to the activity, assessed:

- any discharge e.g. trade effluent to groundwater or surface water;
- Odour;
- Noise and vibration;
- fugitive emissions including dust, mud and debris, litter, VOCs;
- Pests; and
- Accidents.

The guidance requires that receptors are considered with regard to their proximity to the site, the pathway, the probability of exposure, potential consequences, mitigating management measures and the overall residual risk.

The potential sensitive receptors are detailed in Table 1 in Section 2 of this report and their positions relative to the Site are illustrated on Drawing K6157.1003. The risk assessment includes assessment of the hazards relevant to the Site's activities as identified in the risk assessment tables within Section 3.

[2] Scope of the Assessment

[2.1] Site Details

The Site is situated at National Grid Reference TM 12257 36341 roughly 730m to the south-east of Bentley village, in a predominately rural area comprising agricultural land and small settlements to the east of the Shotley peninsular.

Quarry operations commenced in 1989 with quarried areas restored progressively by landfilling. Landfilling at the site has been developed within two main phases which include:

- Landfilling of Category A & B (i.e. inert and low activity) wastes under WML70687 (EPR/DB3103GA) (hereafter described as the "Closed Landfill") operated as a sand and gravel quarry and then was landfilled between 1991 and 2003, which included discharge consent PRENF/10083 (now revoked);
- Landfilling of non-hazardous and stable non-reactive hazardous (SNRHW) waste under Permit EPR/SP3239BB (the operational "P42 landfill site") within the void space remaining after sand and gravel quarrying.
- Waste recycling and recovery operations were introduced at the Site in September 1998 and initially consisted of sorting, screening and crushing inert wastes into re-usable aggregate and clean soils under the Waste Management Licence EAWML71129 (EPR/WP3498NB).

The Site's permits have been varied numerous times to allow additional waste streams to be accepted and additional treatment activities to be undertaken including open windrow composting and bioremediation. It is understood neither of these activities have commenced. Waste recovery operations are being undertaken above the footprint of the Closed Landfill.

The three separate permits were consolidated in November 2015 into one installation permit EPR/SP3239BB/V009. The latest permit variation was issued in November 2019 (as V011) and updated the operating techniques, removed carbon dioxide limits and amended methane limits.

[2.2] Proposed Operations

A permit variation application is being submitted to extend the waste recycling and recovery operations across the P42 landfill site, Cells 4A and 5a. These cells have been filled using stable non-reactive hazardous wastes (asbestos) to the height of the adjacent waste transfer station in readiness for placing a sealed surface extension area.

The extension area will be approximately an 80m x 80m reinforced concrete pad with sealed drainage which will host a soil washing plant. The waste treatment and waste transfer station boundaries are shown on the Operational Areas Plan (K6157/ENV/001).

Soil Washing

Soil washing is classified by the Environment Agency as a physio-chemical treatment technique. The soil washing process is an additional processing step to the existing soil and aggregate management processes, whereby imported construction and demolition waste are screened to remove hardcore, gravel and sand. The proposed soil washing plant will be used to recover high quality sand and aggregate from incoming soils. The process will comprise of the separation and washing of excavation and demolition waste materials to produce various grades of recycled aggregates and sand.

There is no intention to increase the throughput at the site as part of this permit application.

This application is not intended to wash hazardous soils.

Both inert and non-hazardous construction and demolition waste soils will be processed through the soil washing plant.

General Process

Suitable imported material will be stored in the transfer station on an impermeable concrete surface to avoid potentially contaminated run off. The material will be either directed directly to the soil wash plant or will be treated in the existing transfer station (*i.e*. trommel, picking stations, screener) before being directed to the soil wash plant.

Recoverable fractions (e.g. cobbles, gravel, and sand) will be washed clean of silts and clays. The silts and clays will pass in suspension through a filter press, which will allow the wash water to be returned to the process. Water from the soil washing process and pad area will be contained onsite and recirculated into the soil washing process.

Any recovered material will be stored on site in bays situated on concrete surface, with the intention of these materials being sold as a product. The WRAP (Waste Resources and Action Programme) Quality Protocol[2] sets out end of waste criteria for the production and use of aggregates from inert waste. The Operator intends to use either the end of waste criteria set out within the aggregates

[2] Quality protocol: aggregates from inert waste - GOV.UK (www.gov.uk)

protocol (for inert waste only) or a separate end of waste criteria (for non-hazardous wastes) to demonstrate that the recovered material is no longer a waste.

Surface water run-off from the impermeable surface used to house the soil washing plant and stockpiles will either be

- harvested and re-used within the soils washing plant process; or
- tankered off site for treatment at an appropriate facility.

Any excess water *e.g.* during heavy rainfall events will be captured by the sump which will be suitably sized to manage a 95th percentile rainfall event (54m^3) or within the impermeable surface area prior to management via one of the above routes.

Tonnages

The soil wash plant proposes to process a maximum of 60,000 tonnes per annum of construction / demolition wastes.

Changes to Permit required

As noted, above no additional waste types are required. Table S1.1 of the Environmental Pemit will require updating to include the proposed soil washing activity. It is also proposed to add a new permitted waste types and quantities table for the soil washing activity into Schedule 2.

The proposed waste types are:

- 10 10 08 casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
- 15 01 07 glass packaging
- 17 01 01 concrete, excluding slurry
- 17 01 02 bricks
- 17 01 03 tiles and ceramics
- 17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
- 17 02 02 glass
- 17 03 02 bituminous mixtures other than those mentioned in 17 03 01
- 17 05 04 soils and stones other than those mentioned in 17 05 03
- 17 05 08 track ballast other than those mentioned in 17 05 07
- 19 12 05 glass
- 19 12 09 minerals (for example sand, stones)
- 19 12 12 other wastes from mechanical treatment of wastes other than those mentioned in 19 12 11, specifically construction and demolition waste already treated at the existing transfer station via a trommel / screener / crusher / picking station
- 20 01 02 glass

- 20 02 02 soils and stones

Besides EWC code 10 10 08 and 19 12 12, all of the above waste types are listed as inert within Appendix C of the WRAP Quality Protocol (*Wastes considered to be inert waste for the purpose of this Quality Protocol and to be acceptable for the production of recycled aggregates)*.

Company Address Update
This permit variation application also proposes to update the company address from Tattingstone, Ipswich, Suffolk, IP9 2NY to Collins Station Road, Bentley, Ipswich, IP9 2DB.

[2.3] Limitations of Risk Assessment

The existing landfill and transfer station have already been reviewed during previous permit applications. Therefore, this ERA focuses solely on the potential hazards associated with the changes to the permitted activities.

[2.4] Potential Hazards

[2.4.1] Odour

As there are no additional waste types required to be added to the permit there is not expected to be a change in the odorous emissions from the site.

The existing waste types (non-hazardous soils and bulky wastes) are not expected to be odorous and the existing controls in place are considered to be appropriate.

Odour is therefore not considered further within this risk assessment. Site staff monitor activities to ensure that no offensive odours are occurring on site. If a problem should occur, the offending material will be removed as soon as practical for disposal.

[2.4.2] Noise and Vibration

Noise and vibration associated with soil wash plant will be limited to the operation of equipment for treatment and the movement and operation of site plant during operational periods. A Noise Impact Assessment (NIA) dated August 2022 was undertaken at the Site to support an application to remove condition 19 of the extant planning condition. This was to allow the Operator flexibility in the locations approved for the operation of waste processing machinery at the Site. A copy is attached as Appendix B for reference. The NIA included an assessment of potential noise and vibration from the soil wash plant. The assessment determined that the noise levels calculated will not cause nuisance nor exceed noise limits as specified in condition 11 of the planning consent at the nearest residential dwellings.

Procedures are already in place at the Site to prevent the occurrence of noise and vibration. These include ensuring the use of only high quality and regularly serviced plant, their use behind robust acoustic (and visual) screening bunds as stipulated in the planning consent for the recycling operations and strict adherence to authorised hours of operation. Noise monitoring and compliance with noise levels are controlled in accordance with condition 11 of the Site's planning consent. The latest planning consent (SCC/0125/22B) is attached as Appendix B.

Plant, machinery and vehicles used onsite will be fitted with the appropriate silencer equipment and will be maintained and operated in accordance with the manufacturer's guidance.

Site roads will be maintained free of bumps and potholes to minimise empty body noise of vehicles. Site access will be limited to the existing means of access from Station Road.

A record of any complaints arising regarding noise emissions and the actions taken will be kept in accordance with the site's EMS.

Should significant noise be emitted from the site into the surrounding environment as a result of particular waste handling or treatment activities, the cause of the noise will be investigated, and appropriate control measures will be implemented as soon as practicable. If significant noise is excessive, the activity causing the noise will be temporarily suspended until it is controlled.

The risks associated with noise and vibration emissions are summarised in Table 3.

[2.4.3] Litter and Pests

The nature of the proposed activities excludes the potential for the Site to generate litter or attract pests.

[2.4.4] Dust

The types of waste to be processed through the soil washing plant are already accepted at the site and there will be no change to the potential risks associated with dust emissions for these waste types when handling and storing.

The operation of the soil wash plant is predominantly a wet operation and so consequently is very unlikely to give rise to dust issues. The levels of dust emissions will therefore remain the same, with the current dust mitigation measures and good working practices remaining in place to ensure that dust levels remain unchanged and that the adverse impact of dust emissions resulting from the continued operations is negligible.

Generally, there is potential for dust emissions to arise during the unloading and processing of wastes and vehicle movements on unpaved or dusty roads. Large particles (suspended particulate matter (PM) greater than 10 µm) generally do not travel far. The larger particles rapidly deposit out of the air within a short distance whilst finer particles remain suspended in the air for considerably longer. Given the distance of the receptors from the site the larger particle fraction is not anticipated to pose a risk to the surrounding receptors. Furthermore, there are no Air Quality Management Areas (AQMAs) near the site.

The total quantity of waste accepted at Site will not change. The site does not have a history of dust complaints. The Site's EMS details procedures for managing dust. This includes the proactive use of the site's water bowser for dust suppression as and when required.

The potential for off-site dust migration is also prevented and mitigated by a combination of the amenity bunding and mature woodland. The site is therefore effectively shielded from the prevailing wind. Additionally, no stockpile of aggregate or waste is permitted to exceed the height of the perimeter screen bund adjacent to the east or northern boundary of the Site.

Haul routes and impermeable surfaces are swept and wetted as required to prevent the accumulation and raising of dust during transport of waste within and beyond the site. The soil wash plant will be located adjacent to the existing screening plant to reduce on site plant movements by loading shovel as well.

A record of any complaints arising regarding dust emissions and the actions taken will be kept in accordance with the site's EMS.

An assessment of the risks associated with fugitive mud and dust emissions are considered in Table 4.

[2.4.5] Mud

The risk associated with mud is to remain unchanged following the proposed changes to permitted activities at the site.

All vehicle movements at the site are carried out on a concreted surface. Although the nature of the activities means there is the potential for materials to be trafficked onto the public highway, the risk is considered low due to the length of the internal haul routes and the site being fully surfaced. Controls implemented onsite in accordance with the Site's EMS will further reduce the potential for any mud from incoming wastes to be tracked offsite.

The site will be kept clean and tidy to minimise the potential for debris/mud to be tracked off site, particularly from the loading bay and areas where vehicles deliver wastes will manoeuvre. To further minimise the potential for debris/mud to be tracked off site, drivers will be instructed to avoid tracking over previously deposited wastes during waste deposit where this is practically possible.

At the time of leaving the Site, vehicles will pass the site office and will be stopped by the weighbridge clerk if necessary and any fugitive material adhering to the wheels or chassis, or bodywork areas will be removed. Removal will either be by hand (wearing appropriate PPE) or with the use of a brush.

All areas of hard standing and the site access road Station Road will be checked daily for mud/debris. In the event of any dirt being identified onsite or trafficked onto the highway, it will be swept up and removed either manually using a brush or mechanically with a hired mobile sweeper.

A record of any complaints arising regarding mud emissions and the actions taken will be kept in accordance with the site's EMS.

An assessment of the risks associated with fugitive mud and dust emissions are considered in Table 4.

[2.4.6] Visible Emissions

There are no processes to be carried out which will involve combustion. Therefore, visible plumes as a result of combustion are considered negligible. Similarly, the potential for dust to form a visible plume is also considered negligible as the above control measures are implemented onsite. Visible emissions are not considered further in this report.

A Fire Prevention and Management Plan is already in place for the transfer station.

[2.4.7] Bioaerosols

It is considered unlikely that the proposed changes to activities and waste types will give rise to bioaerosol emissions on account of their inherent physical nature. As such, no further consideration has been given to the control of bioaerosols.

[2.4.8] Contaminated Water

[2.4.8.1] Point Source Emissions to Water (including sewer)

There are no proposed additional point source emissions to water or sewer associated with the proposed activities.

[2.4.8.2] Fugitive Emissions to Land and Water

All plant and equipment will be serviced and maintained in accordance with the manufacturers' recommended maintenance schedules. In the unlikely event of a leak or spillage from on-site plant or wastes received, the procedures identified in the current EMS will be followed.

The new impermeable surface which will house the soil washing plant and processed stockpiles will drain to a new separate sump. The run-off water will either be

- harvested and re-used within the soils washing plant process;
- tankered off site for treatment at an appropriate facility.

Any excess water *e.g.* during heavy rainfall events will be captured by the sump which will be suitably sized or within the impermeable surface area prior to management via one of the above routes.

Refuelling and fuel storage facilities will not be undertaken at the soil wash plant. These facilities will be in the existing location within the wider Site.

The site is located at the extreme hydrogeological downgradient edge of the Red Crag aquifer. This aquifer unit is designated as part of the Total Catchment (Source Protection Zone (SPZ)3). The Red Crag is physically separate from the deeper Chalk aquifer by a significant thickness (<50m) of low permeability *in-situ* London Clay. A hydrogeological risk assessment for the Folly Farm waste management complex was completed in 2022[3] which describes the site setting, the significance of the underlying water bodies, surface water features and the groundwater monitoring regime in place upgradient and downgradient of the proposed location of the soil wash plant.

The SPZ3, has itself been truncated by earlier mineral workings and two phases of historic landfilling firstly by Suffolk County Council, then secondly by the applicant in a pre-landfill directive Category A & B site. All groundwater flow beneath the historic landfills is captured at their downgradient spring lines at the edge of the SPZ3, treated and then discharged via the same route the springs would discharge

[3] ByrneLooby (2022) Folly Farm Hydrogeological Risk Assessment Review. Report 16-10004-ENV-R38

These features are immediately downgradient of the soil wash area which is to be constructed entirely above the composite clay and artificial sealing liner of a Stable Non-Reactive Hazardous Waste (SNRHW) cell.

The composite lining system will provide a tertiary level of protection to groundwater, in addition to the tanks and capture of the surface water run-off from soil wash plant area. The area of the soil wash plant is to be kerbed to prevent direct run-off into the landfill and enable the captured water and incidental rainwater from entering the landfill, with the water recirculated through the process. There will therefore be a finite quantity of "soil wash water", and as the process operates on a batched daily basis, the process can be stopped at any point in time.

The soil wash process volume will be continually monitored through the replacement of retained waters and if excess volumes are required, further investigations will be undertaken to identify if there is a leakage. This will include surveillance of the leachate generation volume and quality from the underlying landfill to identify if soil wash run-off has escaped the primary containment.

The underlying SPZ3 is therefore not at risk of harm from the operation of the soil wash plant. Nevertheless, there is a groundwater surveillance programme in place which can identify changes to groundwater quality under the existing permit arrangements.

[2.4.9] Accidents

The Environment Agency's risk assessment Guidance requires the consideration of potential accidents. This should assess potential accident-related hazards associated with the proposed activity, which are not considered under other parts of the risk assessment. The scenarios this may include are identified below:

- Vandalism/arson
- Fire
- Flooding
- Spillages

A Fire Prevention Plan is in place at the site and forms part of the site's Environmental Management System. As there are no proposed changes to the waste types within the permit and there are no proposals to increase the storage capacity at the site. No changes to the Fire Prevention Plan are therefore considered necessary.

The site is not located within a flood risk zone and the risk of flooding is considered to be low[4].

There is a potential for spillages of fuels or other polluting liquids to occur during the soil washing plant and/ or shredding of bulky wastes due to mechanical breakdown may occur.

The risks of pollution occurring from accidents and the proposed management measures are discussed further in Table 5.

[4] https://check-long-term-flood-risk.service.gov.uk/risk

[2.5] Potential Hazard Pathways

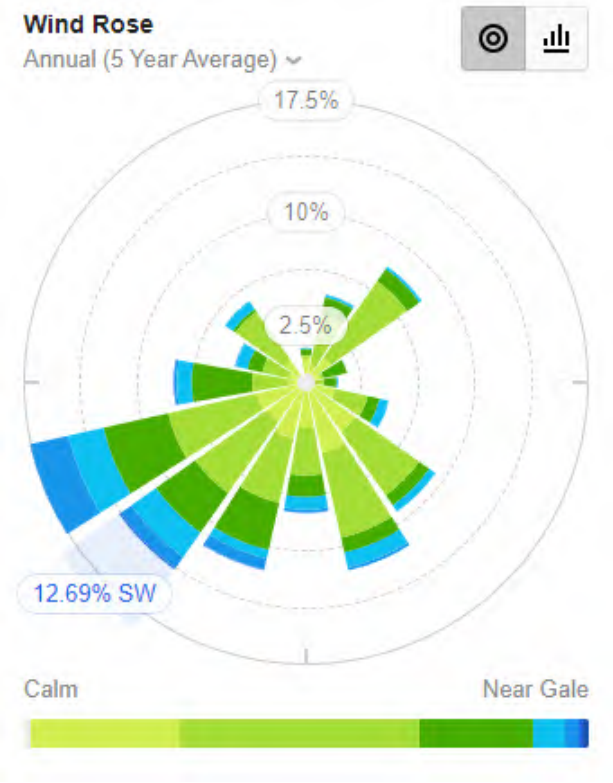
When identifying the receptors, the closest and most sensitive (if different from the closest) have been considered in each direction from the hazard and the mechanism of transport to each sensitive receptor (e.g. proximity to highway, access/egress points for mud and wind direction for airborne dust).

[2.5.1] Meteorological Conditions

The probability of exposure is determined by the distance of the receptor to the site boundary and the likelihood of the hazard reaching the receptor *i.e.* frequency of prevailing wind in that direction. The probability of exposure is irrespective of the type of hazard presented.

Weather and wind statistics are taken from Tattingstone Weather Station[5] located 1.5 km northeast of the soil wash plant boundary. The windrose shows that the dominant wind direction is from the west southwest and blowing towards the east northeast (Figure 1).

Figure 1 - Windrose, Tattingstone



[2.6] Hazard Receptors

A review of the potentially sensitive receptors has been completed and these are listed in Table 1 below. The potentially sensitive receptors within a 1km radius of the site boundary have been considered with regards to their type (i.e. residential, commercial, agricultural etc.), distance from

[5] Tattingstone Wind Forecast, Suffolk IP9 2 - WillyWeather

the boundary, direction from the boundary and the location of the receptor relative to the prevailing wind direction as identified by the wind statistics and wind rose presented in Figure 1.

The location of the receptors can be seen on the Receptor Locations drawing K6157.1003.

Table 1 - Potential Sensitive Receptors

No.	Receptor Description	Category	Distance (m) from Site	Direction from Site	Frequency of prevailing Wind direction (%)
1	Station Farm	Residential	165	N	7.3
2	Properties on A137*	Residential	380	ENE	15.7
3	Westminster Motor Insurance Association	Commercial	425	NE	4.8
4	Tattingstone Garden Centre	Commercial	450	E	7.4
5	Folly Farm House	Residential	265	S	1.9
6	Coppey Farm	Agricultural/ Residential	300	SW	7.8
7	Property off Folly Farm access Road	Residential	350	SSE	0
8	Properties off Station Road (Dingle Dell)*	Residential	300	NW	8.8
9	Public Footpath (Tattingstone 37)	Public Footpath	120	W	1.8
10	Public Bridleway (Tattingstone 37A)	Public Bridleway	80	E	7.4
11	Station Road	Public Highway	235	N	7.3
12	A137 Ipswich – Colchester Road	Public Highway	440	E	7.4
13	Buxton Wood	LWS / Ancient Woodland	375	N	7.3
14	Railway Line	Railway	240	W	1.8
15	Rookery Farm and Shop	Agricultural/ Commercial/ Residential	745	NE	12.7
16	Wheatsheaf Inn	Commercial	630	NE	12.7
17	Properties on Church Road*	Residential	670	NE	12.7
18	Properties on Sutton Lane*	Residential	570	ESE	4.1
19	Wallers Farm	Agricultural/ Residential	890	SSE	0
20	Tinkers Hole / Nine Oaks	Residential	760	S	1.9
21	Dodnash Fruit Farm	Agricultural	720	SW	7.8
22	Dodnash Priory Farm (Commercial Units)	Commercial	890	WSW	2.3
23	Little Charles Plantation	Agricultural	780	SW	7.8
24	Farmhouse Accessed via Hazel Shrub Road	Agricultural/ Residential	620	WSW	2.3
25	Property off Hazel Shrub Road (NGR: TM113361)	Residential	810	W	1.8
26	Bentley Village*	Residential	730	NW	8.8
27	Wastewater Treatment Works	Commercial	355	WNW	4.7
28	Silver Leys, Bentley	Residential	525	W	1.8
29	Bentley Brook	Surface Water	120	W	1.8
30	Grassland / Lower Meadow Farm	LWS / Surface Water	845	S	1.9

* Distance to these residential receptors is at its nearest point and has been used as a proxy for the wider residential area and other small neighbouring residential properties which are at greater distance from the boundary.

[2.6.1] Conservation and Heritage Screen

Basic preapplication advice and a 'Conservation & Heritage Screen' (referenced: EPR/SP3239BB/V012) were provided by the Agency. A copy of the Screen is provided at Appendix A.

The screen identified a Special Protection Area and Ramsar site, Stour and Orwell Estuaries, with 10 km of the boundary. Stour and Orwell Estuaries have not been included in Table 1 as they are outside of the screening distance (2,780 m at its closest point to the north of the boundary).

A number of Local Wildlife Sites (LWS) were identified including Alton Water, Brantham Bridge Meadow, Buxton Wood, Buxton Wood Meadow, Dodnash Brook Pond, Dodnash Wood, Engry Wood, Great Martin's Hill Wood, Heathland Field, RNR 194 and Wolves Wood Meadow. In addition, ancient woodlands were identified at Buxton Wood Sound, Dodnash Wood and Great Martins Hill Wood. The majority of the LWS / Ancient Woodland are outside of the screening distance. Those within 1km of the boundary (Buxton Wood and Lower Meadow Farm) have been included in Table 1 above. The closest wildlife site is Buxton Wood, positioned some 375m to the north.

No Sites of Special Scientific Interest (SSSI), National / Local Nature Reserves (LNR), Special Areas of Conservation (SAC), priority habitats / species or Scheduled Monuments were identified in the Screen.

[3] Risk Assessments and Accident Management Plans

[3.1] Risk Assessments

The site-specific risk assessments completed for noise, dust and mud, contaminated water and accidents are detailed in Tables 2 to 5 below. Where there is an inter-relationship between the specific risk assessment and meteorological conditions, this has been identified. The pathway is determined by the location of the receptor relative to the site boundary, the distance from the boundary (m) and the frequency (likelihood) the prevailing wind will blow in the direction of the receptor (%) as determined by historical wind rose data for Tattingstone Weather Station located 1.5 km northeast of the boundary.

The Mitigated Risk is the residual risk presented by the hazard after control measures have been implemented. This is the most realistic representation of the risk as effective controls will be maintained under the requirements of the environmental permit, planning consent and management procedures set out in the Operator's EMS.

Table 2 – Contaminated Water Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Consequence	Overall Risk	Risk Management	Residual Risk
	No.	Distance (m)	Direction	Frequency downwind (%)					
Spillages: of liquids on site **Leakages:** from vehicles **Contaminated water:** from wastes as received and site operations	1	165	N	7.3	Low – lack of pathway	Medium – human health	Low	Liquid from soil wash plant will be recirculated within the process (closed system). Excess process water will be tankered offsite to an appropriate facility. Run-off from the new pad will be harvested and re-used within the soils washing plant process. If a run-off cannot be reused, the run-off water will be tankered off site for treatment at an appropriate facility. Spill kits kept onsite and site operatives aware of spillage procedures in the event of spillage of potentially polluting materials such as oils, fuel etc. All plant, equipment and site vehicles are to be properly maintained. Fuel and oil stores (where present) will be appropriately bunded and the bunds kept free from rainwater accumulation.	Low
	2	380	ENE	15.7	Low – lack of pathway	Medium – human health	Low		
	3	425	NE	4.8	Low – lack of pathway	Medium – human health	Low		
	4	450	E	7.4	Low – lack of pathway	Medium – human health	Low		
	5	265	S	1.9	Low – lack of pathway	Medium – human health	Low		
	6	300	SW	7.8	Low – lack of pathway	Medium – human health	Low		
	7	350	SSE	0	Low – lack of pathway	Medium – human health	Low		
	8	300	NW	8.8	Low – lack of pathway	Medium – human health	Low		
	9	120	W	1.8	Low – lack of pathway	Low – not sensitive	Low		
	10	80	E	7.4	Low – lack of pathway	Low – not sensitive	Low		
	11	235	N	7.3	Low – lack of pathway	Low – not sensitive	Low		
	12	440	E	7.4	Low – lack of pathway	Low – not sensitive	Low		
	13	375	N	7.3	Low – lack of pathway	Medium – habitat pollution	Low		
	14	240	W	1.8	Low – lack of pathway	Low – not sensitive	Low		
	15	745	NE	12.7	Low – lack of pathway	Medium – human health	Low		
	16	630	NE	12.7	Low – lack of pathway	Medium – human health	Low		
	17	670	NE	12.7	Low – lack of pathway	Medium – human health	Low		
	18	570	ESE	4.1	Low – lack of pathway	Medium – human health	Low		
	19	890	SSE	0	Low – lack of pathway	Medium – human health	Low		
	20	760	S	1.9	Low – lack of pathway	Medium – human health	Low		
	21	720	SW	7.8	Low – lack of pathway	Medium – human health	Low		
	22	890	WSW	2.3	Low – lack of pathway	Medium – human health	Low		
	23	780	SW	7.8	Low – lack of pathway	Medium – human health	Low		

Hazard / Pathway	Receptor				Probability of Exposure	Consequence	Overall Risk	Risk Management	Residual Risk
	No.	Distance (m)	Direction	Frequency downwind (%)					
	24	620	WSW	2.3	Low – lack of pathway	Medium – human health	Low		
	25	810	W	1.8	Low – lack of pathway	Medium – human health	Low		
	26	730	NW	8.8	Low – lack of pathway	Medium – human health	Low		
	27	355	WNW	4.7	Low – lack of pathway	Medium – human health	Low		
	28	525	W	1.8	Low – lack of pathway	Medium – human health	Low		
	29	120	W	1.8	Medium – pathway but SWMS	High – aquatic pollution	Medium		
	30	845	S	1.9	Low – pathway but SWMS	High – aquatic pollution	Medium		

Table 3 – Noise and Vibration Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Consequence	Overall Risk	Risk Management	Residual Risk
	No.	Distance (m)	Direction	Frequency downwind (%)					
Noise and Vibration: through the air from waste handling and processing areas	1	165	N	7.3	High – close proximity to Site	High – noise annoyance to residents	High	The site is well screened by bunds and woodland to the north and the raised topography of the old unlined landfill to the east. These boundary features will provide attenuation of any noise generated. All operations will be carried out in adherence to the hours stipulated by the site's planning consent. Noise levels and monitoring stipulated by site's planning consent. All plant, equipment and site vehicles are to be properly maintained with functioning exhaust silencing where appropriate. Plant and machinery will be turned off when not in use. Site roads will be maintained with smooth pothole-free surfaces, and subject to a speed limit All events or complaints received associated with noise / vibration will be documented in the site's EMS.	Low
	2	380	ENE	15.7	Medium – proximity to Site	High – noise annoyance to residents	Medium		
	3	425	NE	4.8	Medium – proximity to Site	Medium – noise annoyance to workers	Medium		
	4	450	E	7.4	Medium – proximity to Site	Medium – noise annoyance to workers	Medium		
	5	265	S	1.9	High – close proximity to Site	High – noise annoyance to residents	High		
	6	300	SW	7.8	High – close proximity to Site	High – noise annoyance to residents	High		
	7	350	SSE	0	Medium – proximity to Site	High – noise annoyance to residents	Medium		
	8	300	NW	8.8	High – close proximity to Site	High – noise annoyance to residents	High		
	9	120	W	1.8	High – close proximity to Site	Medium – transient nuisance (footpath)	Medium		
	10	80	E	7.4	High – close proximity to Site	Medium – transient nuisance (footpath)	Medium		
	11	235	N	7.3	High – close proximity to Site	Low – transient nuisance (highway)	Low		
	12	440	E	7.4	Medium – proximity to Site	Low – transient nuisance (highway)	Low		
	13	375	N	7.3	Medium – proximity to Site	Medium – potential to disturb wildlife	Medium		
	14	240	W	1.8	High – close proximity to Site	Low – transient nuisance (railway)	Low		
	15	745	NE	12.7	Low – distant from Site	High – noise annoyance to residents	Medium		
	16	630	NE	12.7	Medium – proximity to Site	Medium – noise annoyance to workers	Medium		
	17	670	NE	12.7	Low – distant from Site	High – noise annoyance to residents	Medium		
	18	570	ESE	4.1	Medium – proximity to Site	High – noise annoyance to residents	Medium		
	19	890	SSE	0	Low – distant from Site	High – noise annoyance to residents	Medium		

Hazard / Pathway	Receptor				Probability of Exposure	Consequence	Overall Risk	Risk Management	Residual Risk
	No.	Distance (m)	Direction	Frequency downwind (%)					
	20	760	S	1.9	Low – distant from Site	High – noise annoyance to residents	Medium		
	21	720	SW	7.8	Low – distant from Site	Medium – noise annoyance to workers	Medium		
	22	890	WSW	2.3	Low – distant from Site	Medium – noise annoyance to workers	Medium		
	23	780	SW	7.8	Low – distant from Site	Medium – noise annoyance to workers	Medium		
	24	620	WSW	2.3	Medium – proximity to Site	High – noise annoyance to residents	Medium		
	25	810	W	1.8	Low – distant from Site	High – noise annoyance to residents	Medium		
	26	730	NW	8.8	Low – distant from Site	High – noise annoyance to residents	Medium		
	27	355	WNW	4.7	Medium – proximity to Site	Medium – noise annoyance to workers	Medium		
	28	525	W	1.8	Medium – proximity to Site	High – noise annoyance to residents	Medium		
	29	120	W	1.8	High – close proximity to Site	Low – not a sensitive to noise (sw)	Low		
	30	845	S	1.9	Low – distant from Site	Low – not a sensitive to noise (sw)	Low		

Table 4 – Dust and Mud Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Consequence	Overall Risk	Risk Management	Residual Risk
	No.	Distance (m)	Direction	Frequency downwind (%)					
Dust and Mud: from vehicle movements and site operations	1	165	N	7.3	High – close proximity to Site, infrequently down wind	High – dust annoyance to residents	High	Dust at the site is most likely to be associated with the handling, storage and loading of wastes. Soil wash plant is predominantly a wet operation. If required output and input material will be managed and dampened as necessary. Site to be kept tidy and hard standings to be kept clean to minimise dust. Road sweeper will be made available if required. Vehicles leaving the site will travel along the site access road (circa 600m) to the main public highway (Station Road). The length of access provides a considerable distance over which any mud or debris will fall from the wheels prior to a vehicle entering the public highway. Vehicles will be limited to site speed limits to prevent dust being generated by excessive vehicle speeds. Site inspections for mud, dust and debris will be carried out twice daily and recorded in accordance with the EMS. The site is well screened by bunds and woodland to the north and the raised topography of the old unlined landfill to the east. These boundary features provide shelter from wind and attenuation of any dust generated. Stockpiles and vehicle running surfaces will be damped down, if required, to minimise potential for dust generation.	Low
	2	380	ENE	15.7	High – proximity to Site, frequently down wind	High – dust annoyance to residents	High		
	3	425	NE	4.8	Medium – proximity to Site, occasionally downwind	Medium – dust annoyance to workers	Medium		
	4	450	E	7.4	Medium – proximity to Site, infrequently downwind	Medium – dust annoyance to workers	Medium		
	5	265	S	1.9	High – close proximity to Site, occasionally downwind	High – dust annoyance to residents	High		
	6	300	SW	7.8	High – close proximity to Site, infrequently downwind	High – dust annoyance to residents	High		
	7	350	SSE	0	Medium – proximity to Site, occasionally downwind	High – dust annoyance to residents	Medium		
	8	300	NW	8.8	High – close proximity to Site, infrequently downwind	High – dust annoyance to residents	High		
	9	120	W	1.8	High – close proximity to Site, occasionally downwind	Medium – transient nuisance (footpath)	Medium		
	10	80	E	7.4	High – close proximity to Site, infrequently downwind	Medium – transient nuisance (footpath)	Medium		
	11	235 / 600*	N	7.3	Medium – proximity to Site, infrequently down wind	High – potential hazardous road conditions	Medium		
	12	440 / 970*	E	7.4	Medium – proximity to Site, infrequently downwind	High – potential hazardous road conditions	Medium		
	13	375	N	7.3	Medium – proximity to Site, infrequently downwind	Medium – potential deposition on sensitive vegetation	Medium		
	14	240	W	1.8	High – close proximity to Site, occasionally downwind	Low – transient nuisance (railway)	Low		
	15	745	NE	12.7	Low – distant from Site, frequently down wind	High – dust annoyance to residents	Medium		
	16	630	NE	12.7	Medium – proximity to Site, frequently down wind	Medium – dust annoyance to workers	Medium		
	17	670	NE	12.7	Low – distant from Site, frequently down wind	High – dust annoyance to residents	Medium		
	18	570	ESE	4.1	Medium – proximity to Site, occasionally downwind	High – dust annoyance to residents	Medium		
	19	890	SSE	0	Low – distant from Site, occasionally downwind	High – dust annoyance to residents	Medium		

Hazard / Pathway	Receptor				Probability of Exposure	Consequence	Overall Risk	Risk Management	Residual Risk
	No.	Distance (m)	Direction	Frequency downwind (%)					
	20	760	S	1.9	Low – distant from Site, occasionally downwind	High – dust annoyance to residents	Medium	Processed waste is stored in bays and skips which act as windbreaks and prevent materials escaping. Skips containing blowable wastes will be kept covered. All events or complaints received associated with dust and fugitive emissions will be documented in the site's EMS.	
	21	720	SW	7.8	Low – distant from Site, infrequently downwind	Medium – dust annoyance to workers	Medium		
	22	890	WSW	2.3	Low – distant from Site, occasionally downwind	Medium – dust annoyance to workers	Medium		
	23	780	SW	7.8	Low – distant from Site, infrequently downwind	Medium – dust annoyance to workers	Medium		
	24	620	WSW	2.3	Medium – proximity to Site, occasionally downwind	High – dust annoyance to residents	Medium		
	25	810	W	1.8	Low – distant from Site, occasionally downwind	High – dust annoyance to residents	Medium		
	26	730	NW	8.8	Low – distant from Site, infrequently downwind	High – dust annoyance to residents	Medium		
	27	355	WNW	4.7	Medium – proximity to Site, occasionally downwind	Medium – dust annoyance to workers	Medium		
	28	525	W	1.8	Medium – proximity to Site, occasionally downwind	High – dust annoyance to residents	Medium		
	29	120	W	1.8	High – close proximity to Site, occasionally downwind	Medium – potential for sediment to accumulate	Medium		
	30	845	S	1.9	Low – distant from Site, occasionally downwind	Medium – potential for sediment to accumulate	Medium		

* Approximate distance via road

Table 5 – Accident Management Plan

Hazard	Receptor	Pathway	Probability	Consequence	Overall Risk	Risk Management	Residual Risk
Fuel / engine oil leak	Surface Water/Groundwater	Site drainage / Runoff/Infiltration	Low	Medium - pollution of surface water High - Pollution of groundwater	Medium	Vehicles on site will be road worthy and well maintained / serviced. Areas covered by concrete impermeable surface. Fuel and oil stores (where present) will be appropriately bunded and kept free from rainfall accumulation. Bunds, plant and equipment are subject to regular inspection for potential defects/signs of wear and tear. Spill kit kept on site and site operatives aware of spillage procedures in EMS.	Low
Fire Uncontrolled burning of wastes or site facilities	Surface Water	Site drainage	Low	Medium - pollution of surface water through firewater run-off or leaks from damaged equipment	Low	No highly flammable wastes to be accepted. Site vehicles and plant subject to regular preventative maintenance in line with site procedures. Fire control equipment will be on hand, with major incidents to be dealt with by the Fire Brigade in accordance with site Procedures. No deliberate burning of waste or other fires to be undertaken at site. Site security in the form of a perimeter fencing, hedges, lockable access gates, which are locked out of hours, and CCTV help to reduce the potential for arson.	
	Receptors listed in Table 1 above Site personnel	Airborne	Low	High - smoke / odour annoyance High – Site personnel injury			
	Surface Water	Site drainage	Low	Medium - pollution of water through leaks from damaged equipment			
Vandalism Damage to site vehicles, plant, or buildings.	Groundwater	Site drainage	Low	High- pollution of groundwater through leaks from damaged equipment	Low	Site security will prevent access by unauthorised persons. Site security in the form of a perimeter fencing, hedges, lockable access gates, which are locked out of hours, and CCTV help to reduce the potential for arson.	
Flooding	Groundwater/ surface water	Site Drainage	Low	Medium - pollution of surface water	Low	Hazardous wastes will be stored within a weatherproof container or under cover. The site is not located within a flood zone therefore the risk of flooding is low.	

[4] Conclusions

The risk assessments detailed in Tables 2 to 5 within this document indicate that the proposed site activities are unlikely to cause any disturbance to the surrounding area. Residential properties are most sensitive to site operations however given the distance to receptors and mitigation measures employed at the site residential properties are highly unlikely to be affected by the proposal.

Accidents such as fire / explosion or leakages may pose a threat to the local environment. However safe site working practices, effective control measures and strict waste acceptance criteria make such accidents highly unlikely.

The site design provides engineered surfaces with sealed drainage where necessary to mitigate the contamination of surface water and groundwater.

It has been concluded that with the use of appropriate mitigating controls where necessary, soil washing will not present a significant risk to surrounding receptors.

Appendix A – Conservation Screen

Nature and Heritage Conservation

Screening Report: Bespoke Installation

Reference	**EPR/SP3239BB/V012**
NGR	**TM 12284 36274**
Buffer (m)	**45**
Date report produced	**07/03/2023**
Number of maps enclosed	**4**

The nature conservation sites identified in the table below must be considered in your application.

Nature and heritage conservation sites	Screening distance (km)	Further information
Special Protection Area (pSPA or SPA)	10	Joint Nature Conservation Committee
Stour and Orwell Estuaries		
Ramsar	10	Joint Nature Conservation Committee
Stour and Orwell Estuaries		
Local Wildlife Sites (LWS)	2	Appropriate Local Record Centre (LRC)
Alton Water		
Brantham Bridge Meadow		
Buxton Wood		
Buxton Wood Meadow		
Dodnash Brook Pond		
Dodnash Wood		
Engry Wood		

Great Martin's Hill Wood		
Heathland Field		
RNR 194		
Wolves Wood Meadow		
Ancient Woodland	2	Woodland Trust
Buxton Wood South		Forestry Commission
Dodnash Wood		Natural England
Great Martins Hill Wood		

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

Please note we have screened this application for protected and priority sites, habitats and species for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

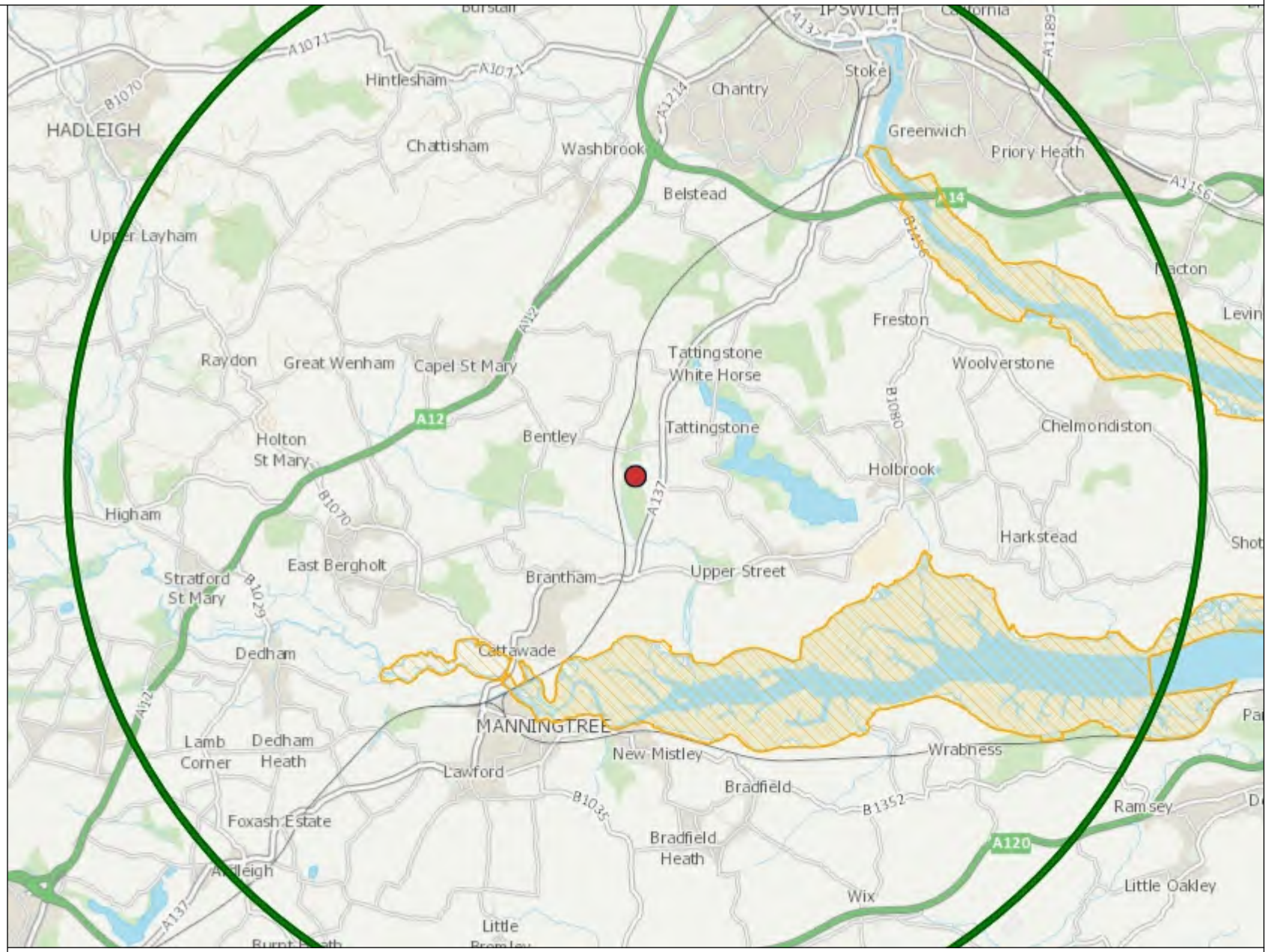
Please note the nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information.

Special Protection Areas

Environment Agency

Legend

SPA (England)



1: 100,000

0 2,500

Metres

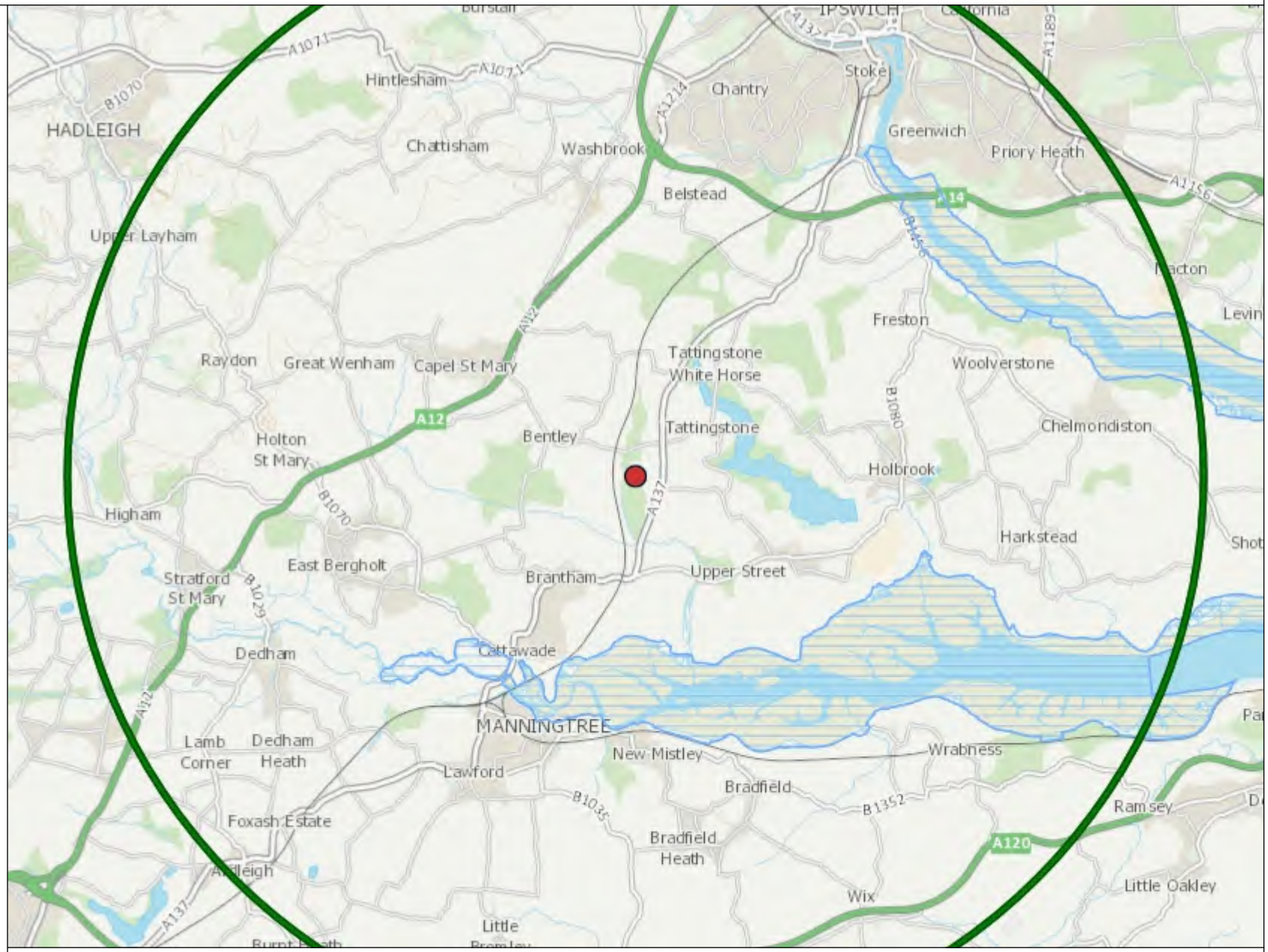
N W E S

Ramsar Sites

Environment Agency

Legend

Ramsar (England)



1: 100,000

0 2,500

Metres

N W E S

Local Wildlife Sites

Environment Agency

Legend

Local Wildlife Sites

1: 50,000

0 1,250

Metres

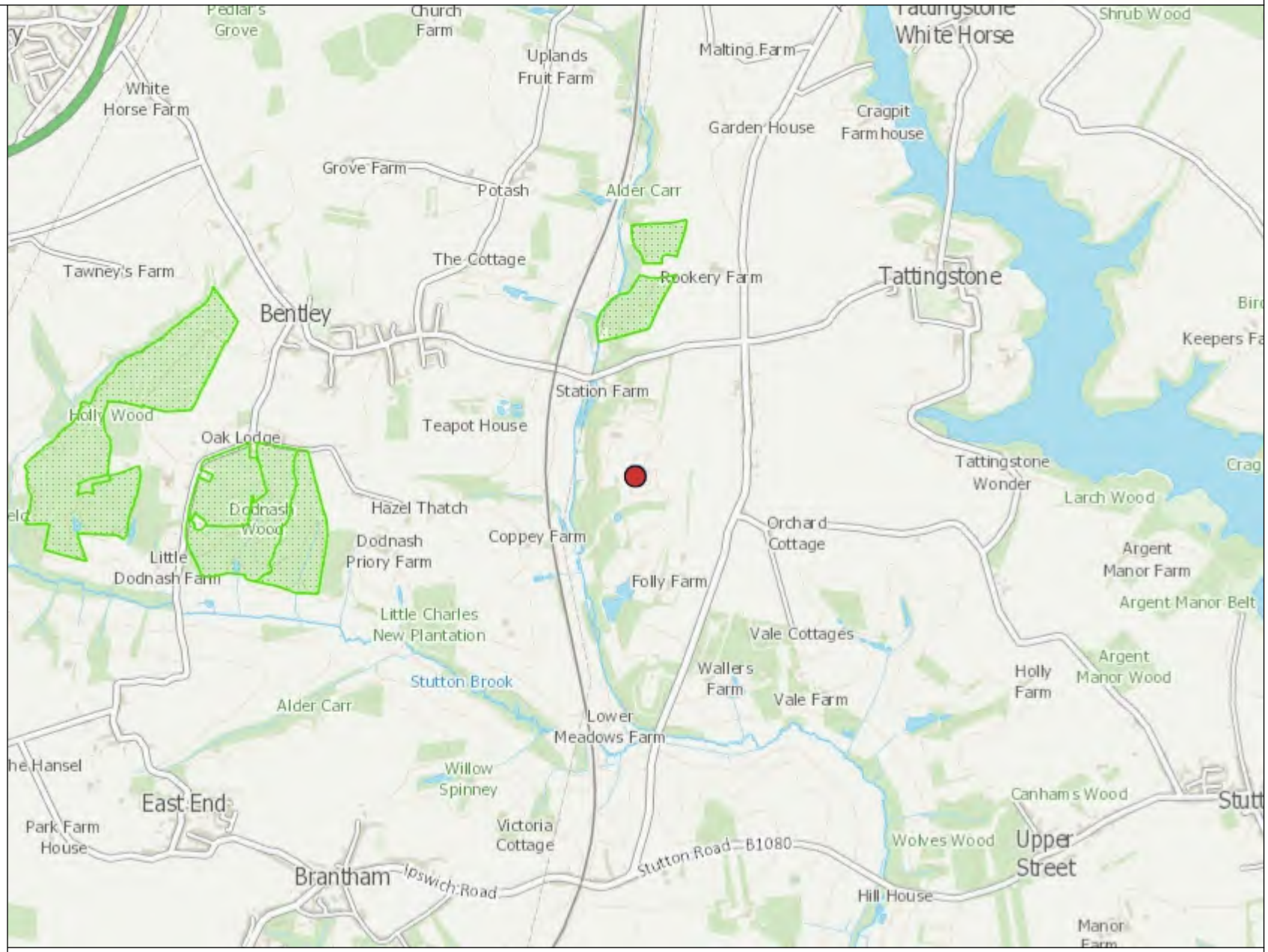
N W E S

Ancient Woodland

Environment Agency

Legend

Ancient Woodland (England)



1: 25,000

0 625

Metres

N W E S

Appendix B – Planning Permission and Noise Risk Assessment

Application No: SCC/0125/22B

TOWN AND COUNTRY PLANNING ACT 1990 (as amended)

TOWN & COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (ENGLAND) Order 2015

Applicant

Shotley Holdings Ltd
Folly Farm
Tattingstone
Suffolk
IP9 2NY

Agent

PDE Consulting Limited
6 Forbes Business Centre
Kempson Way
Bury St Edmunds
Suffolk
IP32 7AR

Proposal: Removal of Condition 19 - To remove the restriction on the use of mobile plant within certain areas of the site. For application no's: SCC\0091\17B, SCC\0092\17B and SCC\0093\17B

Site Address: Folly Farm, Tattingstone, Ipswich, Suffolk, IP9 2NY

Permission is hereby **granted** by Suffolk County Council as Local Planning Authority for the purposes of the above Act and Order for the above development in accordance with the application dated **10 November 2022** subject to the following **35** conditions:

CONDITIONS

Planning conditions in **bold type** indicate the need to submit additional information for approval.

Compliance with approved details

1) The development uses and associated activities hereby approved shall only be carried out in accordance with:

Details previously approved under B08/1641;

Details previously approved under B/15/01395;

a) Planning Application and Supporting Statement by PDE, dated 16 September 2015,

b) Drawing 000426 titled “S.73 Application” dated July 2015;

Details previously approved under B/15/01396;

c) “Planning Application and Supporting Statement” by PDE, dated 16 September 2015, including:

d) Drawing 000400 titled “S.73 Application” dated October 2014;

Details previously approved under B/15/01403;

e) “Planning Application and Supporting Statement” by PDE, dated 16 September 2015, including:

f) Drawing M14.209.D.002 titled “Site Plan” dated July 2015;

g) Drawing M14.209.D.003 titled “Plant Layout Plan” dated July 2015;

h) Drawing 000424 titled “Proposed Elevations and Floor Plan” dated 7 July 2015;

i) Drawing 000425 titled “Waste Storage Unit” dated 22 July 2015;

j) Drawing 000428 titled “Office Block” dated 19 August 2015;

k) Drawing 000430 titled “Minning Area Cabin” dated 19 August 2015

Details previously approved under B/14/01493;

l) “Planning Application and Supporting Statement” by PDE, dated 10 November 2014, including:

m) Drawing 000399 titled “S.73 Application” dated October 2014

Details previously approved under B/14/01492;

n) “Planning Application and Supporting Statement” by PDE, dated 10 November 2014, including:

o) Drawing 000400 titled “Full Planing Application” dated October 2014;

p) Drawing 000405 titled “Planing Application” dated 7 November 2014

Details previously approved under B/09/0834;

q) Supporting Statement and Environmental Statement entitled “Proposal for the Disposal of Fibrous Asbestos, Folly Farm Landfill, Tattingstone” by Entec, dated July 2009, including;

r) Drawing 1.1 241120C02a titled “Proposal to dispose of Fibrous Asbestos – Variation to Planning Permission B/01/0025” by Entec, dated May 2009;

s) Drawing 62031/Asbestos/07 titled “A schematic illustration of the proposed separate cell arrangement for asbestos wastes” by AMEC, dated April 2008;

t) Drawing 62035/R2725/09 titled “Indicative Design for Initial Asbestos Cell Separation Bund” by AMEC, dated May 2008

Details previously approved under B08/1641;

u) “Final Draft Design and Access Statement in Respect of the Extension of Waste Recovery Facilities at Folly Farm, Tattingstone/Bentley” by AMEC, dated September 2008, including;

v) Drawing 62036/WP/01 titled “Working Plan” by AMEC, dated October 2008;

w) Drawing 62036/CS/01 titled “Cross Sections through the site” by AMEC, dated October 2008;

x) Drawing 62036/PA/03 titled “Cross B-B Extended” by AMEC, dated October 2008

Details previously approved under B/01/0025;

y) Dust reduction and prevention measures specified in section 2 of Appendix 3 to the Environmental Statement;

z) Drawing 62022/ES/06 titled “Existing & Indicative Pre-settlement Contours” by AERC, dated December 2000;

aa) Drawing 62022/ES/08 titled “Cross sections through the site” by AERC, dated December 2000;

bb) Drawing 62022/ES/09 titled “Indicative Restoration & Post Settlement Contours” by AERC, dated December 2000;

cc) Drawing 62022/ES/10 titled “Indicative Leachate control network” by AERC, dated December 2000;

dd) Drawing 62022/ES/11 titled “Indicative landfill gas control network” by AERC, dated December 2000;

ee) Drawing 62024/PB/01 titled “Proposed Permissive Bridleway Route” by AERC, dated June 2001

Details approved under this application:

ff) Planning Application Supporting Statement by PDE, Dated: 10 November 2022;

gg) WBM Noise Assessment, ref; 5228/1, by Sarah Large, dated: 19 August 2022;

Reason: To ensure that the development is completed in accordance with the submitted details.

Availabiltiy of Plans

2) A copy of this permission, including all documents hereby approved and any other documents subsequently approved in accordance with any conditions of this permission shall be kept available for inspection on the site for the life of the development.

Reason: To inform both site operators and visiting persons of the site operational responsibilities.

Cessation of minerals and waste activities

3) All minerals extraction, landfilling of waste, waste composting, waste recycling, waste treatment, storage of recovered waste and ancillary facilities and operations shall cease by the 31 October 2029 and all structures shall be removed and the land restored in accordance with the conditions of this permission by 31 March 2030 or within one year of the cessation of minerals extraction, whichever is the earlier.

Reason: To retain control over operations at the site and to secure restoration, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Permitted Waste

4) Nothing other than dry inert or non-hazardous industrial and commercial waste, or asbestos waste, shall be deposited or recovered at the site.

Reason: To protect residential amenity and to prevent water pollution, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Phasing of extraction and landfilling

5) The site shall be extracted and restored progressively in accordance with the phasing scheme identified on the attached Drawing 1.1 241120-C02a by Entec, dated May 2009 entitled Proposal to dispose of Fibrous Asbestos.

Reason: To ensure the development proceeds in accordance with the approved scheme of working and an appropriate progress of restoration within the life of the workings.

Screening of landfilling above undisturbed ground level

6) Prior to the deposit of waste or any other landfill or restoration operation within 2 metres of the top of the site perimeter soil bunds, a continuous acoustic barrier shall be provided to a minimum height of 2 metres with soil forming material or straw bales to the south, east, and west side of the active landfill cells as identified on the attached Drawing 1.1 241120-C02a by Entec, dated May 2009 entitled Proposal to dispose of Fibrous Asbestos. These acoustic barriers shall be maintained throughout the life of waste disposal and restoration operations within the adjacent phase.

Reason: To ensure the activities to be undertaken are adequately screened and protected in the interests of protection of health and the environment, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Maintenance of tree planting

7) All landscaping, including all hedgerows and block planting between the site and the A137 on land under the applicant's control shall be maintained throughout the life of this permission by:

a) keeping the new planting free from competing grass and weeds through the use of an appropriate 'translocated' herbicide;
b) replacing any trees and shrubs each year which are subsequently substantially damaged, seriously diseased or dead, with species of a similar size and description;
c) checking, adjusting and repairing all stakes, ties, shelters or fencing used in the scheme.

Reason: Tto secure long term amenity & screening of the site having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Storage and processing materials

8) No recovered materials or waste shall be deposited within Areas A2, A3 or A4 identified on the attached drawing 000426 titled "S.73 Application" dated July 2015 above a height of 3 metres from the prepared base level of those areas.

Reason: To ensure the activities to be undertaken are adequately screened and protected from wind in the interests of protection of health and the environment, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Storage and composting of green waste and wood

9) The storage and composting of green waste and wood, and the storage and de-contamination of contaminated soils, shall only be undertaken within Area A3 or

Area C59 identified on the attached drawing 000426 titled “S.73 Application” dated July 2015.

Reason: To ensure the activities to be undertaken are adequately screened and protected in the interests of protection of health and the environment, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Waste measures

10) The following measures shall be undertaken at all times waste is stored, turned or mechanically handled within any part of Areas A2 and A3 identified on the attached drawing 000426 titled “S.73 Application” dated July 2015:

a) fresh waste deposits shall be maintained in a moist condition;

b) arrangements shall be made to maintain a continuous barrier of green waste, compost or soil 3 metres in height on the east side of any turning or screening process undertaken within Area A3 identified on the attached drawing 000426 titled “S.73 Application” dated July 2015;

c) green and other wood waste and compost shall be thoroughly turned in accordance with a regime to maintain temperature and moisture levels within the waste at a level ensuring the destruction of pathogens. Regular monitoring shall be undertaken of waste temperature and moisture within the compost and green/wood piles;

d) dust suppression measures shall be employed during any turning, screening or shredding of compostable waste, and during any time compostable waste is mixed with soils as part of a soil decontamination process. A dust hood and dust collection system over the wood shredder and screening plant(s), and;

e) haul routes between Areas A2 and C59 identified on the attached drawing 000426 titled “S.73 Application” dated July 2015 and hardstandings used as part of the composting and soil decontamination process, shall be swept and wetted on a regular basis to prevent the accumulation and raising of dust during the transport of waste within and beyond the site.

Reason: To ensure all aspects of permitted operations are undertaken in accordance with submitted details in order to minimise adverse air borne pollution, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Noise Control

11) Noise from operations on the site shall not exceed the following Laeq values:

Excavation, landfill, and waste recovery/recycling operations with a noise limit of 50db(A) Leq (1hour) at;

a) Rose Garth, Tattingstone

b) Folly Farm bungalow

c) Coppey Farm, Bentley

d) Dingle Dell, Bentley

e) Station Farm, Bentley

Excavation, landfill, and waste recovery/recycling operations with a noise limit of 45dB(A) Leq (1 hour) at;

f) Teapot Hill, Bentley

g) Grid Ref 113368, (edge of Silver Leys,) Bentley

Soil stripping, bund formation and removal is restricted to 70dB(A) Leq (1hour) at any of the above locations, and work restricted to a maximum of 8 weeks within any 12 month period.

Noise will normally be measured free field. In the event of a noise complaint, noise may be measured at the façade(s) and these measurements would take precedence. The façade noise limit is set at a point one meter from the façade and 1-2 metres above ground level and it includes a +3dB correction for reflection effects.

Reason: To protect the amenities of local residents, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Noise level

12) At such time as either excavation or landfill operations are at or above 1 metre of the original undisturbed ground level, only two out of the following activities shall be undertaken concurrently on any part of the former and approved sites:

a) soil removal or replacement, including formation or removal of bunds;

b) excavation of mineral;

c) waste deposit or compaction;

d) the recovery or processing of waste.

Reason: To protect the amenities of local residents from dust having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Effective silencers

13) No plant, machinery or vehicles shall be used on the site unless fitted with effective silencers.

Reason: To protect the amenities of local residents from noise having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Site Access

14) Sole vehicular egress from the site shall be via the existing means of access onto the C426 (Station Road) as shown on the attached drawing 000426 titled “S.73 Application” dated July 2015.

Reason: To ensure waste disposal and minerals traffic uses the most suitable route avoiding Tattingstone Heath residential area as much as possible, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

General Permitted Development Order

15) Notwithstanding the provisions of Part 7 Class L and Part 17 Classes A and B of Schedule 2 of The Town and Country Planning (General Permitted Development) (England) Order 2015, (or any Order amending, replacing or re-enacting that Order) no plant, machinery or building shall be erected, extended, installed, rearranged, or replaced without prior planning permission from the Minerals and Waste Planning Authority.

Reason: To exercise control over this aspect of the development to ensure operations are undertaken within specified noise limits, in the interests of rural and residential amenity, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Operating hours

16) No operations authorised or required under permission other than water pumping, servicing, environmental monitoring and maintenance, shall be undertaken outside the following times:

a) 07.30 to 18.00 hours Monday to Friday

b) 07.30 to 13.00 hours Saturdays

and no such operations other than environmental monitoring and water pumping shall take place on Sundays, Bank Holidays or National Holidays.

Reason: Working outside these hours would be detrimental to residential and rural amenity, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Vehicle movements

17) No vehicles shall be permitted to deposit waste within any part of the site prior to 07:30, Mondays to Saturdays and not at all on Sundays.

Vehicles depositing waste prior to 07:30 shall be limited to wastes stored overnight at the Folly Farm depot location. Such traffic shall access the waste management facilities only via the direct track connection between Folly Farm and the waste management site as identified on the attached drawing 000426 titled “S.73 Application” dated July 2015, and shall leave the waste management site only via Station Road and the A137.

No vehicles shall depart from the site prior to 06:00 Mondays to Fridays and prior to 07:00 on Saturday and not at all on Sundays. Such vehicles entering the site, and/ or collecting skips and departing from the site prior to 07:30 shall be limited to vehicles making their first onward journey of the day only.

Reason: Working outside these hours would be detrimental to residential and rural amenity, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Impact breaker

18) No impact breaker shall be employed at any time.

Reason: To protect the amenities of local residents from noise having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Storage of plant

19) There shall be no storage of plant or equipment on restored land.

Reason: To minimise structural damage and compaction of the soil and to aid the final restoration of the site.

Fuel storage bunding

20) Prior to being brought into use, any above ground fuel storage or refuelling facility shall have been bunded to at least 110% of the tank capacity.

Reason: To prevent potential pollution of ground and surface waters, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Dust Prevention

21) All of the dust reduction and prevention measures specified in section 2 of Appendix 3 to the Environmental Statement submitted with the application, B01/0025 shall be employed throughout the life of the approved mineral and waste disposal operations.

Reason: To minimise the effect of dust on the amenities of local residents having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Stockpile height

22) No stockpile of aggregate or waste shall be permitted to exceed the height of the perimeter screen bund adjacent to the east or northern boundary of the site.

Reason: To ensure the storage of aggregate or recovered waste are adequately screened and protected in the interests of reducing fugitive dust release from the site, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Waste recycling recovery permitted areas

23) No waste recovery or recycling operations shall take place other than within Areas A2, A3, A4, P42 or C59 as shown on the attached drawing 000426 titled "S.73 Application" dated July 2015.

Reason: To ensure the activities to be undertaken are adequately screened and protected in the interests of protection of health and the environment, having regard to Policy GP4 of the Suffolk Minerals and Waste Local Plan (July 2020).

Asbestos

24) No asbestos shall be deposited at the site, other than in landfill cell 1 as defined on Drawing 1.1 241120C02a by Entec, dated May 2009 entitled Proposal to dispose of Fibrous Asbestos, until details of the location and construction of the future mono-cell to receive asbestos wastes has been submitted to and received the written approved of the Minerals & Waste Planning Authority. The scheme shall then be carried out as approved, or as may subsequently be approved, in writing, by the Mineral Planning Authority.

Reason: To retain control over the location of future asbestos waste disposal locations within the site, having regard to the impact upon overall site operations and site restoration, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration of the landfill and storage of recovered materials areas

25) The progressive restoration of the site shall not exceed the pre-settlement contours identified on the attached drawing 62022/ES/06 titled "Existing & Indicative Pre-settlement Contours" by AERC, dated December 2000, inclusive of the capping layer and 1.5 metres of overlaying soils.

Reason: To ensure the site is restored consistent with the requirements of planning permission B01/0025 relating to mineral extraction and landfilling to ensure a sympathetic landform with the surroundings, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration of the landfill and storage of recovered materials areas

26) The top 1.5 metres of restored levels shall be formed by the direct placement of:

a) excavated sands and overburden from a successive phase and placed above the capping layer;
b) topsoil stripped from the successive phase placed as the upper most layer; (or)
c) manufactured soils.

Reason: to ensure the site is restored consistent with the requirements of planning permission B01/0025 to ensure a sympathetic landform with the surroundings and

soil characteristics, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration

27) There shall be no concurrent or subsequent addition or mixing of woodchip or other organic matter in the final restored upper soil layer in any phase.

Reason: To ensure suitable soil conditions appropriate to the stated restoration objectives for the site, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration Soils

28) Within two months of the completion of soil spreading in any phase that phase shall be cross ripped to a depth of 40cm at 60cm spacing and any, stone, boulder, wire rope, cable, other foreign objects larger than 15 cm in any dimension impeding normal agricultural and land drainage operations, including mole ploughing, shall be removed from the land.

Reason: To ensure suitable soil conditions appropriate to the stated restoration objectives for the site, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration Soils

29) No soil ripping shall take place within each of the phases of restoration until a scheme for seeding and planting of shrubs and trees of the restored areas has been submitted to the Minerals & Waste Planning Authority for approval. The scheme shall be carried out as approved in writing by the Mineral Planning Authority. The scheme shall include the following details:

a) soil profile confirmation;
b) soil structure;
c) Ph level within the top 10 cm of the soil profile;
d) planting species, size, number and location;
e) programme of implementation, and;
f) programme of monitoring.

Reason: To ensure appropriate ground preparation and restoration of the site consistent with the stated restoration objectives and to retain control over the timing of planting and seeding having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration of the recycling area and final clearance of the land

30) **By 30th June 2027 a scheme for revised contours based on Drawing No. 62022/ES/06 Pre-settlement restoration contours dated December 2000 for Areas C59, A2 and A3, as identified on the attached drawing 000426 titled "S.73 Application" dated July 2015 shall be submitted to the Minerals & Waste Planning Authority for approval. The scheme shall be implemented as approved by the Minerals & Waste Planning Authority. The scheme shall make provision for:**

a) the restoration of Areas C59, A2 and A3 to contours which shall marry in with:

i) the approved restoration contours of the landfill identified on Drawing No: 62022/ES/06 Pre-settlement restoration contours dated December 2000, and,

ii) the bund provided adjacent to Areas A2, A3 and C59.

b) Restoration levels shall not exceed the height of that bund.

c) removal of the surface and foundations of the access track between the former adjacent landfill site and public bridleway 37A and the clearance of the land including any gates or fences to the former landfill site.

Reason: To retain control over the restoration levels over the areas used for storage, and to ensure appropriate ground preparation and restoration of the whole site having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration Materials

31) Nothing other than dry inert waste shall be deposited for landfilling and restoration within the recycling area C59, and Area A2 and A3 identified on the attached drawing 000426 titled "S.73 Application" dated July 2015.

Reason: To ensure the waste recycling and recovered waste storage areas are restored consistent with the requirements of planning permission B01/0025, having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Restoration Materials

32) The final 85cm of filling in Areas C59, A2 and A3 identified on the attached drawing 000426 titled "S.73 Application" dated July 2015, shall comprise subsoil free of objects in excess of 15cm in any dimension. Following the spreading of subsoil, topsoil or manufactured soils shall be spread evenly over the site to a depth of not less than 20 cm. The land shall then be cross ripped to a depth of 40 cm.

Reason: To ensure the waste recycling and recovered waste storage areas are restored having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Landscaping

33) By 31 March 2030, or within the first available planting season following the completion of the spreading of topsoil or manufactured soils over the recycling area, the area shall be planted with trees in accordance with a tree planting scheme which shall have previously received the written approval of the Minerals & Waste Planning Authority.

Reason: To ensure the waste recycling area is restored having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Landscape Maintenance

34) For a period of five years from the date of initial planting any trees or shrubs removed, dead, being substantially damaged or seriously diseased shall be replaced in the subsequent planting season with species of a similar size and description unless otherwise agreed in advance in writing with the Mineral Planning Authority.

Reason: To ensure the waste recycling area is restored having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Aftercare Scheme

35) Prior to the spreading of soils within Phase 1 an aftercare scheme for amenity after use that promotes the use of the site as a whole for amenity grassland through a restoration strategy shall be submitted for the approval of the Minerals & Waste Planning Authority. The scheme shall provide for:

a) A five-year period of aftercare following the restoration of each phase or discreet area of restoration, specifying the steps to be taken and the period during which they are to be taken, and who will be responsible for taking those steps.

b) arrangements for correction of any differential settlement occurring within the aftercare period,

c) land drainage measures where identified as necessary at any annual aftercare meeting within the aftercare period, the details of which shall be first submitted for approval in writing to the Minerals and Waste Planning Authority,

d) fertilising;

e) watering;

f) weed control measures;

g) grazing management;

h) keeping of records; and

i) annual meetings with representatives of the Minerals & Waste Planning Authority, Farming and Rural Conservation Agency, landowners and interested parties to review performance. The annual meetings to be followed up by a written report to be submitted to the Minerals & Waste Planning Authority and interested parties prior to the subsequent meetings.

The period of amenity aftercare for the site or any part of it shall commence on the date of written certification by the Mineral & Waste Planning Authority that the site or, as the case may be, the specified part of it, has been satisfactorily restored.

Reason: To provide for the return of the site to the required standard for the specific after-use during the 5-year aftercare period having regard to the Suffolk Minerals and Waste Local Plan (July 2020).

Date: 28 February 2023

Signed: [redacted]

Head of Planning,
Growth, Highways and Infrastructure,
Endeavour House,
8 Russell Road,
Ipswich,
IP1 2BX,
Suffolk

Working with the applicant in a positive and proactive manner:

In determining this planning application, the Local Planning Authority has worked with the applicant in a positive and proactive manner based on seeking solutions to problems arising in relation to dealing with the planning application by liaising with consultees, respondents and the applicant/agent and discussing changes to the proposal where appropriate or necessary. In particular, the Authority has sought to address noise and residential amenity impacts. This approach has been taken positively and proactively in accordance with the requirement in the NPPF, as set out in the Town and Country Planning (Development Management Procedure) (England) Order 2015.

Appeals to the Secretary of State

If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.

If you want to appeal against your local planning authority's decision, then you must do so within 6 months of the date of this notice.
Appeals must be using a form which you can get from the Secretary of State at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN or online at: https://www.gov.uk/appeal-planning-decision

The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

In practice, the Secretary of State does not refuse to consider appeals solely because the local planning authority based their decision on a direction given by the Secretary of State.

Notification of Appeals to the Council

You must send a copy of your appeal to the local authority. In accordance with appeal procedures, when forwarding copies of appeal forms and additional information, plans or drawings direct to the local authority, please send electronic copies to planning@suffolk.gov.uk or address to the Planning Department, Suffolk County Council, Endeavour House, 8 Russell Road, Ipswich, IP1 2BX.

Purchase Notices

If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that the owner can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the District or Borough Council in whose area the land is situated. This notice will require the Council to purchase the owner's interest in the land in accordance with the provisions of Chapter I of Part VI of the Town and Country Planning Act 1990.

Notes to Applicant

It is an OFFENCE to carry out works within the public highway, which includes a public right of way, without the permission of the Highway Authority.
Any conditions which involve work within the limits of the public highway do not give the applicant permission to carry them out. Unless otherwise agreed in writing all works within the public highway shall be carried out by the County Council or its agents at the applicant's expense.
The County Council must be contacted on Tel: 0345 606 6171.
For further information go to:
https://www.suffolk.gov.uk/roads-and-transport/parking/apply-and-pay-for-a-dropped-kerb/ or:
https://www.suffolk.gov.uk/planning-waste-and-environment/planning-and-development-advice/application-for-works-licence/

A fee is payable to the Highway Authority for the assessment and inspection of both new vehicular crossing access works and improvements deemed necessary to existing vehicular crossings due to the proposed development.

It is an offence under Schedules 5 and 8 of the Wildlife and Countryside Act 1981 and Schedule 2 of the Conservation of Habitats and Species Regulations 2010 and other relevant legislation, to kill, take, disturb or possess any wild animal or plant. The applicant is recommended to ensure the correct licence if necessary, has been obtained from Natural England before development commences and the conditions of the licence are adhered to.

If a protected species is discovered during works associated with this permission, all work must cease immediately, and the County Ecologist contacted for further advice as a matter of urgency (Telephone Number: 01473 264783)

Technical Note

Prepared by:	**Sarah Large**	Date:	**19 August 2022**
Project:	**Shotley Holdings Ltd – Folly Farm**	Ref:	**5228/1**
For:	**Shotley Holdings Ltd c/o PDE Consulting Ltd**	Page:	**1 of 13**
Subject:	**Removal of Condition 19 of Permission SCC\0091\17B, SCC\0092\17B, SCC\0093\17B Noise Impact Assessment**		

1. Introduction

WBM has been retained by PDE Consulting Ltd on behalf of Shotley Holdings Ltd to provide a noise impact assessment to accompany an application for the removal of Condition 19 of planning permission SCC\0091\17B, SCC\0092\17B and SCC\0093\17B.

Condition 19 states:

> *19 No waste processing machinery shall be employed within Areas A2, A3, A4 or P42 identified on the attached drawing 000426 other than a single front loader machine and the use of a low speed shredder within area A3; the use of a soils washing plant within area P42; concrete crusher within area A4; the use of a screener within areas A3, A4 and P42; other than for site restoration purposes.*

Removal of this condition would give the site greater flexibility regarding use of plant and machinery around the site. This Technical Note has been provided to address the noise impact from the proposed removal of the condition and to demonstrate that noise impact will remain within environmentally acceptable noise limits should the condition be removed.

To aid comprehension, a glossary of acoustic terms is presented in Appendix A.

2. Site Overview

The Folly Farm site has long been established as a quarry with mineral extraction and associated activities including the extraction, processing, storage and sale of sand and gravel (predominately sand), landfilling with inert and hazardous wastes (asbestos), waste recycling activities, sale and onward distribution of recycled aggregates, and associated ancillary operations. These activities have been undertaken at the site over a number of years in accordance with various planning permissions.

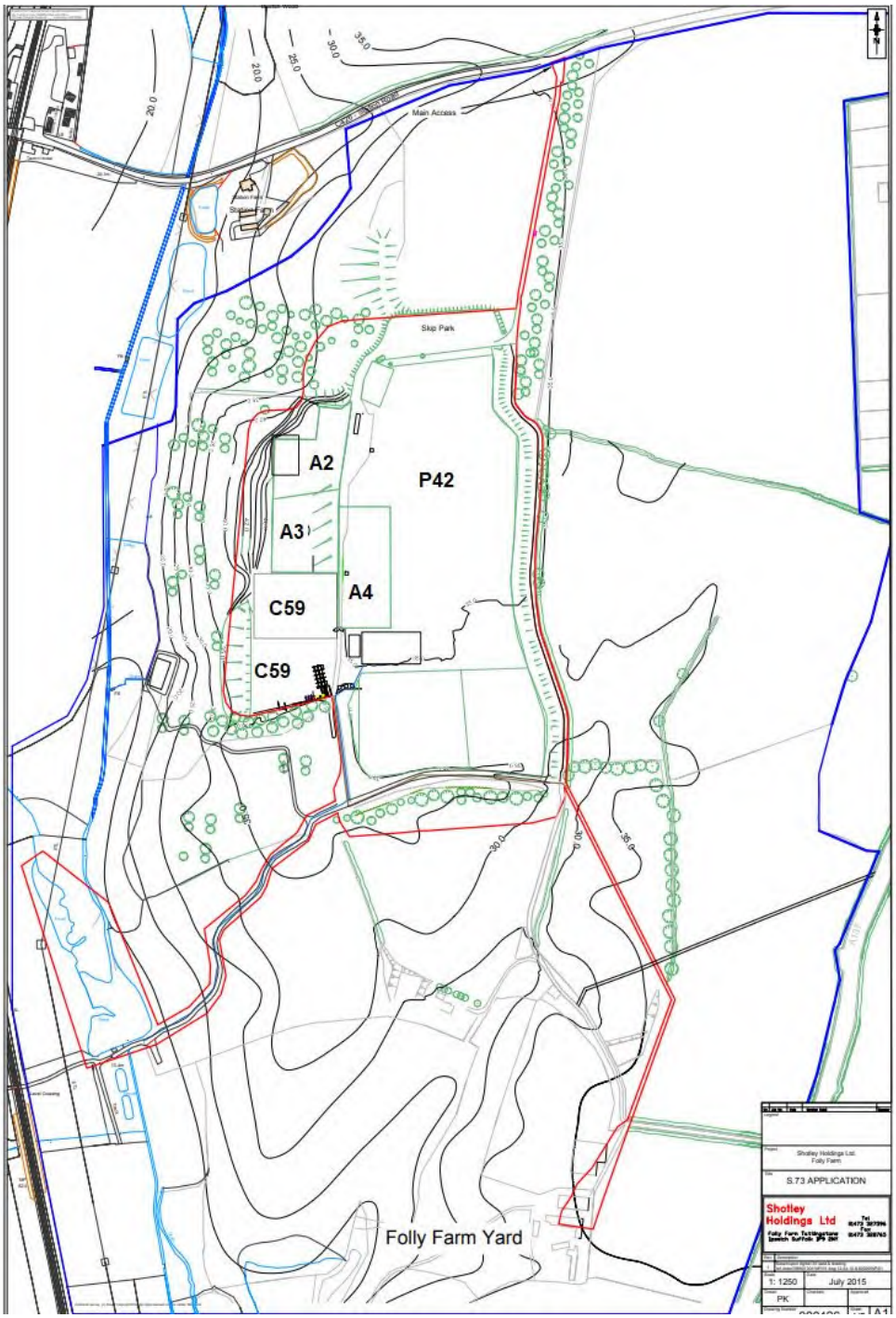
The site is located to the south of Ipswich, between the A137, which links Colchester and Ipswich, and the Great Eastern Main Line, a major rail route linking Norwich and London. In the absence of site operations, the main noise sources in the area are from transportation sources comprising of, road, rail and air.

The site lies between the villages of Bentley (approximately 1.2km west) and Tattingstone (approximately 1.5km east). A number of isolated dwellings are located around the perimeter of the site.

This Technical Note concerns Condition 19 of planning permission references SCC\0091\17B, SCC\0092\17B and SCC\0093\17B which restricts use of plant and machinery to specific areas of the site as defined on plan 000426, (reproduced below as Figure 2.1).

Removal of Condition 19 would give the site operator greater flexibility to undertake site operations by moving plant and machinery to areas where minerals extraction and restoration are taking place rather than having to track materials around the site.

Figure 2.1 – Site plan 000426 identifying areas of the site referred to in planning permissions

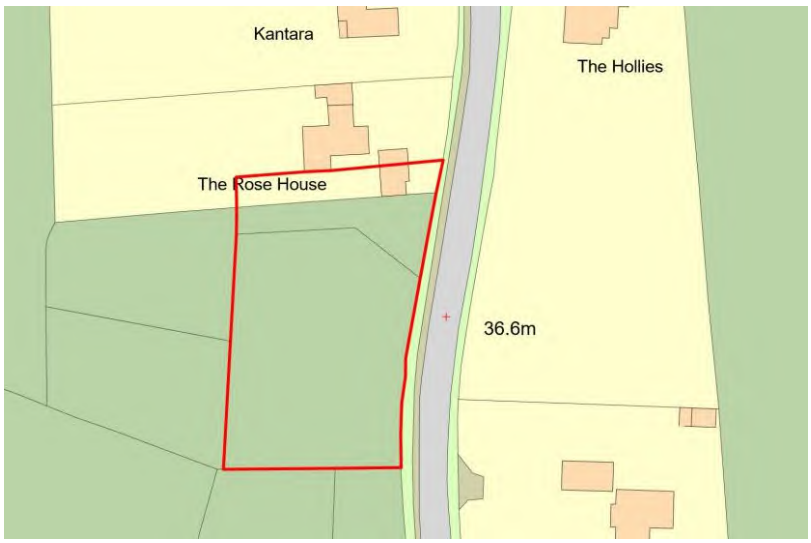


Condition 11 of planning permissions SCC\0091\17B, SCC\0092\17B and SCC\0093\17B specifies noise limits for the current operations, and identifies the nearest residential receptors to the site. Condition 11 is reproduced below.

> ***Noise control***
>
> ***11*** *Noise from operations on the site shall not exceed the following LAeq values: Excavation, landfill, and waster recovery/recycling operations:*
>
> *a) 50db(A) Leq (1hour) at;*
> *i) Rose Garth, Tattingstone*
> *ii) Folly Farm bungalow*
> *iii) Coppey Farm, Bentley*
> *iv) Dingle Dell, Bentley*
> *v) Station Farm, Bentley*
>
> *b) 45dB(A) Leq (1 hour) at;*
> *i) Teapot Hill, Bentley*
> *ii) Grid Ref 113368, (edge of Silver Leys), Bentley*
>
> *Soil stripping, bund formation and removal:*
>
> *c) 70dB(A) Leq (1hour) at any of the above locations, and work restricted to a maximum of 8 weeks within any 12 month period.*
>
> *d) Noise will normally be measured free field. In the event of complaint noise may be measured at the façade(s) and these measurements would take precedence. The façade noise limit is set at a point one metre from the façade and 1-2 metres above ground level and it includes a +3dB correction for reflection effects.*

More recently, (planning permissions in 2019, 2021, 2022), new residential housing has been approved and developed to the east of the site located along the A137 and to the south of existing housing at The Heath. The location of the housing is identified in Figure 2.2 below. Given the proximity of the housing to The Rose House (referred to in Condition 11 as "Rose Garth") the same noise limit of 50dB(A) L_{eq} (1 hour) is considered appropriate for the new housing.

Figure 2.2 – Site location plan showing new residential housing at The Heath



3. Assessment Approach

The site operator is seeking removal of Condition 19 of planning permission references SCC\0091\17B, SCC\0092\17B and SCC\0093\17B to allow greater flexibility for site operations and activities. This Technical Note provides a noise impact assessment setting out calculated noise levels from the mobile plant identified in Condition 19 at the nearest residential receptors listed in Condition 11 (including also the new development south of The Rose House).

The intention is to show that the calculated site noise levels comply with the noise limits specified in Condition 11 when plant / machinery is operating outside of the areas defined within Condition 19, demonstrating that the noise impact is acceptable and the operational restrictions of Condition 19 are not needed.

4. Site Noise Survey

A noise survey was undertaken on the site between 13:45 and 14:40 on Thursday 4th August 2022 to gain typical noise levels of plant and machinery currently used on site and as referenced in Condition 19. The full noise survey details and results are presented in Appendix B.

Condition 19 references a low speed shredder, which is no longer used on site and as such was not measured during the survey and has therefore not been considered in the calculated noise levels. The soils wash plant referenced in Condition 19 is also not currently on site but the plant will be installed soon. A representative sound power level for the soils wash plant is based on manufacturer's data provided by the site operator for the plant likely to be used on site and has been supplemented with measurements of similar wash plant undertaken by WBM on other sites and included in the WBM plant noise database.

Measurements of the crusher were made on site, but without material passing through. The measured noise level from the on site measurements has been supplemented with data from the WBM plant noise database of a comparable crusher with material running through to obtain a representative sound power level for the calculations.

Table 4.1 below provides a summary of the sound power levels used to calculate noise levels at the nearest residential dwellings.

Table 4.1 – Summary of plant items and sound power levels used in calculations

Activity	Plant item	Sound power level dB (L_{wA})	Source height (m)
Concrete crushing	Crusher	110	3.5
	Excavator	104	2
Soil screening	Screener	104	3.5
	Loading shovel	104	2
Sand screening	Screener	104	3.5
	Loading shovel	104	2
Soils wash plant	Wash plant	105	4
	Excavator	104	2

5. Calculated Noise Levels

Condition 19 refers only to specific items of plant, namely the concrete crusher, front loader machine (loading shovel), soils wash plant and screener (the low speed shredder is no longer used on site). The condition does not refer specifically to ancillary mobile plant that would be used in connection with these operations, for example an excavator. However, to present a worst case assessment it is assumed that a loading shovel or excavator will be used with each item of machinery (concrete crusher / screener / soils wash plant).

The calculations in this Technical Note are based on the methods contained in BS5228-1: 2009 “Code of practice for noise and vibration control on construction and open sites – Part 1: Noise” + A1: 2014, Annex F.

In all cases it is assumed that plant and machinery operate for 100% of the time. This presents a worst case scenario that in all likelihood will not occur in practice.

As the site operator is seeking flexibility of the site layout, two scenarios have been considered for the location of plant and machinery. Scenario 1 considers plant / machinery located at the closest part of the site to the residential dwelling(s). Whilst this is the worst case in terms of separation distance, in some cases it offers the best reduction due to boundary screening. There are substantial bunds and topographic barriers around areas of the site that afford significant reductions in noise levels. Bunding / barriers are most effective when located very close to the source or very close to the receiver, but they are less effective when located at the midpoint between source and receiver. Therefore, in order to consider an alternative worst case, Scenario 2 considers plant / machinery located approximately in the middle of the site where boundary screening would be least effective. As the soils wash plant will be in a fixed location, see plan in Appendix C, the associated noise levels have been calculated from this fixed location for both scenarios.

The calculated noise levels are presented below for each residential receiver location and for the two scenarios described above. A plan showing the assessment locations is presented in Appendix C. Each main item of machinery is considered separately (i.e. crusher, soil screener, soils wash plant, sand screener – with the associated ancillary equipment such as excavator or loading shovel) and then a worst case assumption that both the crusher and soil screener could operate simultaneously at the same location with the soils wash plant operating in the fixed location. The calculated site noise levels are compared to the site noise limits specified in Condition 11.

Table 5.1 – Scenario 1: calculated noise levels (closest point of site to dwelling)

Assessment Location	Noise Limit Location	Noise Limit dB(A) $L_{eq,1hour}$	Calculated Noise Level dB(A) $L_{eq,1hour}$				
			Concrete crushing	Soil screening	Sand screening	Soils wash plant	Concrete crushing and soil screening (same location) + soils wash plant
Station House	Station House	50	44	40	40	32	45
Rose House	Rose Garth	50	49	45	45	36	50
New Houses	Rose Garth	50	49	45	45	36	50
Braemer Bungalow	Folly Farm Bungalow	50	44	40	40	40	47
Folly Farm House	Folly Farm Bungalow	50	36	33	33	32	39
Coppey Farm	Coppey Farm	50	35	31	31	30	37
Teapot House	Teapot Hill	45	29	25	25	24	31
Silver Leys	Silver Leys	45	29	25	25	22	31
Dingle Dell	Dingle Dell	50	34	30	30	25	36

Table 5.1 shows that the calculated site noise levels will not exceed the site noise limits specified in Condition 11 at the nearest residential locations when plant / machinery is located at the closest point of the site to the dwelling.

Table 5.2 – Scenario 2: calculated noise levels (middle of site)

Assessment Location	Noise Limit Location	Noise Limit dB(A) $L_{eq,1hour}$	Calculated Noise Level dB(A) $L_{eq,1hour}$				
			Concrete crushing	Soil screening	Sand screening	Soils wash plant	Concrete crushing and soil screening (same location) + soils wash plant
Station House	Station House	50	42	38	39	32	44
Rose House	Rose Garth	50	46	42	42	36	48
New Houses	Rose Garth	50	46	42	42	36	48
Braemer Bungalow	Folly Farm Bungalow	50	44	40	40	40	47
Folly Farm House	Folly Farm Bungalow	50	40	36	36	32	42
Coppey Farm	Coppey Farm	50	40	36	36	30	42
Teapot House	Teapot Hill	45	32	28	29	24	34
Silver Leys	Silver Leys	45	33	29	29	22	34
Dingle Dell	Dingle Dell	50	35	31	31	25	37

Table 5.2 shows that the calculated site noise levels will be below the site noise limits specified in Condition 11 at all locations when plant / machinery is located within the centre of the site, i.e. where boundary screening is least effective for reducing noise at nearby dwellings.

6. Summary and Conclusions

WBM has been retained by PDE Consulting Ltd on behalf of Shotley Holdings Ltd to provide a noise impact assessment to accompany an application for the removal of Condition 19 of planning permission SCC\0091\17B, SCC\0092\17B and SCC\0093\17B. Condition 19 restricts use of plant / machinery to specific areas of the site.

Calculations have been undertaken to determine expected site noise levels from plant and machinery referenced in Condition 19 at the nearest residential dwellings. Two scenarios have been considered to represent the typical worst cases for noise propagation between plant / machinery on site and the nearby dwellings.

The calculated noise levels for both scenarios show that the site noise limits specified in Condition 11 of permission SCC\0091\17B, SCC\0092\17B and SCC\0093\17B will be met at the nearest dwellings to the site and in most cases will be a good margin below the site noise limits.

Removal of Condition 19 would give the site operator greater flexibility to undertake site operations by moving plant and machinery to areas where minerals extraction and restoration operations are taking place rather than having to track materials around the site. There is therefore an expected reduction in the overall site noise impact that has not been calculated as part of this assessment, due to the reduction in materials movement and handling facilitated by the removal of Condition 19.

This Technical Note demonstrates that removal of restrictions imposed by Condition 19 can be undertaken as proposed, whilst keeping site noise within environmentally acceptable levels.

Sarah Large
Senior Consultant

(This document has been generated electronically and therefore bears no signature)

Appendix A – Glossary of Acoustic Terms

The following section describes some of the parameters that are used to quantify noise.

Decibels dB

Noise levels are measured in decibels. The decibel is the logarithmic ratio of the sound pressure to a reference pressure (2x10-5 Pascals). The decibel scale gives a reasonable approximation to the human perception of relative loudness. In terms of human hearing, audible sounds range from the threshold of hearing (0 dB) to the threshold of pain (140 dB).

A-weighted Decibels dB(A)

The 'A'-weighting filter emulates human hearing response for low levels of sound. The filter network is incorporated electronically into sound level meters. Sound pressure levels measured using an 'A'-weighting filter have units of dB(A) which is a single figure value to represent the overall noise level for the entire frequency range.

A change of 3 dB(A) is the smallest change in noise level that is perceptible under normal listening conditions. A change of 10 dB(A) corresponds to a doubling or halving of loudness of the sound. The background noise level in a quiet bedroom may be around 20 –30 dB(A); normal speech conversation around 60 dB(A) at 1 m; noise from a very busy road around 70-80 dB(A) at 10m; the level near a pneumatic drill around 100 dB(A).

Façade Noise Level

Façade noise measurements are those undertaken near to reflective surfaces such as walls, usually at a distance of 1m from the surface. Façade noise levels at 1m from a reflective surface are normally around 3 dB greater than those obtained under freefield conditions.

Freefield Noise Level

Freefield noise measurements are those undertaken away from any reflective surfaces other than the ground

Frequency Hz

The frequency of a noise is the number of pressure variations per second, and relates to the "pitch" of the sound. Hertz (Hz) is the unit of frequency and is the same as cycles per second. Normal, healthy human hearing can detect sounds from around 20 Hz to 20 kHz.

Equivalent Continuous Sound Pressure Level $L_{Aeq,T}$

The 'A'-weighted equivalent continuous sound pressure level $L_{Aeq,T}$, is a notional steady level which has the same acoustic energy as the actual fluctuating noise over the same time period T. The $L_{Aeq,T}$ unit is dominated by higher noise levels, for example, the $L_{Aeq,T}$ average of two equal time periods at, for example, 70 dB(A) and 50 dB(A) is not 60 dB(A) but 67 dB(A).
The L_{Aeq}, is the chosen unit of BS 7445-1:2003 "Description and Measurement of Environmental noise".

Appendix A (continued)

Maximum Sound Pressure Level L_{Amax}

The L_{Amax} value describes the overall maximum 'A'-weighted sound pressure level over the measurement interval. Maximum levels are measured with either a fast or slow time weighted, denoted as $L_{Amax,f}$ or $L_{Amax,s}$ respectively.

Statistical Parameters L_N

In order to cover the time variability aspects, noise can be analysed into various statistical parameters, i.e. the sound level which is exceeded for N% of the time. The most commonly used are the $L_{A01,T}$, $L_{A10,T}$ and the $L_{A90,T}$.

$L_{A01,T}$ is the 'A'-weighted level exceeded for 1% of the time interval T and is often used to gives an indication of the upper maximum level of a fluctuating noise signal.

$L_{A10,T}$ is the 'A'-weighted level exceeded for 10% of the time interval T and is often used to describe road traffic noise. It gives an indication of the upper level of a fluctuating noise signal. For high volumes of continuous traffic, the $L_{A10,T}$ unit is typically 2–3 dB(A) above the $L_{Aeq,T}$ value over the same period.

$L_{A90,T}$ is the 'A'-weighted level exceeded for 90% of the time interval T, and is often used to describe the underlying background noise level.

Appendix B – Noise Survey Details

Date and Location of Survey

04 August 2022

On site at Shotley Holdings Ltd, Folly Farm

Survey carried out by

Sarah Large

Weather Conditions

Dry, warm, sunny / part cloudy, 22-24°C. Generally still at ground level, west / north westerly wind with occasional gusts up to 3-4m/s.

Instrumentation and Calibration

The instrumentation used (including serial number in brackets) is tabulated below. The sensitivity of the meter was verified on site immediately before and after the survey using the field calibrator. The measured calibration levels were as follows:

Instrumentation	Start Cal	End Cal
Norsonic 140 Sound Level Meter (1403138)	113.9 dB(A)	113.7 dB(A)
Norsonic 1251 Calibrator (31991)		

The meter and calibrator are tested monthly against Norsonic Calibrators, type 1253 (serial number 22906) and type 1256 (serial number 125626100) both with UKAS approved laboratory certificates of calibration. In addition, the meter and calibrator undergo traceable calibration at an external laboratory every two years.

Survey Details

Attended short term measurements were used to obtain noise levels from different activities and plant operation on site. The measurement duration was variable, but aimed to capture a full cycle of the activity being undertaken or a representative period of activity where sources were fairly steady and consistent.

The microphone was at a height of around 1.2-1.4m above local ground level, with a windshield used throughout

Appendix B (continued)

Results – Folly Farm, 04 August 2022

Activity	Start Time	Duration T (mm:ss)	Distance (m)	Results dB				Comments / Observations
				$L_{Aeq,T}$	$L_{Amax,f}$	$L_{A10,T}$	$L_{A90,T}$	
Crusher	13:46:18	04:28	12	73	79	77	61	Engine idling, no material running. At 13:47 increased engine load (max power).
Crusher	13:51:03	01:40	22	71	75	73	61	Engine idling, increased to max load, no material running. Engine idling 66-67dB(A), max load 74dB(A).
Wheel loader	14:00:16	00:18	8	76	77	77	75	HL960, engine idling and fan running.
Wheel excavator / grab	14:09:30	00:14	12	70	75	72	67	HW140 with grab.
Tracked excavator	14:10:36	00:43	3	88	98	93	77	HX220L Drive by at 2-3m closest point.
Soil screener	14:16:55	01:01	10	72	81	72	71	Powerscreen Warrior 1400X. Loading with HX220L most noise from screener).
Soil screener	14:18:11	00:30	18	72	79	75	68	
Soil screener	14:19:12	00:27	15	71	78	73	70	
Soil screener	14:20:06	00:17	30	67	75	69	64	
Soil screener	14:21:28	00:22	10	78	80	78	77	
Soil screener	14:22:11	00:28	25	69	76	70	68	
Dump truck	14:26:26	00:20	3	76	87	80	67	Volvo A30G. Engine idling and revved engine .
Dump truck	14:27:19	00:56	3	75	82	79	65	Volvo A30G. Drive by and maneuvering, reverse and drive by.
Sand screener	14:32:09	00:19	10	77	87	78	76	Machine running no material.
Sand screener	14:32:54	00:40	13.5	74	75	74	73	
Shovel loader	14:33:44	00:04	2	76	77	76	75	HL960 type. Drive by at 2m with bucket of sand.
Sand screener	14:34:08	00:23	13.5	75	76	75	74	Machine running with material.
Sand screener	14:34:48	00:14	24	70	71	71	70	
Sand screener	14:35:32	00:50	22.5	67	70	68	67	
Sand screener	14:36:36	00:27	10	73	75	74	73	

Spectral levels were also obtained and are available on request

Appendix C – Site Area Plan and Assessment Locations

Figure C.1 - Assessment Locations

Figure C.2 - Location of Soils Wash Plant

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Folly Farm Quarry, Tattingstone, Suffolk
Proposed Eastern Extension
Noise Impact Assessment

Date 13 January 2023

Author Sarah Large

ANC ACOUSTICS & NOISE CONSULTANTS

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WBM

WBM (the trading name of Walker Beak Mason Limited) is an established independent acoustic consultancy specialising in architectural & building acoustics, environmental noise, planning issues and expert work. WBM is a member of the Association of Noise Consultants and is also a Corporate Member of the Institute of Environmental Management & Assessment. The consultants are members of the Institute of Acoustics.

Document Control

Revision	Description	Date	Prepared by	Checked by
-	Draft	08/12/2022	Sarah Large	Robert Storey
1	Issue	09/12/2022	Sarah Large	Robert Storey
2	Revised Appendix C	13/01/2023	Sarah Large	Robert Storey

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Contents

1 Introduction

WBM has been retained by PDE Consulting Ltd on behalf of Shotley Holdings Ltd to provide a noise impact assessment to accompany a planning application for a proposed extension on land to the east of the existing Folly Farm Quarry.

This noise assessment sets out the findings of baseline surveys conducted in July and August 2022 at positions representative of the nearest noise sensitive properties to the site and extension area and reviews the noise limits already in place for site operations as set out in planning permission SCC\0091\17B, SCC\0092\17B, SCC\0093\17B.

The assessment sets out calculated noise levels arising from the ongoing operations on site in addition to those proposed in the extension area and compares those levels with the reviewed site noise limits at the nearest noise sensitive properties to the site.

To aid comprehension, a glossary of acoustic terms is presented in Appendix A. Summaries of the guidance documents used in this report are set out in Appendix B.

2 Site Description

The Folly Farm site has long been established as a quarry with activities including the extraction, processing, storage and sale of sand and gravel (predominantly sand), landfilling with inert and hazardous waste (asbestos), waste recycling activities, sale and onward distribution of recycled aggregates and associated ancillary operations. These activities have been undertaken at the site over a number of years in accordance with various planning permissions.

The site is located to the south of Ipswich, between the A137, which links Colchester and Ipswich, and the Great Eastern Main Line, a major rail route linking Norwich and London. In the absence of site operations, the main noise sources in the area are from transportation sources comprising of road, rail and air.

The site lies between the villages of Bentley (approximately 1.2km west) and Tattingstone (approximately 1.5km east). A number of isolated dwellings are located around the perimeter of the site.

2.1 Proposed Extension

The proposed extension area measures approximately 3.8Ha and is located to the east of the existing quarry site. It is proposed that mineral would be extracted from the extension area with the existing infrastructure at the existing quarry used to store, process, sell on and onwardly distribute aggregates. The proposed working hours, HGV route and number of HGVs accessing the site will remain the same. The currently permitted operating hours are specified in planning permission SCC\0091\17B, SCC\0092\17B, SCC\0093\17B, under Conditions 16 and 17 and are as follows:

- 07:30 – 18:00 Monday to Friday
- 07:30 – 13:00 Saturday
- 06:00 – 07:30 Monday to Saturday – vehicles permitted to depart the site.

It is proposed that the eastern extension area is split into two phases worked on a phase by phase basis. Soil stripping, storage of topsoils and subsoils and bund formation will occur at the start of each phase, with mineral extraction following. Extracted sand and gravel will be transported to the processing area by dump truck where it will be processed using the existing facilities. Restoration with inert materials will be progressive and as such it is feasible that restoration of phase 1 could occur simultaneously with mineral extraction in phase 2.

Phasing plans for the proposed eastern extension area are provided in Appendix C.

2.2 Existing Site Noise Limits

Condition 11 of planning permission SCC\0091\17B, SCC\0092\17B, SCC\0093\17B specifies noise limits for the current operations on site and identifies the nearest residential receptors to the existing site. Condition 11 is reproduced below.

"Noise control

11 *Noise from operations on the site shall not exceed the following LAeq values: Excavation, landfill, and waster recovery/recycling operations:*

a) 50db(A) Leq (1hour) at;
i) Rose Garth, Tattingstone
ii) Folly Farm bungalow
iii) Coppey Farm, Bentley
iv) Dingle Dell, Bentley
v) Station Farm, Bentley

b) 45dB(A) Leq (1 hour) at;
i) Teapot Hill, Bentley
ii) Grid Ref 113368, (edge of Silver Leys), Bentley

Soil stripping, bund formation and removal:

c) 70dB(A) Leq (1hour) at any of the above locations, and work restricted to a maximum of 8 weeks within any 12 month period.

d) Noise will normally be measured free field. In the event of complaint noise may be measured at the façade(s) and these measurements would take precedence. The façade noise limit is set at a point one metre from the façade and 1-2 metres above ground level and it includes a +3dB correction for reflection effects. "

The noise limits set out in Condition 11 have been reviewed with regard to updated baseline noise surveys undertaken in July and August 2022 in the area. This review also includes new and additional residential receptors in the vicinity of the site closer to the proposed eastern extension area.

3 Assessment Approach

3.1 Correspondence with Suffolk County Council

A screening and scoping request was submitted to Suffolk County Council (SCC) and a response regarding noise impact assessment was received from SRL, on behalf of SCC on 3rd May 2022. This identified four noise receptors close to the extension site boundary, The Hollies, Coppey Farm, Wallers Farm, Teapot Hill which have been included in this assessment along with the residential receptors identified in the existing planning permission for the site.

The SRL response also suggested assessment with regards to the methodology set out in BS4142: 2014; however, as the application for the eastern extension only concerns mineral extraction, processing and associated activities, the appropriate guidance to follow is that set out in the web document "*Planning Practice Guidance (Minerals)*" (PPGM) which provides the latest government advice for minerals sites.

The baseline survey methodology, calculation methodology and assessment were undertaken following the guidance in the PPGM (as opposed to BS4142) as agreed in email correspondence with SRL dated 18 May 2022. A summary of the guidance used to assess the noise impact of the site is provided in Section 3 below with further detail of the guidance documents used in this report set out in Appendix B.

The cumulative impact of the minerals extraction proposals along with other ongoing activities occurring on site has been considered in Section 6 and 7 of this report. Given the distance separation between the extension area and the nearest dwellings it was also agreed that only a brief overview of the impact from vibration would be appropriate.

A formal screening and scoping opinion was received from SCC on 31 May 2022 and included the following response on noise as well as referencing the correspondence with SRL outlined above.

> *"Action: As mentioned in paragraph 7.8 of the supporting statement the environment statement should include a baseline assessment of current noise parameters at sensitive locations around the site and the potential impact from the proposed development. As well as including potential mitigation / noise control measured where necessary."*

A baseline noise survey was undertaken in the vicinity of the site following a methodology agreed with SCC's consultant SRL. The findings of the baseline noise survey are summarised below. Calculated site noise levels at the nearest noise sensitive locations are set out in Sections 6 and 7 of this report and this includes consideration of proposed mitigation and any additional necessary controls.

3.2 Legislation and Planning Policy

The Noise Policy Statement for England (NPSE), published in March 2010, sets out the Government's long term policy for noise and sets three main aims:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.

The National Planning Policy Framework (NPPF) was published in March 2012 and came into force with immediate effect setting out the Government's planning policies for England. It was last updated in July 2021. At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development.

With regard to noise there are various aims, including that noise from a new development should avoid giving rise to significant adverse impacts on health and quality of life, and that other adverse impacts should be mitigated and reduced to a minimum including through the use of conditions.

Planning Practice Guidance on Noise (PPGN) was published in 2014 to provide additional guidance on meeting the objectives of the NPPF. The guidance assists in determining whether noise is likely to be a concern and supplements this with a noise exposure hierarchy table setting out noise effect levels, noise response and examples of outcomes and the appropriate action that needs to be taken.

Planning Practice Guidance on Minerals (PPGM) was also published in 2014 and includes advice for obtaining planning permission for minerals extraction and assessment of associated noise emissions. The appropriate standards for noise during normal operations are set out in Paragraph 021, reproduced below.

> *"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 ($L_{A90,1h}$) by more than 10dB(A) during normal working hours (0700-1900). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed 55dB(A) $L_{Aeq, 1h (free field)}$.*

For operations during the evening (1900-2200) the noise limits should not exceed the background noise level ($L_{A90,1h}$) by more than 10dB(A) and should not exceed 55dB(A) $L_{Aeq,\ 1h\ (free\ field\ )}$. For any operations during the period 22.00 – 07.00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A) $L_{Aeq,1h\ (free\ field)}$ at a noise sensitive property."

Paragraph 022 gives guidance for temporary operations and allows an increased daytime noise limit for such operations:

"Increased temporary daytime noise limits of up to 70dB(A) $L_{Aeq\ 1h\ (free\ field)}$ for periods of up to eight weeks in a year at specified noise-sensitive properties should be considered to facilitate essential site preparation and restoration work and construction of baffle mounds where it is clear that this will bring longer-term environmental benefits to the site or its environs."

A summary of the guidance in the NPSE, NPPF, PPGN and PPGM can be found in Appendix B.

3.3 Assessment Methodology for Determining Impacts

The noise impact of a site can be determined with information about the expected noise levels from a development and the existing noise environment. The approach may include assessment against threshold noise limits (based on established dose response relationships) or the change in noise level before and after the development and should be made on a case by case basis with regard to the type of noise. In this case Government guidance (PPGM) provides advice on acceptable noise levels for minerals sites, as outlined above, and this has been used to determine the noise impact (or impact magnitude).

The effect of a noise relates directly to the consequence of the noise impact magnitude and this must be evaluated to determine the significance of effect. The consequence of a noise impact will be dependent on the receptor and its sensitivity. The tables below set out how the noise impact from this site has been determined, including the sensitivity of potential receptors, the effect of the noise and finally the significance of effect.

Receptor Sensitivity

The consequence of a noise impact will be dependent on the receptor and its sensitivity. A summary of the sensitivity of potential noise receptors is provided in the table below.

Table 3.1 – Methodology for Assessing Sensitivity of Receptors

Sensitivity	Example of Receptor
Very High	World Heritage Sites Grade I Listed Buildings
High	Residential properties (permanent tenants) and schools and hospitals
Medium	Transient residential receptors such as users of hotels, users of public footpaths
Low	Commercial premises
Negligible	Assets with very little or no surviving cultural heritage interest

This assessment is focused on the residential properties closest to the proposed site which are all considered as being of high sensitivity.

Noise Impact Magnitude

The criteria for assessing the magnitude of the noise impact are outlined in the following table. These are based on long established noise indicators taken from the recommendations for acceptable noise levels in the PPGM guidance document.

Table 3.2 – Methodology for Assessing Magnitude of Impact for Site Noise Levels

Impact Magnitude	Typical Criteria Descriptors	
	Routine Operations	Temporary Operations
Slight	≤ 55 and ≤ L_{A90}+10	Not applicable
Moderate	≤ 55 and > L_{A90}+10	≤ 70 and ≤ 8 weeks per year
Substantial	> 55 and > L_{A90}+10	> 70 and > 8 weeks per year

Determining Significance and Nature of Effects

The significance of effect is determined by combining the magnitude of impact with the sensitivity of the receptor.

In this assessment any significance of effect that is defined as being above moderate/minor (i.e. moderate, major/moderate or major) is considered to be adverse. Any significance of effect below and including moderate/minor is considered to represent a "good standard of amenity".

Table 3.3 – Methodology for Assessing Significance of Effects (Significance of Effects Matrix)

		Magnitude of Impact			
		Substantial	**Moderate**	**Slight**	**Negligible**
Sensitivity	**Very High**	Major	Major	Major/Moderate	Neutral
	High	Major	Major/Moderate	Moderate/Minor	Neutral
	Medium	Major/Moderate	Moderate	Minor	Neutral
	Low	Moderate/Minor	Minor	Minor/Neutral	Neutral

3.4 Assessment Assumption Limitations

The greatest limitation of the assessment and the largest level of uncertainty is whether the proposed activity will give rise to the calculated noise level at the eleven receiver locations in practice.

The calculations and assessment have been based on all components of the mineral extraction, infilling and processing operations taking place simultaneously and for 100% of each hour (apart from the tipping of infill material which is included as taking place 10% of the time) during the expected working daytime periods to represent a realistic worst case scenario. In reality, this situation is unlikely to occur and noise levels would, in all likelihood, be lower than those presented in the assessment.

The site noise calculations do not include any allowance for air absorption, which would be minimal in any case and make no difference to the assessment.

The average background sound level was used in the assessment as the surveys covered a range of wind directions and this was considered to be representative of the background sound level that would be normal for the properties in the vicinity of the site.

4 Baseline Noise Surveys

4.1 Receptor locations

Condition 11 of planning permission SCC\0091\17B, SCC\0092\17B, SCC\0093\17B identifies seven residential receptors around the existing Folly Farm site. Folly Farm Bungalow, which is referenced in Condition 11, is not marked on any plans and it is assumed that this refers to dwellings now named Folly Farm House and/or Braemar Bungalow. The dwelling referenced in Condition 11 as Rose Garth is marked on recent plans as The Rose House.

More recently, (planning permissions in 2019, 2021, 2022), new residential housing has been approved and developed to the east of the site located along the A137 and to the south of existing housing at The Heath. Given the close proximity of this new housing to existing housing at The Rose House (referred to in Condition 11 as “Rose Garth”) it is considered reasonable for the purposes of the baseline noise surveys to use the measured noise levels at The Rose House as representative of those at the new housing site.

Correspondence with SRL also identified four residential receptors closer to the proposed eastern extension of the site, some of which are already identified in the existing planning permission for the site (i.e. Condition 11).

Table 4.1 below summarises the residential receptors identified above and considered in this assessment. It identifies proxy locations for baseline monitoring and includes the existing noise limits as set out in Condition 11 where appropriate.

A plan showing the residential receptor locations and the baseline noise monitoring locations is provided in Appendix D.

Table 4.1 – Summary of Nearest Residential Receptors

Receptor	Baseline noise monitoring location	Existing site noise limit dB $L_{Aeq,1hr}$	Description of baseline noise survey location/ comment
The Rose House (Rose Garth)	Proxy for The Rose House / The Heath / New Housing	50	Along bridleway east of A137.
The Hollies		*50**	
New Housing		*50**	
Folly Farm House	Folly Farm House	*50***	Installed sound level meter in garden area to south west of house.
Braemar Bungalow	Braemar Bungalow	*50***	On lane outside of dwelling.
Coppey Farm, Bentley	Coppey Farm	50	At entrance to driveway to Coppey Farm
Dingle Dell, Bentley	Dingle Dell	50	Along footpath approx. 120m NW of Dingle Dell
Station Farm, Bentley	Station Farm	50	Road side, opposite entrance to Station Farm
Teapot Hill, Bentley	Teapot House	45	At gated entrance to Teapot House.
Silver Leys, Bentley	Silver Leys	45	At end of road opposite garages and 21 Silver Leys
Wallers Farm	Wallers Farm	n/a	At road side at entrance to driveway to Wallers Farm.

* Noise limits not specified in Condition 11 but the nearest proxy location (The Rose House) is considered representative.

** Noise limits not specified in Condition 11 but it is considered these dwellings likely refer to the previously named Folly Farm Bungalow in Condition 11, with a noise limit of 50dB $L_{Aeq,1hr}$.

n/a Noise limit not given in Condition 11 and there are no locations specified in Condition 11 that are close enough to provide a proxy.

4.2 Measurement Description

Baseline noise surveys were undertaken in the vicinity of the Folly Farm site on Friday 29th July and Thursday 4th August 2022. A sound level meter was also installed at one of the nearest residential receptors to the site, Folly Farm House, to record sound levels continuously between Friday 29th and Thursday 4th August 2022.

As construction works were still ongoing at the new housing development at The Heath during the baseline survey, a proxy location for monitoring was used along a bridleway east of the A137 as representative of the new dwellings, The Rose House and The Hollies. The proxy location and the rear gardens of The Rose House and the new housing development are equidistant from the A137. As road traffic noise is a dominant noise source in the area, it is considered a suitable proxy location for baseline noise levels.

During the first baseline survey on Friday 29th July three sets of measurements were undertaken at the monitoring locations. The first set of measurements was undertaken when the site was operating as normal. The second and third set of measurements were undertaken with all site operations ceased, apart from isolated third-party vehicle movements. Given the short duration of such activity, it would have minimal influence on the background sound level (L_{A90}).

Comparison of the measurements with and without site activity on Friday 29th July indicated no significant difference in the measured baseline sound levels with and without site operations and as such, activity associated with the site was found not to be a significant influencer of measured ambient (L_{Aeq}) and background sound levels (L_{A90}) at the baseline monitoring locations.

The second survey on Thursday 4th August 2022 was undertaken when the site was operating as normal and based on the results of the first survey, can be considered representative of uninfluenced baseline sound levels.

4.3 Measurement Results

A summary of the measured baseline sound levels is given in Table 4.2 below. The full results are presented in Appendices D to F.

Table 4.2 – Summary of Baseline Noise Levels

Location	Monitoring Dates and Times	Average Ambient Sound Level dB $L_{Aeq,T}$	Average Background Sound Level dB $L_{A90,T}$	Range Background Sound Level dB $L_{A90,T}$
		T = 15 minutes		
The Rose House / The Heath / New Housing	29/07/2022 13:00, 14:43, 15:40 04/08/2022 12:36, 15:28	48	42	40-44
Folly Farm House	29/07/2022 12:15 – 04/08/2022 14:45*	45*	38*	29-47*
Braemar Bungalow	29/07/2022 13:21, 15:02, 15:59 04/08/2022 13:14, 15:08	46	41	34-46
Coppey Farm	29/07/2022 12:33, 14:25, 16:54 04/08/2022 11:11	45	39	34-44
Dingle Dell	29/07/2022 13:44, 15:30, 15:55 04/08/2022 12:12	48	38	34-41
Station Farm	29/07/2022 12:38, 14:18, 16:40 04/08/2022 10:45	65	40	36-44
Teapot House	29/07/2022 12:56, 14:49, 16:34 04/08/2022 11:32	45	37	32-40
Silver Leys	29/07/2022 13:22, 15:12, 16:13 04/08/2022 11:54	44	37	34-39
Wallers Farm	29/07/2022 13:41, 15:21, 16:17 04/08/2022 12:55	70	45	43-46
* Installed sound level meter. Only data obtained within site operational hours has been used to calculate baseline sound levels.				

Table 4.3 below compares the existing site noise limits (at locations where limits are set) for routine operations with those based on the baseline survey data and the advice contained in PPGM. Where limits are not already prescribed by Condition 11 of the existing permission, suggested noise limits are provided based on the baseline survey data and the advice contained in PPGM.

Table 4.3 – Review of Site Noise Limits

Location	**Average Background Sound Level dB $L_{A90,15min}$**	**PPGM Site Noise Limit dB $L_{Aeq,1hr\ free\ field}$**	**Existing Site Noise Limit dB $L_{Aeq,1hr\ free\ field}$**
The Rose House / The Heath / New Housing	42	52	50
Folly Farm House	38*	48	50
Braemar Bungalow	41	51	50
Coppey Farm	39	49	50
Dingle Dell	38	48	50
Station Farm	40	50	50
Teapot House	37	47	45
Silver Leys	37	47	45
Wallers Farm	45	55	n/a

The baseline survey indicates that the existing site noise limits remain appropriate for the nearest residential locations around the site. Whilst there are small differences in the region of +/- 1 to 2 dB between the PPGM site noise limit based on the 2022 baseline noise surveys and the existing site noise limits, for simplicity, it is suggested that the existing site noise limits remain in place, including at Teapot House and Silver Leys where the baseline data indicates that higher noise limits could be imposed.

At Wallers Farm there is no existing site noise limit in place. Based on the results of the baseline survey and the advice contained in PPGM a site noise limit of 55dB $L_{Aeq,1hr}$ free field is suggested as appropriate.

The existing site noise limit at all locations for soil stripping, bund formation and removal is 70dB $L_{Aeq,1hr}$. This limit is not based on background sound levels and is in line with the advice for temporary operations provided in PPGM. As such, no suggested changes to the temporary noise limit (i.e. for soil stripping and bund formation / removal) are proposed.

5 Noise Sources and Sound Power Levels

5.1 Description of Sources (Quarry Extension)

Following the stripping and storage of topsoils and subsoils, the sand and gravel from the proposed site will be extracted by excavator and loaded into dump trucks for transportation to the plant site where it will be processed before being loaded into road going HGVs for transport off site or stockpiled on site.

The stripped soils and overburden will be used to create the bunding around the perimeter of the extension area that will remain in place throughout the working of the extension area.

The infilling of the subsequent void with material imported into the site will involve tipping of material direct from road going HGVs and placement of the material using a dozer.

Sound power levels for the machinery to be used in the working areas are based on measurements made on the Folly Farm site or typical measurements of similar plant items made elsewhere which are contained on the WBM plant noise database.

5.2 Site Plant Noise Survey

A noise survey was undertaken on the site between 13:45 and 14:40 on Thursday 4th August 2022 to gain typical noise levels of plant and machinery currently used on site. The full noise survey details and results are presented in Appendix G. The noise survey included measurements of activity that will be associated with the proposed quarry extension area such as mineral extraction as well as of existing operations that take place in the waste processing area of the site.

The soils wash plant to be used in connection with the quarry extension is not currently on site but the plant will be installed soon. A representative sound power level for the soils wash plant is based on manufacturer's data provided by the site operator for the plant likely to be used on site and has been supplemented with measurements of similar wash plants undertaken by WBM on other sites and included in the WBM plant noise database.

Measurements of the crusher associated with waste processing operations were made on site, but without material passing through. The measured noise level from the on site measurements has been supplemented with data from the WBM plant noise database of a comparable crusher with material running through to obtain a representative sound power level for the calculations.

5.3 Sound Power Levels Used in Calculations

Table 5.1 below provides the sound power levels used to calculate noise levels at the nearest residential dwellings for each aspect of the quarry extension as well as the waste processing operations, which will be considered as part of the cumulative noise impact for the site.

Table 5.1 – Summary of Plant Items and Sound Power Levels Used in Calculations

Plant item	Sound power level dB (L_{wA})	Source height (m)
Routine Extraction Operations (Including Processing)		
Excavator	104	2
Loading shovel	104	2
Wash plant	105	4
Sand screener	104	3.5
Dump Trucks	105	2
HGV movements (access road)	104	2
Infilling Operations		
HGVs Importing Infill	104	2
Dozer for Grading	106	2
HGVs Tipping Infill	107	1
Temporary Operations		
Excavator	104	2
Dump Trucks	105	2
Dozer for Grading	106	2
Waste Processing Operations		
Concrete crusher with associated excavator	111	3.5
Excavator working at picking line	109	2
Excavators sorting material piles (x 2)	107	2
Soil Screener with associated excavator / loading shovel	107	3.5
HGV movements (access road)	104	2

5.4 Site Operation Assumptions

In order to assess the noise levels for the proposed site operations, the contribution from each significant specific noise source has been evaluated separately and then combined together to give the overall noise level.

For mineral extraction, the ground height within the excavation area has been assumed to be 0.45 metres below existing ground levels based on information provided by the operator regarding the depth of soils and overburden, i.e. working at the highest point of the mineral.

For infilling, the ground height within the infilling area was included as being equal to the highest level of the extracted mineral and represents the likely highest level of infilling activity before final restoration.

Bunding to a height of 3 metres above local ground height as proposed in the application around Phase 1 has been included in the calculations and is to remain in place throughout the extraction and infilling of Phases 1 and 2.

For the purposes of examining a reasonable worst case, the various items have been assumed to operate at the closest practical position of the proposed extraction/infilling areas in each phase to each dwelling. It has also been assumed that the plant items work 100% of each hour apart from tipping during the infilling operation following completion of mineral extraction in each phase which is of short duration and has been included in the calculations as occurring for 10% of one hour.

Waste processing operations have been assumed to occur for 100% of each hour in the locations observed during the site visit on Thursday 4th August 2022 and are included in the calculations of cumulative noise impact.

6 Calculation of Site Noise Levels

6.1 Noise Calculation Methodology

The Equivalent Continuous Noise Level, $L_{Aeq, T}$, is the preferred unit for assessing noise sources. It is the value of a continuous level that would have equivalent energy to the continuously varying noise over the specified period "T". This unit is recommended internationally for the description of environmental noise and is in general use. It is the chosen unit of BS 5228 for Construction and Open site noise; Planning Practice Guidance to the National Planning Policy Framework and BS 7445 for the Description and Measurement of Environmental noise.

The noise levels likely to arise at dwellings depend on the method of working and the sound power levels of the plant chosen to work a site as much as on the distance to the properties and the effects of intervening ground. Proper allowance can be made for these variables in order to calculate site noise levels.

The Planning Practice Guidance for the NPPF in paragraph 19 states those making development proposals should consider “estimating the likely future noise from the development and its impact on the neighbourhood of the proposed operations”.

The Planning Practice Guidance published in March 2014 does not contain details of noise prediction methods and in the absence of detailed guidance in the NPPF, the calculations in this report are based on the methods contained in BS5228-1: 2009 + A1:2014 “Code of practice for noise and vibration control on construction and open sites – Part 1: Noise”.

Further details of the calculation methods are set out in Appendix H to this report. A summary site noise calculation sheet for one of the dwellings considered in the assessment is included in Appendix H.

Set back distances from any proposed bunding has been tested in the calculations and the highest calculated site noise levels presented.

The calculations assume the bunding proposed as shown on the application plans is in place and remains throughout the extraction and infilling of Phases 1 and 2.

The following stages of operation have been considered and the highest calculated level for each element are presented with regard to routine or temporary operations as appropriate:

- Temporary operations Phase 1 (temporary operations)
- Extraction Phase 1, processing on plant site (routine operations)
- Temporary operations Phase 2 with extraction ongoing Phase 1, processing on plant site (temporary operations)
- Extraction Phase 2 with infilling Phase 1, processing on plant site (routine operations)
- Infilling Phase 2, processing on plant site ceased except for soils wash plant and excavator (routine operations)

6.2 Routine Operations

A comparison of the calculated site noise levels and the existing / suggested site noise limits is provided in Table 6.1 below. The calculated site noise levels and the existing / suggested site noise limits in the tables below are all in terms of dB $L_{Aeq\ 1\ hour\ free\ field}$. A combined figure for all the routine operations taking place simultaneously is presented.

Table 6.1 – Calculated Site Noise Levels – Routine Operations

Location	Calculated Site Noise Level dB $L_{Aeq,1hr\ free\ field}$	Existing / Suggested Site Noise Limit dB $L_{Aeq,1hr\ free\ field}$	Complies with Noise Limit (Y/N)
The Rose House	47	50	Y
The Hollies	46	50	Y
New Housing at The Heath	48	50	Y
Folly Farm House	49	50	Y
Braemar Bungalow	49	50	Y
Coppey Farm	40	50	Y
Dingle Dell	40	50	Y
Station Farm	43	50	Y
Teapot House	34	45	Y
Silver Leys	36	45	Y
Wallers Farm	39	55	Y

The calculated site noise levels for routine extraction, infilling and processing comply with the suggested site noise limits at all of the chosen assessment locations.

6.3 Temporary Operations

A comparison of the calculated site noise levels during temporary operations and the PPGM suggested site noise limit for temporary operations of 70 dB $L_{Aeq\ 1\ hour\ free\ field}$ is provided in Table 6.2 below. The calculated site noise levels and the suggested site noise limits in the tables below are all in terms of dB $L_{Aeq\ 1\ hour\ free\ field}$. The highest calculated value for temporary operations in either Phase 1 or Phase 2 is presented.

Table 6.2 – Calculated Site Noise Levels – Temporary Operations

Location	Calculated Site Noise Level dB $L_{Aeq,1hr\ free\ field}$	Existing / Suggested Site Noise Limit dB $L_{Aeq,1hr\ free\ field}$	Complies with Noise Limit (Y/N)
The Rose House	55	70	Y
The Hollies	51	70	Y
New Housing at The Heath	55	70	Y
Folly Farm House	52	70	Y
Braemar Bungalow	52	70	Y
Coppey Farm	41	70	Y
Dingle Dell	41	70	Y
Station Farm	43	70	Y
Teapot House	35	70	Y
Silver Leys	37	70	Y
Wallers Farm	40	70	Y

The calculated site noise levels for temporary operations, such as soil stripping and bund formation, comply with the suggested site noise limits at all of the chosen assessment locations.

6.4 Cumulative Impact

The cumulative impact of the existing waste processing operations and the proposed quarry extension have been considered and compared to the existing / suggested site noise limits in Table 6.3 below. This is based on a typical worst case approach with all plant and machinery on site operating simultaneously and for 100% of the 1 hour assessment period (with the exception of tipping of infill which occurs for 10% of the assessment period). Cumulative impact from both routine and temporary operations has been considered in the table below.

Table 6.3 – Calculated Site Noise Levels – Cumulative Impact

Location	Routine Operations			Temporary Operations		
	Calculated Site Noise Level dB $L_{Aeq,1hr}$ free field	Existing / Suggested Site Noise Limit dB $L_{Aeq,1hr}$ free field	Complies with Noise Limit (Y/N)	Calculated Site Noise Level dB $L_{Aeq,1hr}$ free field	Existing / Suggested Site Noise Limit dB $L_{Aeq,1hr}$ free field	Complies with Noise Limit (Y/N)
The Rose House	49	50	Y	56	70	Y
The Hollies	48	50	Y	53	70	Y
New Housing at The Heath	50	50	Y	56	70	Y
Folly Farm House	50	50	Y	52	70	Y
Braemar Bungalow	50	50	Y	52	70	Y
Coppey Farm	44	50	Y	44	70	Y
Dingle Dell	42	50	Y	43	70	Y
Station Farm	48	50	Y	48	70	Y
Teapot House	40	45	Y	40	70	Y
Silver Leys	38	45	Y	39	70	Y
Wallers Farm	42	55	Y	42	70	Y

The calculated site noise levels including cumulative impact from the existing waste processing operations comply with the existing / suggested site noise limits at all of the chosen assessment locations for both routine and temporary operations.

7 Likely Significant Environmental Effects

The existing site noise limits have been reviewed based on updated baseline noise survey data obtained in 2022 and are considered to remain appropriate for the site based on the average background sound levels and guidance contained in the web document “Planning Practice Guidance” for Minerals (PPGM).

Noise levels at eleven of the nearest residential receptor locations to the site have been calculated for routine and temporary operations. Consideration was also given to the cumulative impact of the existing, permitted waste processing operations at the site.

The highest values of all the stages of operations considered have been presented below for each receiver location in order to represent a worst case scenario. This includes cumulative impact from the waste processing operations. The sensitivity of the receptor, the impact magnitude and significance of effect are considered with reference to Table 3.2 and Table 3.3.

Routine Operations

Table 7.1 –Consideration of Environmental Effects – Routine Operations

Location	Calculated Site Noise Level dB $L_{Aeq,1hr}$ free field	Existing / Suggested Site Noise Limit dB $L_{Aeq,1hr}$ free field	Complies with Noise Limit (Y/N)	Receptor Sensit-ivity	Magnitude of Impact	Significance of Impact
The Rose House	49	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
The Hollies	48	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
New Housing at The Heath	50	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Folly Farm House	50	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Braemar Bungalow	50	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Coppey Farm	44	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Dingle Dell	42	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Station Farm	48	50	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Teapot House	40	45	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Silver Leys	38	45	Y	High	Slight	Moderate / Minor Good Standard of Amenity
Wallers Farm	42	55	Y	High	Slight	Moderate / Minor Good Standard of Amenity

All the receptors considered are of high sensitivity. The highest calculated site noise levels at all the stages of the routine operations, including cumulative impact from the existing waste processing operations, comply with the suggested site noise limits at all of the chosen assessment locations and are below the maximum PPGM recommended daytime limit of 55dB $L_{Aeq, 1h (free field)}$. Noise from the site therefore represents a slight impact, which combined with the receptor sensitivity indicates that the noise impact significance is "Moderate/Minor" and that a good standard of amenity can be achieved.

Temporary Operations

Table 7.1 –Consideration of Environmental Effects – Routine Operations

Location	Calculated Site Noise Level dB $L_{Aeq,1hr}$ free field	Existing / Suggested Site Noise Limit dB $L_{Aeq,1hr}$ free field	Complies with Noise Limit (Y/N)	Receptor Sensitivity	Magnitude of Impact	Significance of Impact
The Rose House	56	70	Y	High	Moderate	Major / Moderate
The Hollies	53	70	Y	High	Moderate	Major / Moderate
New Housing at The Heath	56	70	Y	High	Moderate	Major / Moderate
Folly Farm House	52	70	Y	High	Moderate	Major / Moderate
Braemar Bungalow	52	70	Y	High	Moderate	Major / Moderate
Coppey Farm	44	70	Y	High	Moderate	Major / Moderate
Dingle Dell	43	70	Y	High	Moderate	Major / Moderate
Station Farm	48	70	Y	High	Moderate	Major / Moderate
Teapot House	40	70	Y	High	Moderate	Major / Moderate
Silver Leys	39	70	Y	High	Moderate	Major / Moderate
Wallers Farm	42	70	Y	High	Moderate	Major / Moderate

All the receptors considered are of high sensitivity. The highest calculated site noise levels due to temporary operations, including cumulative impact from existing waste processing operations, are below the maximum PPGM recommended temporary operations limit of 70dB $L_{Aeq, 1h (free field)}$ and comply with the existing / suggested site noise limits for routine operations at three of the eleven chosen assessment locations.

Impacts from temporary operations begin with a moderate impact magnitude in the assessment matrix and therefore noise from the site during temporary operations represents a moderate impact, which combined with the receptor sensitivity indicates that the noise impact significance is “Major/Moderate” with the potential for some adverse impact.

However, the nature of temporary operations is brief and operations with higher noise levels will typically take 2-3 weeks to complete, for example bund formation, with other activity reducing in noise level as works move further away from receptor locations, as bunds are put in place providing screening and as soil is stripped to lower the ground level and provide greater screening from operations.

It is further noted that the highest calculated cumulative noise level from temporary operations and existing waste processing operations is 56dB $L_{Aeq, 1h (free field)}$ at The Rose House and at the new housing at The Heath. This exceeds the maximum daytime PPGM limit for routine operations by 1dB(A). At all other assessment locations the cumulative noise level from temporary operations and existing waste processing operations is below the maximum daytime PPGM limit for routine operations of 55dB $L_{Aeq, 1h (free field)}$ In context therefore, the temporary operations for the site are unlikely to result in adverse impact.

Residual Effects

At a distance, noise from machinery used at mineral workings does not usually contain a distinguishable tone nor does it tend to be impulsive. The use of reversing bleepers on site plant is a separate matter. Where reversing sirens or bleepers are used on mobile site plant and could give rise to noise problems, the use of quieter or silent types of alarm or warning devices that are more environmentally acceptable should be explored and is recommended.

8 Summary and Conclusions

This report sets out the findings of a noise assessment for sand and gravel extraction, processing and infilling of the extraction void with imported material at an eastern extension area to Folly Farm Quarry. Current guidelines on noise from minerals sites are contained in the web document "*Planning Practice Guidance (Minerals)*" (PPGM), first published in March 2014.

Condition 11 of the current planning permission SCC\0091\17B, SCC\0092\17B, SCC\0093\17B for the Folly Farm site specifies noise limits for the current operations and identifies the nearest residential receptors to the existing site. The existing noise limits have been reviewed with regard to background sound levels measured in July and August 2022 and the guidance provided in the PPGM. Noise limits have been suggested where appropriate for new housing or housing not considered in planning condition 11.

Site noise calculations have been undertaken at eleven locations representative of the nearest dwellings to the proposed extension area. The calculated site noise levels are presented for inspection and comparison with the existing / suggested site noise limits at the dwellings. Bunding to a height of 3 metres above local ground height as proposed in the application around Phase 1 has been included in the calculations and is to remain in place throughout the extraction and infilling of Phases 1 and 2.

The calculated site noise levels for routine and temporary operations in the proposed extraction/infilling areas designated Phases 1 and 2 comply with the existing and suggested site noise limits at all the assessment locations, provided the proposed bunding is in place. The cumulative impact from the proposed extension and the existing, permitted waste processing activities on site has also been considered and is shown to comply with the existing and suggested site noise limits at all the assessment locations.

Since the proposed operations conform to the advice set out in the Planning Practice Guidance with regard to both routine and temporary operations, it is considered that the site can be worked while keeping noise emissions to within environmentally acceptable limits.

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Appendix A – Glossary of Acoustic Terms

General Noise and Acoustics

The following section describes some of the parameters that are used to quantify noise.

Decibels dB

Noise levels are measured in decibels. The decibel is the logarithmic ratio of the sound pressure to a reference pressure ($2x10^{-5}$ Pascals). The decibel scale gives a reasonable approximation to the human perception of relative loudness. In terms of human hearing, audible sounds range from the threshold of hearing (0 dB) to the threshold of pain (140 dB).

A-weighted Decibels dB(A)

The 'A'-weighting filter emulates human hearing response for low levels of sound. The filter network is incorporated electronically into sound level meters. Sound pressure levels measured using an 'A'-weighting filter have units of dB(A) which is a single figure value to represent the overall noise level for the entire frequency range.

A change of 3 dB(A) is the smallest change in noise level that is perceptible under normal listening conditions. A change of 10 dB(A) corresponds to a doubling or halving of loudness of the sound. The background noise level in a quiet bedroom may be around 20 –30 dB(A); normal speech conversation around 60 dB(A) at 1 m; noise from a very busy road around 70-80 dB(A) at 10m; the level near a pneumatic drill around 100 dB(A).

Façade Noise Level

Façade noise measurements are those undertaken near to reflective surfaces such as walls, usually at a distance of 1m from the surface. Façade noise levels at 1m from a reflective surface are normally around 3 dB greater than those obtained under freefield conditions.

Freefield Noise Level

Freefield noise measurements are those undertaken away from any reflective surfaces other than the ground

Frequency Hz

The frequency of a noise is the number of pressure variations per second, and relates to the "pitch" of the sound. Hertz (Hz) is the unit of frequency and is the same as cycles per second. Normal, healthy human hearing can detect sounds from around 20 Hz to 20 kHz.

Octave and Third-Octave Bands

Two frequencies are said to be an octave apart if the frequency of one is twice the frequency of the other. The octave bandwidth increases as the centre frequency increases. Each bandwidth is 70% of the band centre frequency.

Two frequencies are said to be a third-octave apart if the frequency of one is 1.26 times the other. The third octave bandwidth is 23% of the band centre frequency.

There are recognised octave band and third octave band centre frequencies. The octave or third-octave band sound pressure level is determined from the energy of the sound which falls within the boundaries of that particular octave of third octave band.

Appendix A (continued)

Day Evening Night Level L_{den}

The day evening night level is the average A-weighted sound level over a 24 hour period, determined from the L_{day} ($L_{Aeq,12hr}$ 7am-7pm), $L_{evening}$ ($L_{Aeq,4hr}$ 7pm-11pm) and L_{night} ($L_{Aeq,8hr}$ 11pm-7am), with a 5 dB penalty added to the $L_{evening}$ and a 10 dB penalty added to the L_{night}.

Equivalent Continuous Sound Pressure Level $L_{Aeq,T}$

The 'A'-weighted equivalent continuous sound pressure level $L_{Aeq,T}$, is a notional steady level which has the same acoustic energy as the actual fluctuating noise over the same time period T. The $L_{Aeq,T}$ unit is dominated by higher noise levels, for example, the $L_{Aeq,T}$ average of two equal time periods at, for example, 70 dB(A) and 50 dB(A) is not 60 dB(A) but 67 dB(A).

The $L_{Aeq,}$ is the chosen unit of BS 7445-1:2003 "Description and Measurement of Environmental noise".

Maximum Sound Pressure Level L_{Amax}

The L_{Amax} value describes the overall maximum 'A'-weighted sound pressure level over the measurement interval. Maximum levels are measured with either a fast or slow time weighted, denoted as $L_{Amax,f}$ or $L_{Amax,s}$ respectively.

Noise Rating NR

The noise rating level is a single figure index obtained from an octave band analysis of a noise. The NR level is obtained by comparing the octave band sound pressure levels to a set of reference curves and the highest NR curve that is intersected by the sound pressure levels gives the NR level.

Sound Exposure Level L_{AE} or SEL

The sound exposure level is a notional level which contains the same acoustic energy in 1 second as a varying 'A'-weighted noise level over a given period of time. It is normally used to quantify short duration noise events such as aircraft flyover or train passes.

Statistical Parameters L_N

In order to cover the time variability aspects, noise can be analysed into various statistical parameters, i.e. the sound level which is exceeded for N% of the time. The most commonly used are the $L_{A01,T}$, $L_{A10,T}$ and the $L_{A90,T}$.

$L_{A01,T}$ is the 'A'-weighted level exceeded for 1% of the time interval T and is often used to gives an indication of the upper maximum level of a fluctuating noise signal.

$L_{A10,T}$ is the 'A'-weighted level exceeded for 10% of the time interval T and is often used to describe road traffic noise. It gives an indication of the upper level of a fluctuating noise signal. For high volumes of continuous traffic, the $L_{A10,T}$ unit is typically 2–3 dB(A) above the $L_{Aeq,T}$ value over the same period.

$L_{A90,T}$ is the 'A'-weighted level exceeded for 90% of the time interval T, and is often used to describe the underlying background noise level.

Appendix B – Guidance Documents

Summaries of guidance documents are set out in this Appendix.

The documents include:

Noise Policy Statement for England (NPSE) 2010

National Planning Policy Framework (NPPF) 2021

Planning Practice Guidance Noise (PPGN)

Planning Practice Guidance Minerals (PPGM)

Appendix B (continued)

Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) was published in March 2010. The aim of the document is to "…*provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion*".

The long term vision of noise policy is 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*".

The long term vision is supported by 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; and*
- *where possible, contribute to the improvement of health and quality of life*."

The Explanatory Note to the NPSE introduces the concepts of observed effect levels with regard to noise.

NOEL (No Observed Effect Level) - this is the level below which no effect can be detected, i.e. below this level there is no detectable effect on health and quality of life due to the noise.

LOAEL (Lowest Observed Adverse Effect Level) – this is the level above which adverse effects on health and quality of life can be detected due to noise.

SOAEL (Significant Observed Adverse Effect Level) – this is the level above which significant adverse effects on health and quality of life occur due to noise.

With regard to the first aim of the NPSE, any noise impacts that are above SOAEL should be avoided.

Where the impact lies somewhere between LOAEL and SOAEL, the second aim of the NPSE requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life. However, as stated in paragraph 2.24 of the Explanatory Note to the NPSE "*This does not mean that such adverse effects cannot occur*".

Appendix B (continued)

National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England. The latest version was published in July 2021.

At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development.

Section 15 of the NPPF (Conserving and enhancing the natural environment) refers specifically to noise in the following paragraphs:

"*174. Planning policies and decisions should contribute to and enhance the natural and local environment by…*

(e) 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…"

"*185. 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…"

Paragraph 185(a) also refers to the Explanatory Note to NPSE, 2010

Paragraph 187 refers to the integration of new development with existing businesses and facilities:

"*187. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed*."

Appendix B (continued)

Mineral sites are considered in Section 17 (Facilitating the sustainable use of minerals) of the NPPF.

"*210. Planning policies should …*

(e) safeguard existing, planned and potential sites for: the bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material;

f) set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality;

(g) when developing noise limits, recognise that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction..."

"*211. When determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy. In considering proposals for mineral extraction, minerals planning authorities should…*

(c) ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source, and establish appropriate noise limits for extraction in proximity to noise sensitive properties…"

The term "*sites for: the bulk transport, handling and processing of minerals*" is a general term which WBM considers to include rail heads, rail links to quarries and related sites, wharfage and associated storage.

Paragraph 211(c) advises that the national planning guidance on minerals sets out how these policies should be implemented.

Appendix B (continued)

Planning Practice Guidance Noise

Technical guidance on noise is provided by Planning Practice Guidance, published by the Ministry of Housing, Communities & Local Government. Planning Practice Guidance Noise (PPGN) was published in March 2014 and most recently updated in July 2019. This document provides advice on how planning can manage potential noise impacts in new development. It makes reference to the Explanatory Note of the NPSE and also the NPPF.

Paragraph 005 Reference ID: 30-005-20190722 of the PPGN provides guidance on how to establish if noise is likely to be a concern, including the noise exposure hierarchy and examples of outcomes, summarised overleaf. These can be referred to in the consideration of the effects of impacts.

Appendix B (continued)

PPGN Noise Exposure Hierarchy

Response	Examples of Outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

PPGN also refers to the “agent of change” principle set out in the NPPF. Paragraph: 009 Reference ID: 30-009-20190722 states:

“*How can the risk of conflict between new development and existing businesses or facilities be addressed?*

Development proposed in the vicinity of existing businesses, community facilities or other activities may need to put suitable mitigation measures in place to avoid those activities having a significant adverse effect on residents or users of the proposed scheme.

In these circumstances the applicant (or 'agent of change') will need to clearly identify the effects of existing businesses that may cause a nuisance (including noise, but also dust, odours, vibration and other sources of pollution) and the likelihood that they could have a significant adverse effect on new residents/users. In doing so, the agent of change will need to take into account not only the current activities that may cause a nuisance, but also those activities that businesses or other facilities are permitted to carry out, even if they are not occurring at the time of the application being made.

The agent of change will also need to define clearly the mitigation being proposed to address any potential significant adverse effects that are identified. Adopting this approach may not prevent all complaints from the new residents/users about noise or other effects, but can help to achieve a satisfactory living or working environment, and help to mitigate the risk of a statutory nuisance being found if the new development is used as designed (for example, keeping windows closed and using alternative ventilation systems when the noise or other effects are occurring).

It can be helpful for developers to provide information to prospective purchasers or occupants about mitigation measures that have been put in place, to raise awareness and reduce the risk of post-purchase/occupancy complaints."

In addition, Paragraph: 010 Reference ID: 30-010-20190722 states:

"*How can planning address the adverse effects of noise sources, including where the 'agent of change' needs to put mitigation in place?*

This will depend on the type of development being considered the type of noise involved and the nature of the proposed location. In general, for developments that are likely to generate noise, there are 4 broad types of mitigation:

- *engineering: reducing the noise generated at source and/or containing the noise generated;*
- *layout: where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose built barriers, or other buildings;*
- *using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise levels differentiating as appropriate between different times of day, such as evenings and late at night, and;*
- *mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building.*

For noise sensitive developments, mitigation measures can include avoiding noisy locations in the first place; designing the development to reduce the impact of noise from adjoining activities or the local environment; incorporating noise barriers; and optimising the sound insulation provided by the building envelope. It may also be possible to work with the owners/operators of existing businesses or other activities in the vicinity, to explore whether potential adverse effects could be mitigated at source. Where this is the case, it may be necessary to ensure that these source-control measures are in place prior to the occupation / operation of the new development. Where multiple development sites would benefit from such source control measures, developers are encouraged to work collaboratively to spread this cost. Examples of source control measures could include increased sound proofing on a building (e.g. a music venue) or enclosing an outdoor activity (e.g. waste sorting) within a building to contain emissions.

Care should be taken when considering mitigation to ensure the envisaged measures do not make for an unsatisfactory development."

Appendix B (continued)

Planning Practice Guidance Minerals

Paragraphs 19 to 22 inclusive of the "Minerals" chapter of the Planning Practice Guidance (PPGM), dated March 2014, are under the heading "Noise emissions" within the section "Assessing environmental impacts from mineral extraction". These paragraphs are reproduced below.

Paragraph 019 Reference ID: 27-019-20140306 states:

"***How should minerals operators seek to control noise emissions?***

Those making mineral development proposals, including those for related similar processes such as aggregates recycling and disposal of construction waste, should carry out a noise impact assessment, which should identify all sources of noise and, for each source, take account of the noise emission, its characteristics, the proposed operating locations, procedures, schedules and duration of work for the life of the operation, and its likely impact on the surrounding neighbourhood.

Proposals for the control or mitigation of noise emissions should:

- *consider the main characteristics of the production process and its environs, including the location of noise-sensitive properties and sensitive environmental sites;*
- *assess the existing acoustic environment around the site of the proposed operations, including background noise levels at nearby noise-sensitive properties;*
- *estimate the likely future noise from the development and its impact on the neighbourhood of the proposed operations;*
- *identify proposals to minimise, mitigate or remove noise emissions at source;*
- *monitor the resulting noise to check compliance with any proposed or imposed conditions*."

Paragraph 020 Reference ID: 27-020-20140306 states:

"***How should mineral planning authorities determine the impact of noise?***

Mineral planning authorities should take account of the prevailing acoustic environment and in doing so consider whether or not noise from the proposed operations would:

- *give rise to a significant adverse effect;*
- *give rise to an adverse effect; and*
- *enable a good standard of amenity to be achieved.*

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure would be above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation. As noise is a complex technical issue, it may be appropriate to seek experienced specialist assistance when applying this policy."

Appendix B (continued)

Paragraph 021 Reference ID: 27-021-20140306 states:

"***What are the appropriate noise standards for mineral operators for normal operations?***

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). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed 55dB(A) LAeq, 1h (free field).

For operations during the evening (1900-2200) the noise limits should not exceed the background noise level (LA90,1h) by more than 10dB(A) and should not exceed 55dB(A) LAeq, 1h (free field). For any operations during the period 22.00 – 07.00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A) LAeq,1h (free field) at a noise sensitive property.

Where the site noise has a significant tonal element, it may be appropriate to set specific limits to control this aspect. Peak or impulsive noise, which may include some reversing bleepers, may also require separate limits that are independent of background noise (e.g. Lmax in specific octave or third-octave frequency bands – and that should not be allowed to occur regularly at night.)

Care should be taken, however, to avoid any of these suggested values being implemented as fixed thresholds as specific circumstances may justify some small variation being allowed."

Paragraph 022 Reference ID: 27-022-20140306 states:

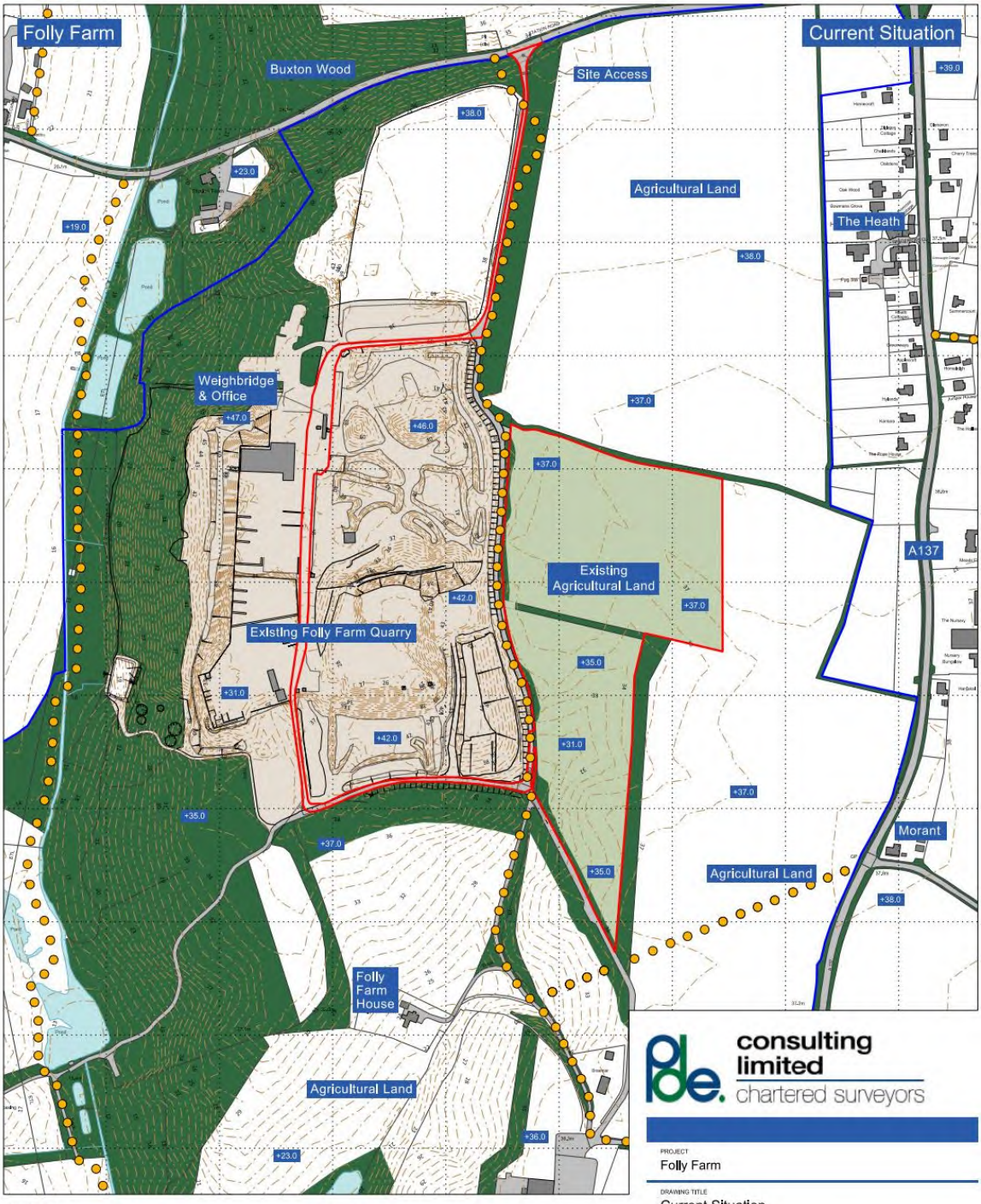
"***What type of operations may give rise to particularly noisy short-term activities and what noise limits may be appropriate?***

Activities such as soil-stripping, the construction and removal of baffle mounds, soil storage mounds and spoil heaps, construction of new permanent landforms and aspects of site road construction and maintenance.

Increased temporary daytime noise limits of up to 70dB(A) LAeq 1h (free field) for periods of up to eight weeks in a year at specified noise-sensitive properties should be considered to facilitate essential site preparation and restoration work and construction of baffle mounds where it is clear that this will bring longer-term environmental benefits to the site or its environs.

Where work is likely to take longer than eight weeks, a lower limit over a longer period should be considered. In some wholly exceptional cases, where there is no viable alternative, a higher limit for a very limited period may be appropriate in order to attain the environmental benefits. Within this framework, the 70 dB(A) LAeq 1h (free field) limit referred to above should be regarded as the normal maximum."

Appendix C – Folly Farm Eastern Extension Phasing Plans



LEGEND

- Application Boundary (5.64 Ha)
- Land Under the Control of the Applicant
- Roads, Tracks & Buildings
- Folly Farm Quarry
- Existing Vegetation (Trees & Hedgrows)
- Water Bodies & Courses
- Public Rights of Way (PROW)
- Agricultural Land within the Application Boundary
- +23.0 Contours - 1m Intervals & Spot Heights (mAOD)

pde. consulting limited chartered surveyors

PROJECT: Folly Farm

DRAWING TITLE: Current Situation

DATE: January 2023

SCALE: 1:3,000@ A3

DRAWING No: KD.FLF.D.002

DRAWING STATUS: FINAL

N

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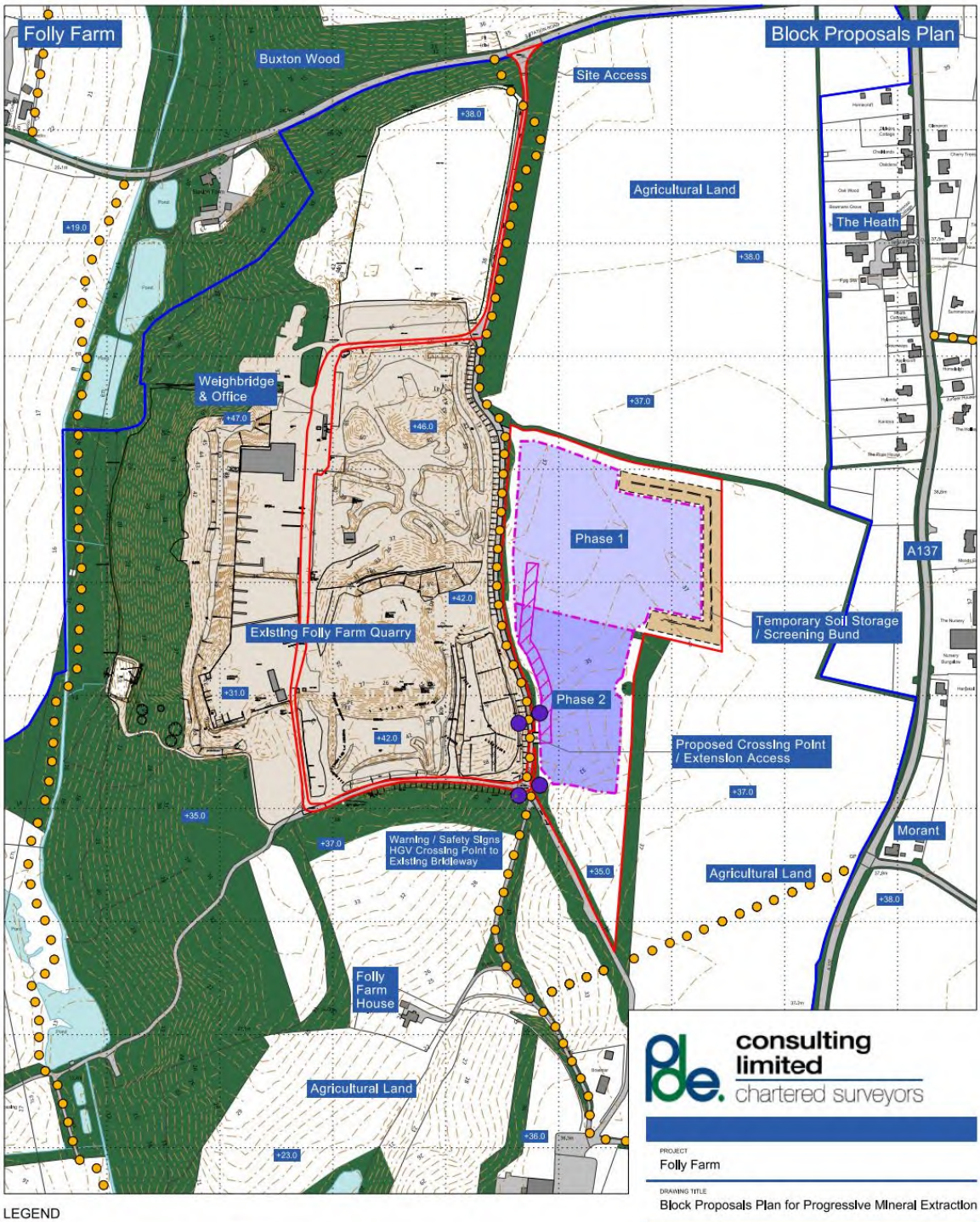
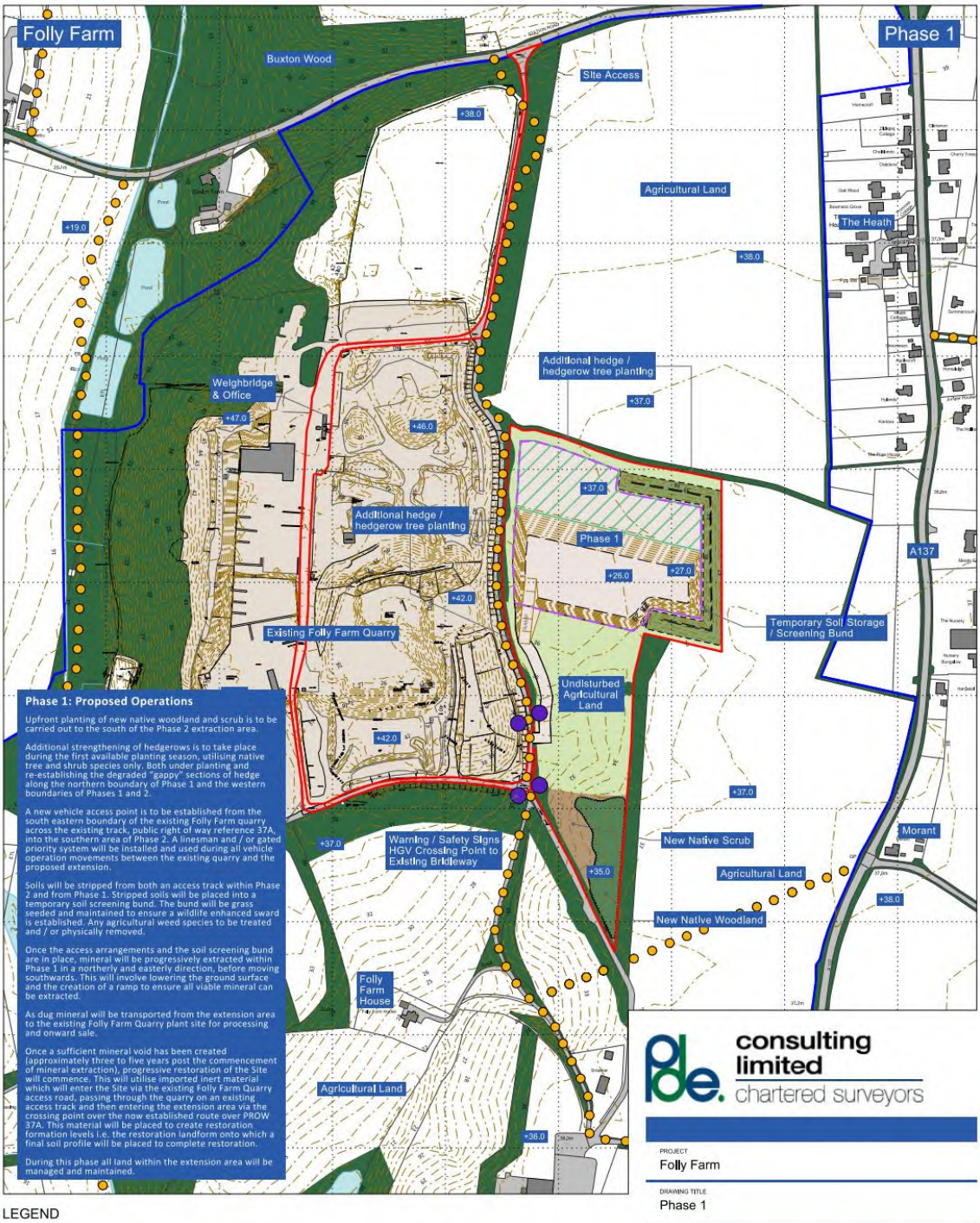
Appendix C (continued)



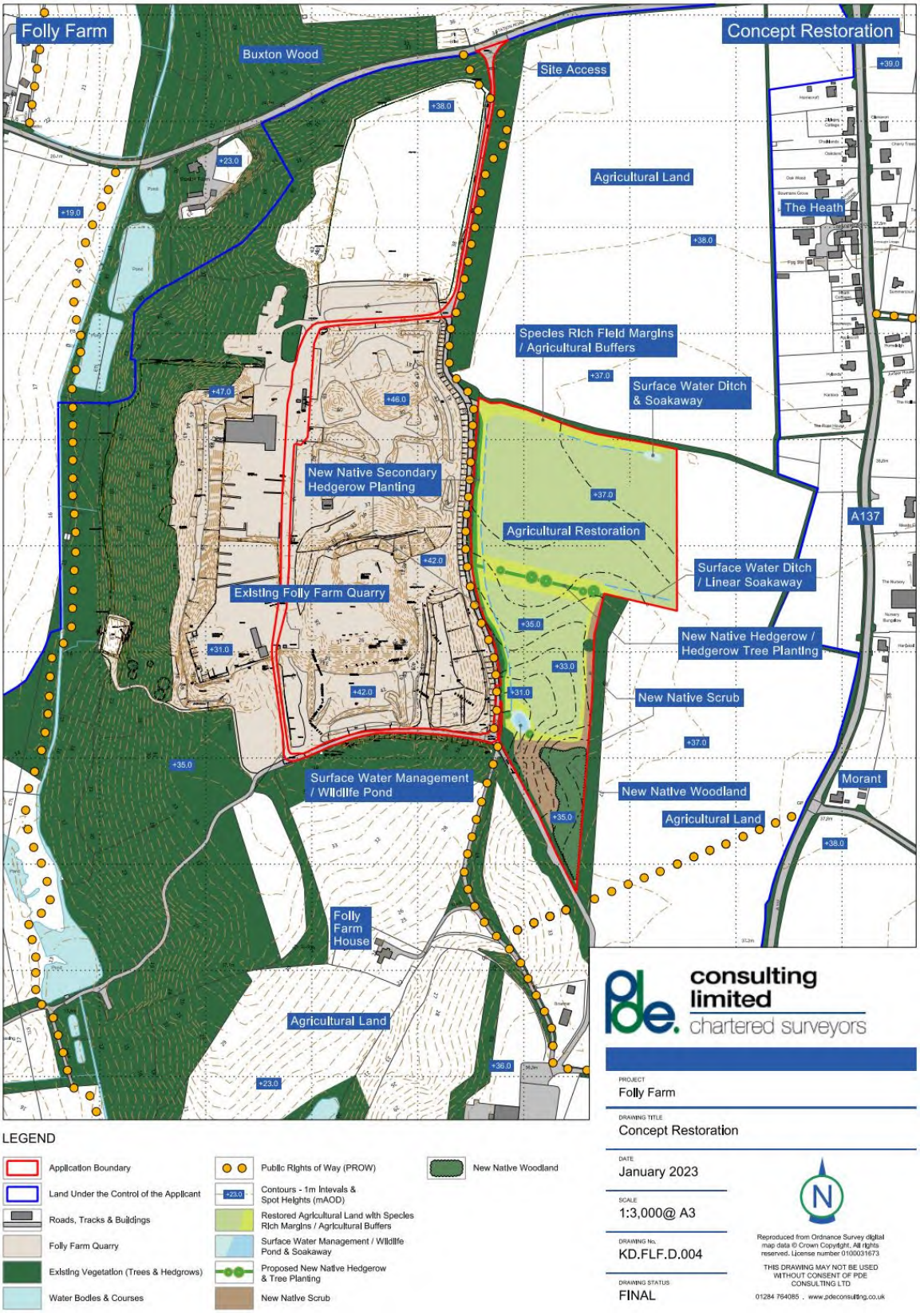
Appendix C (continued)



Appendix C (continued)

Appendix C (continued)

Appendix C (continued)



Appendix D – Survey Details

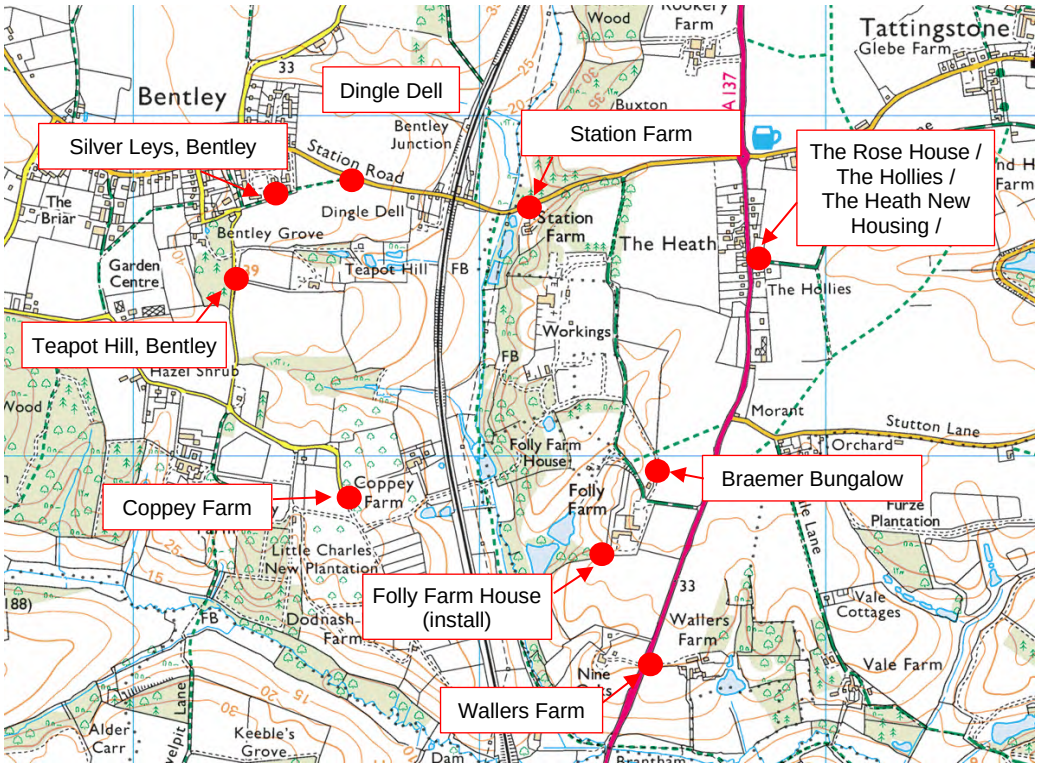
Date and Locations of Survey

Sample measurements were undertaken between 12:30 and 17:15 on Friday 29th July and between 10:45 and 15:45 on Thursday 4th August 2022.

A sound level meter was installed at Folly Farm House at 12:15 on Friday 29th July and collected at 15:00 on Thursday 4th August 2022.

The baseline monitoring locations are shown in Figure D.1 below:

Figure D.1 – Baseline Noise Monitoring Locations



Survey carried out by

Sarah Large (Friday 29th July and Thursday 4th August 2022)

Jack Semple (Friday 29th July)

Weather Conditions

Friday 29th July 2022: dry, warm, sunny part cloudy. North easterly wind, gentle breeze (gusts 3-4m/s). 22-23°C.

Thursday 4th August 2022: dry, warm, part sunny / part cloudy. West / north westerly wind, generally still at ground level, gusts occasionally 3-4m/s. 22-24°C.

Appendix D (continued)

Instrumentation and Calibration

The instrumentation used (including serial number in brackets) is tabulated below. The sensitivity of the meter was verified on site immediately before and after the survey using the field calibrator. The measured calibration levels were as follows:

Sample Measurements

Instrumentation	Date	Start Cal	End Cal
Norsonic 140 Sound Level Meter (1403138) Norsonic 1251 Calibrator (31991)	29/07/2022	114.0 dB(A)	113.7 dB(A)
Norsonic 140 Sound Level Meter (1403137) Norsonic 1251 Calibrator (31993)	29/07/2022	113.8 dB(A)	113.9 dB(A)
Norsonic 140 Sound Level Meter (1403138) Norsonic 1251 Calibrator (31991)	04/08/2022	113.9 dB(A)	113.7 dB(A)

Install Measurements

Instrumentation	Date	Start Cal	End Cal
Rion NL-52 Sound Level Meter (420715) Rion NC-74 Calibrator (34425556)	29/07/2022 – 04/08/2022	94.0 dB(A)	93.7 dB(A)

The meters and calibrators are tested monthly against Norsonic Calibrators, type 1253 (serial number 22906) and type 1256 (serial number 125626100) both with UKAS approved laboratory certificates of calibration. In addition, the meters and calibrators undergo traceable calibration at an external laboratory every two years.

Survey Details

Attended sample measurements of 15 minute duration were taken at the locations identified on Figure D.1 above on 29th July and 4th August 2022. The installed sound level meter was set up on 29th July and collected on 4th August 2022 and measured periods of 15 minute duration continuously throughout the survey period. All microphones were set up at a height of between 1.2 and 1.5 metres above local ground level, with windshields used throughout.

Observations

The main sources of noise in the area were local and distant road traffic, distant jet aircraft, birdsong and psithurism. Some train noise was also occasionally audible at locations nearer the railway line. Site noise was not audible during the survey on 4th August 2022 and was generally inaudible at the majority of locations on 29th July 2022.

Comparison of the measurements with and without site activity on Friday 29th July indicated no significant difference in the measured baseline sound levels with and without site operating and as such, noisy activity associated with the site was found not to be a significant influencer of measured ambient (L_{Aeq}) and background sound levels (L_{A90}) at the baseline monitoring locations.

Appendix E – Survey Results – Sample Measurements

Friday 29th July 2022 - Norsonic 140 Sound Level Meter (1403138)

Location	Start Time	Results dB (T = 15 minutes)			Comments / Observations
		$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$	
Station Farm	12:38	66	68	44	Wind in trees, birdsong, local road traffic noise. Jet aircraft noise. No site noise audible.
Rose House / The Hollies / New Houses	13:00	50	53	41	Distant / local road traffic noise, wind in trees, distant jet aircraft. Birds, crickets. No site noise audible.
Braemar Bungalow	13:21	48	51	42	Distant jet aircraft noise, wind in trees, crickets. Dogs barking. No site noise audible.
Wallers Farm	13:41	70	75	45	Road traffic noise, birdsong, distant jet aircraft. No site noise audible.
Station Farm	14:18	65	66	39	Local and distant road traffic noise, wind in trees, distant jet aircraft, birdsong, railway noise.
Rose House / The Hollies / New Houses	14:43	49	53	42	Road traffic noise, wind in trees, distant agricultural machinery, distant light aircraft. Crickets, birdsong, tonal reverse alarms from direction of farm
Braemar Bungalow	15:02	55	52	46	Road traffic noise, wind in trees, dogs barking in distance, horn beep (from road). Lorry with skip drives past on lane.
Wallers Farm	15:21	70	75	46	Road traffic noise, distant jet aircraft, wind in trees, light aircraft noise.
Rose House / The Hollies / New Houses	15:40	47	49	43	Road traffic noise, distant jet aircraft, intermittent grass cutting, wind in trees.
Braemar Bungalow	15:59	50	52	45	Road traffic noise, wind in trees, crickets, dog barking in distance.
Wallers Farm	16:17	71	76	46	Road traffic noise, wind in trees, distant jet aircraft.
Station Farm	16:40	66	68	43	Road traffic noise, wind in trees, crickets, birdsong. Distant jet aircraft.

Appendix E (continued)

Friday 29th July 2022 - Norsonic 140 Sound Level Meter (1403137)

Location	Start Time	Results dB (T = 15 minutes)			Comments / Observations
		$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$	
Coppey Farm	12:33	49	49	44	Crickets, wind in trees, vehicles on lane, distant aircraft movements, dog barks, brief distant whine to south west, distant motorbike, distant train movement, noise to north east (direction of skip hire) including mechanical clanks, impact noise and reverse alarms.
Teapot House	12:56	48	49	38	Wind in trees, birdsong, road traffic passes, distant train movements, distant aircraft movements, distant road traffic. Noise to east (direction of skip hire) including material movements, rustling noise and mechanical clanks.
Silver Leys	13:22	43	46	39	Wind in trees, birdsong, crickets, plant noise at dwelling, distant aircraft movements, distant train movement and horn, very distant reverse alarms to north-west. Noise to east including a barely audible whine, impact noise and material movements.
Dingle Dell	13:44	48	53	39	Birdsong, road traffic, wind in trees, distant large and small aircraft, distant train to west. Noise to south east (direction of skip hire) including tapping noise and material movements.
Coppey Farm	14:25	44	46	40	Wind in trees, crickets, train movements, distant road traffic, distant large aircraft movements.
Teapot House	14:49	47	50	40	Wind in trees, distant aircraft movements, road traffic passing occasionally, very distant dog barking, distant train movements and road traffic to southeast.
Silver Leys	15:12	48	51	38	Wind in trees, vacuum cleaner at dwelling (intermittent), distant aircraft movements, distant train movements, very distant dog barking, pigeon, very distant reverse alarms to southwest.
Dingle Dell	15:30	50	54	41	Wind in trees, road traffic, distant large aircraft movements, distant train movements, horn from southwest, Noise to south east (direction of skip hire) including thuds and material movements.
Dingle Dell	15:55	49	53	40	Birdsong, crickets, wind in trees, road traffic, distant dog barks. Noise to south east (direction of skip hire) including a horn, reverse alarms, material movements,
Silver Leys	16:13	45	46	38	Birdsong, wind in trees, distant train movements, plant noise at dwelling, distant aircraft movements, impact noise at dwelling and noise from a pneumatic drill.
Teapot House	16:34	46	48	39	Birdsong, wind in trees, occasional road traffic passing by and distant large aircraft movements.
Coppey Farm	16:54	46	49	39	Birdsong, wind in trees, distant road traffic, distant motorbike, train movements, distant large aircraft, vehicle driving past.

Appendix E (continued)

Thursday 4th August 2022 - Norsonic 140 Sound Level Meter (1403138)

Location	Start Time	Results dB (T = 15 minutes)			Comments / Observations
		$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$	
Station Farm	10:45	63	63	36	Local road traffic noise, dog barking at start. Train horn. Distant road traffic noise. Birdsong, wind in trees. Train noise, distant jet aircraft. No site noise audible.
Coppeys Farm	11:11	41	43	34	Wind in trees. Distant jet aircraft. Crickets, cockerels. Distant train noise. Light aircraft. Site noise not audible.
Teapot House	11:32	38	40	32	Distant jet aircraft. Wind in trees. Distant road traffic noise just audible. Bird calls, insects, train noise. No site noise audible.
Silver Leys	11:54	39	40	34	Distant road traffic noise. Wind in trees, birdsong. Tonal reverse alarms just audible. Distant train noise, light aircraft, dog bark. No site noise audible.
Dingle Dell	12:12	46	50	34	Light aircraft, crickets, distant agricultural machinery noise. Distant road traffic noise just audible. Distant horn (not site), birds, train noise, local road traffic noise. Jet aircraft, cockerels, train horns. No site noise audible.
Rose House / The Hollies / New Houses	12:36	47	50	40	Distant road traffic noise, intermittent use of strimmer at nearby dwelling. Wind in trees, crickets. Distant jet aircraft. Local road traffic noise. Site noise not audible.
Wallers Farm	12:55	70	75	43	Local and distant road traffic noise. Birdsong, light aircraft. No site noise audible.
Braemer Bungalow	13:14	39	40	34	Train horn and train noise. Distant road traffic noise, crickets, birdsong. Light wind in trees. Distant jet aircraft. Site noise just audible - sporadic impact noises.
Braemer Bungalow	15:08	42	46	37	Distant road traffic noise, wind in trees, some intermittent and sporadic site noise (impact noises) just audible, jet aircraft.
Rose House / The Hollies / New Houses	15:28	49	51	44	Distant and local road traffic noise. Intermittent strimmer noise at nearby dwelling at start. Distant jet aircraft. Tonal reverse alarms just audible in distance. Crickets, train horns and train noise. Light aircraft. No site noise audible.

Appendix F – Survey Results – Installed Sound Level Meter

Folly Farm House - Friday 29th July - Thursday 4th August 2022

Start Time	Results dB (T = 15 minutes)		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
29/07/2022 12:15	49	49	38
29/07/2022 12:30	45	48	41
29/07/2022 12:45	46	49	42
29/07/2022 13:00	46	48	41
29/07/2022 13:15	45	47	42
29/07/2022 13:30	45	48	41
29/07/2022 13:45	45	47	41
29/07/2022 14:00	44	46	40
29/07/2022 14:15	51	53	42
29/07/2022 14:30	48	52	43
29/07/2022 14:45	47	50	41
29/07/2022 15:00	48	50	43
29/07/2022 15:15	57	52	42
29/07/2022 15:30	47	49	43
29/07/2022 15:45	47	50	43
29/07/2022 16:00	52	50	42
29/07/2022 16:15	45	47	41
29/07/2022 16:30	46	49	42
29/07/2022 16:45	47	49	43
29/07/2022 17:00	48	50	44
29/07/2022 17:15	55	51	43
29/07/2022 17:30	44	46	40
29/07/2022 17:45	46	46	41
29/07/2022 18:00	47	45	39
29/07/2022 18:15	45	48	40
29/07/2022 18:30	46	49	43
29/07/2022 18:45	53	48	42
29/07/2022 19:00	45	48	42
29/07/2022 19:15	50	53	43
29/07/2022 19:30	46	49	42
29/07/2022 19:45	45	47	42
29/07/2022 20:00	49	55	41
29/07/2022 20:15	47	50	41
29/07/2022 20:30	48	53	41
29/07/2022 20:45	44	46	42
29/07/2022 21:00	45	49	41

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
29/07/2022 12:15	49	49	38
29/07/2022 12:30	45	48	41
29/07/2022 12:45	46	49	42
29/07/2022 13:00	46	48	41
29/07/2022 13:15	45	47	42
29/07/2022 13:30	45	48	41
29/07/2022 13:45	45	47	41
29/07/2022 14:00	44	46	40
29/07/2022 14:15	51	53	42
29/07/2022 14:30	48	52	43
29/07/2022 14:45	47	50	41
29/07/2022 15:00	48	50	43
29/07/2022 15:15	57	52	42
29/07/2022 15:30	47	49	43
29/07/2022 15:45	47	50	43
29/07/2022 16:00	52	50	42
29/07/2022 16:15	45	47	41
29/07/2022 16:30	46	49	42
29/07/2022 16:45	47	49	43
29/07/2022 17:00	48	50	44
29/07/2022 17:15	55	51	43
29/07/2022 17:30	44	46	40
29/07/2022 17:45	46	46	41
29/07/2022 18:00	47	45	39
29/07/2022 18:15	45	48	40
29/07/2022 18:30	46	49	43
29/07/2022 18:45	53	48	42
29/07/2022 19:00	45	48	42
29/07/2022 19:15	50	53	43
29/07/2022 19:30	46	49	42
29/07/2022 19:45	45	47	42
29/07/2022 20:00	49	55	41
29/07/2022 20:15	47	50	41
29/07/2022 20:30	48	53	41
29/07/2022 20:45	44	46	42
29/07/2022 21:00	45	49	41
29/07/2022 21:15	41	43	36
29/07/2022 21:30	41	43	34

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
29/07/2022 21:45	41	45	35
29/07/2022 22:00	40	43	33
29/07/2022 22:15	36	39	31
29/07/2022 22:30	41	46	31
29/07/2022 22:45	39	40	34
29/07/2022 23:00	41	44	33
29/07/2022 23:15	43	45	36
29/07/2022 23:30	41	44	35
29/07/2022 23:45	39	42	33
30/07/2022 00:00	51	49	33
30/07/2022 00:15	42	44	35
30/07/2022 00:30	41	44	33
30/07/2022 00:45	42	45	32
30/07/2022 01:00	40	43	28
30/07/2022 01:15	40	43	30
30/07/2022 01:30	38	41	26
30/07/2022 01:45	39	43	25
30/07/2022 02:00	45	48	29
30/07/2022 02:15	40	42	28
30/07/2022 02:30	37	42	24
30/07/2022 02:45	32	36	22
30/07/2022 03:00	41	43	25
30/07/2022 03:15	39	38	24
30/07/2022 03:30	36	41	25
30/07/2022 03:45	36	39	29
30/07/2022 04:00	42	41	28
30/07/2022 04:15	35	38	28
30/07/2022 04:30	44	41	30
30/07/2022 04:45	44	45	30
30/07/2022 05:00	33	36	28
30/07/2022 05:15	36	39	30
30/07/2022 05:30	39	40	30
30/07/2022 05:45	36	40	30
30/07/2022 06:00	37	39	31
30/07/2022 06:15	41	45	32
30/07/2022 06:30	38	42	32
30/07/2022 06:45	39	42	34
30/07/2022 07:00	40	42	35

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
30/07/2022 07:15	41	43	37
30/07/2022 07:30	47	48	38
30/07/2022 07:45	41	44	38
30/07/2022 08:00	43	46	38
30/07/2022 08:15	42	44	38
30/07/2022 08:30	44	47	36
30/07/2022 08:45	43	45	38
30/07/2022 09:00	50	49	37
30/07/2022 09:15	59	60	42
30/07/2022 09:30	44	46	41
30/07/2022 09:45	50	49	42
30/07/2022 10:00	45	47	41
30/07/2022 10:15	45	46	40
30/07/2022 10:30	44	47	38
30/07/2022 10:45	46	48	41
30/07/2022 11:00	47	48	41
30/07/2022 11:15	43	46	38
30/07/2022 11:30	42	44	36
30/07/2022 11:45	47	50	37
30/07/2022 12:00	45	46	38
30/07/2022 12:15	40	43	36
30/07/2022 12:30	44	47	35
30/07/2022 12:45	56	57	44
30/07/2022 13:00	56	57	46
30/07/2022 13:15	56	58	48
30/07/2022 13:30	51	54	47
30/07/2022 13:45	52	54	47
30/07/2022 14:00	53	55	48
30/07/2022 14:15	49	52	45
30/07/2022 14:30	53	57	46
30/07/2022 14:45	54	56	47
30/07/2022 15:00	51	53	46
30/07/2022 15:15	50	53	47
30/07/2022 15:30	54	57	47
30/07/2022 15:45	58	62	49
30/07/2022 16:00	54	57	46
30/07/2022 16:15	52	53	45
30/07/2022 16:30	50	52	45

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
30/07/2022 16:45	51	53	46
30/07/2022 17:00	54	57	46
30/07/2022 17:15	50	53	44
30/07/2022 17:30	50	52	44
30/07/2022 17:45	52	55	44
30/07/2022 18:00	54	58	46
30/07/2022 18:15	53	55	45
30/07/2022 18:30	53	56	45
30/07/2022 18:45	46	49	42
30/07/2022 19:00	48	51	43
30/07/2022 19:15	47	50	42
30/07/2022 19:30	50	52	42
30/07/2022 19:45	48	51	42
30/07/2022 20:00	54	57	49
30/07/2022 20:15	55	59	48
30/07/2022 20:30	55	58	49
30/07/2022 20:45	53	55	48
30/07/2022 21:00	52	55	46
30/07/2022 21:15	50	52	42
30/07/2022 21:30	48	52	39
30/07/2022 21:45	46	49	31
30/07/2022 22:00	49	52	45
30/07/2022 22:15	48	50	44
30/07/2022 22:30	55	58	48
30/07/2022 22:45	58	59	53
30/07/2022 23:00	57	59	52
30/07/2022 23:15	55	59	47
30/07/2022 23:30	56	58	45
30/07/2022 23:45	47	50	33
31/07/2022 00:00	41	44	30
31/07/2022 00:15	38	41	32
31/07/2022 00:30	35	38	29
31/07/2022 00:45	39	40	31
31/07/2022 01:00	37	41	27
31/07/2022 01:15	38	43	24
31/07/2022 01:30	32	34	22
31/07/2022 01:45	34	33	21
31/07/2022 02:00	29	31	20

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
31/07/2022 02:15	26	29	21
31/07/2022 02:30	27	31	22
31/07/2022 02:45	36	32	20
31/07/2022 03:00	31	31	22
31/07/2022 03:15	38	33	21
31/07/2022 03:30	27	30	22
31/07/2022 03:45	24	25	20
31/07/2022 04:00	28	32	21
31/07/2022 04:15	30	34	25
31/07/2022 04:30	31	35	26
31/07/2022 04:45	34	37	29
31/07/2022 05:00	34	36	29
31/07/2022 05:15	34	37	30
31/07/2022 05:30	33	36	29
31/07/2022 05:45	33	35	28
31/07/2022 06:00	33	36	29
31/07/2022 06:15	39	44	32
31/07/2022 06:30	36	38	30
31/07/2022 06:45	36	37	31
31/07/2022 07:00	37	40	32
31/07/2022 07:15	38	41	33
31/07/2022 07:30	43	44	33
31/07/2022 07:45	41	42	35
31/07/2022 08:00	39	43	33
31/07/2022 08:15	46	48	36
31/07/2022 08:30	43	47	38
31/07/2022 08:45	45	47	38
31/07/2022 09:00	48	48	39
31/07/2022 09:15	47	48	38
31/07/2022 09:30	46	46	35
31/07/2022 09:45	38	41	33
31/07/2022 10:00	41	44	34
31/07/2022 10:15	45	46	38
31/07/2022 10:30	41	44	36
31/07/2022 10:45	45	48	38
31/07/2022 11:00	45	47	39
31/07/2022 11:15	46	48	39
31/07/2022 11:30	44	47	38

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
31/07/2022 11:45	47	50	40
31/07/2022 12:00	44	46	39
31/07/2022 12:15	47	48	37
31/07/2022 12:30	40	44	36
31/07/2022 12:45	42	44	37
31/07/2022 13:00	42	45	38
31/07/2022 13:15	48	50	41
31/07/2022 13:30	46	50	39
31/07/2022 13:45	44	47	36
31/07/2022 14:00	39	42	35
31/07/2022 14:15	43	45	37
31/07/2022 14:30	45	49	37
31/07/2022 14:45	43	46	39
31/07/2022 15:00	43	44	38
31/07/2022 15:15	46	49	39
31/07/2022 15:30	39	41	34
31/07/2022 15:45	41	43	36
31/07/2022 16:00	42	44	37
31/07/2022 16:15	43	44	35
31/07/2022 16:30	40	43	35
31/07/2022 16:45	39	42	33
31/07/2022 17:00	38	41	32
31/07/2022 17:15	40	40	32
31/07/2022 17:30	40	42	34
31/07/2022 17:45	42	43	39
31/07/2022 18:00	43	46	40
31/07/2022 18:15	47	46	38
31/07/2022 18:30	42	44	39
31/07/2022 18:45	43	45	40
31/07/2022 19:00	40	42	37
31/07/2022 19:15	38	41	34
31/07/2022 19:30	37	39	34
31/07/2022 19:45	38	41	34
31/07/2022 20:00	40	43	35
31/07/2022 20:15	39	41	36
31/07/2022 20:30	37	38	32
31/07/2022 20:45	36	38	32
31/07/2022 21:00	34	37	31

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
31/07/2022 21:15	35	38	29
31/07/2022 21:30	33	36	28
31/07/2022 21:45	34	38	27
31/07/2022 22:00	33	34	26
31/07/2022 22:15	44	42	25
31/07/2022 22:30	43	33	26
31/07/2022 22:45	35	37	25
31/07/2022 23:00	34	38	26
31/07/2022 23:15	36	32	23
31/07/2022 23:30	36	33	24
31/07/2022 23:45	31	32	21
01/08/2022 00:00	33	38	22
01/08/2022 00:15	40	39	23
01/08/2022 00:30	35	35	21
01/08/2022 00:45	28	32	21
01/08/2022 01:00	31	36	19
01/08/2022 01:15	27	30	19
01/08/2022 01:30	25	29	19
01/08/2022 01:45	22	24	19
01/08/2022 02:00	22	22	19
01/08/2022 02:15	27	30	19
01/08/2022 02:30	24	27	20
01/08/2022 02:45	24	28	19
01/08/2022 03:00	22	24	19
01/08/2022 03:15	22	23	20
01/08/2022 03:30	25	27	21
01/08/2022 03:45	24	26	21
01/08/2022 04:00	24	26	21
01/08/2022 04:15	27	31	22
01/08/2022 04:30	36	31	23
01/08/2022 04:45	39	38	26
01/08/2022 05:00	33	36	28
01/08/2022 05:15	36	38	29
01/08/2022 05:30	37	39	29
01/08/2022 05:45	38	42	32
01/08/2022 06:00	37	41	31
01/08/2022 06:15	40	43	34
01/08/2022 06:30	39	41	34

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
01/08/2022 06:45	40	44	36
01/08/2022 07:00	40	43	35
01/08/2022 07:15	37	40	33
01/08/2022 07:30	36	37	33
01/08/2022 07:45	36	38	32
01/08/2022 08:00	36	38	32
01/08/2022 08:15	36	39	32
01/08/2022 08:30	35	38	31
01/08/2022 08:45	39	43	29
01/08/2022 09:00	41	42	31
01/08/2022 09:15	40	41	38
01/08/2022 09:30	41	43	38
01/08/2022 09:45	41	43	38
01/08/2022 10:00	39	40	38
01/08/2022 10:15	40	42	38
01/08/2022 10:30	42	42	38
01/08/2022 10:45	43	44	38
01/08/2022 11:00	41	42	39
01/08/2022 11:15	44	48	38
01/08/2022 11:30	39	42	32
01/08/2022 11:45	38	40	33
01/08/2022 12:00	36	39	33
01/08/2022 12:15	39	43	33
01/08/2022 12:30	40	43	35
01/08/2022 12:45	43	45	36
01/08/2022 13:00	43	45	35
01/08/2022 13:15	43	45	38
01/08/2022 13:30	43	46	37
01/08/2022 13:45	44	47	39
01/08/2022 14:00	44	46	40
01/08/2022 14:15	45	47	41
01/08/2022 14:30	51	51	43
01/08/2022 14:45	49	52	45
01/08/2022 15:00	49	51	44
01/08/2022 15:15	49	52	45
01/08/2022 15:30	50	53	46
01/08/2022 15:45	48	51	43
01/08/2022 16:00	48	51	44

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
01/08/2022 16:15	50	52	46
01/08/2022 16:30	51	54	47
01/08/2022 16:45	50	52	46
01/08/2022 17:00	51	54	46
01/08/2022 17:15	48	51	43
01/08/2022 17:30	44	46	41
01/08/2022 17:45	46	47	42
01/08/2022 18:00	45	47	41
01/08/2022 18:15	48	49	40
01/08/2022 18:30	45	47	40
01/08/2022 18:45	43	45	39
01/08/2022 19:00	45	45	37
01/08/2022 19:15	44	45	38
01/08/2022 19:30	44	48	37
01/08/2022 19:45	42	45	35
01/08/2022 20:00	45	43	37
01/08/2022 20:15	42	44	36
01/08/2022 20:30	41	43	35
01/08/2022 20:45	43	46	38
01/08/2022 21:00	43	44	36
01/08/2022 21:15	42	44	36
01/08/2022 21:30	44	45	35
01/08/2022 21:45	42	45	36
01/08/2022 22:00	41	44	33
01/08/2022 22:15	41	43	36
01/08/2022 22:30	43	44	37
01/08/2022 22:45	44	45	38
01/08/2022 23:00	45	47	35
01/08/2022 23:15	45	49	35
01/08/2022 23:30	41	43	34
01/08/2022 23:45	43	45	36
02/08/2022 00:00	51	49	35
02/08/2022 00:15	42	42	33
02/08/2022 00:30	43	44	33
02/08/2022 00:45	38	42	33
02/08/2022 01:00	38	41	33
02/08/2022 01:15	39	43	31
02/08/2022 01:30	37	40	29

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
02/08/2022 01:45	35	39	27
02/08/2022 02:00	35	38	27
02/08/2022 02:15	37	41	31
02/08/2022 02:30	38	42	32
02/08/2022 02:45	38	42	30
02/08/2022 03:00	35	39	29
02/08/2022 03:15	37	40	31
02/08/2022 03:30	36	39	30
02/08/2022 03:45	36	39	30
02/08/2022 04:00	39	40	29
02/08/2022 04:15	42	39	29
02/08/2022 04:30	43	41	29
02/08/2022 04:45	34	37	30
02/08/2022 05:00	43	41	33
02/08/2022 05:15	40	42	34
02/08/2022 05:30	42	41	34
02/08/2022 05:45	42	44	34
02/08/2022 06:00	39	41	35
02/08/2022 06:15	43	45	37
02/08/2022 06:30	46	46	36
02/08/2022 06:45	43	44	38
02/08/2022 07:00	44	46	39
02/08/2022 07:15	46	47	39
02/08/2022 07:30	47	49	40
02/08/2022 07:45	47	51	43
02/08/2022 08:00	48	51	42
02/08/2022 08:15	45	48	40
02/08/2022 08:30	43	44	38
02/08/2022 08:45	45	47	38
02/08/2022 09:00	50	52	38
02/08/2022 09:15	45	47	38
02/08/2022 09:30	45	47	39
02/08/2022 09:45	47	50	41
02/08/2022 10:00	45	48	40
02/08/2022 10:15	49	50	42
02/08/2022 10:30	48	52	41
02/08/2022 10:45	51	53	42
02/08/2022 11:00	47	50	40

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
02/08/2022 11:15	51	55	43
02/08/2022 11:30	50	53	41
02/08/2022 11:45	52	55	45
02/08/2022 12:00	51	55	44
02/08/2022 12:15	49	52	42
02/08/2022 12:30	50	53	43
02/08/2022 12:45	51	56	44
02/08/2022 13:00	51	52	42
02/08/2022 13:15	49	52	41
02/08/2022 13:30	51	54	44
02/08/2022 13:45	52	55	45
02/08/2022 14:00	49	52	42
02/08/2022 14:15	50	51	43
02/08/2022 14:30	51	55	45
02/08/2022 14:45	53	57	44
02/08/2022 15:00	50	53	45
02/08/2022 15:15	52	54	45
02/08/2022 15:30	53	56	47
02/08/2022 15:45	50	52	43
02/08/2022 16:00	55	56	45
02/08/2022 16:15	51	54	46
02/08/2022 16:30	50	53	43
02/08/2022 16:45	50	53	44
02/08/2022 17:00	51	54	43
02/08/2022 17:15	49	52	43
02/08/2022 17:30	48	52	42
02/08/2022 17:45	46	48	39
02/08/2022 18:00	46	49	40
02/08/2022 18:15	46	47	38
02/08/2022 18:30	47	49	39
02/08/2022 18:45	49	51	39
02/08/2022 19:00	46	47	39
02/08/2022 19:15	47	49	38
02/08/2022 19:30	49	49	39
02/08/2022 19:45	49	49	34
02/08/2022 20:00	43	46	37
02/08/2022 20:15	44	46	35
02/08/2022 20:30	41	42	33

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
02/08/2022 20:45	45	48	38
02/08/2022 21:00	46	46	37
02/08/2022 21:15	43	45	37
02/08/2022 21:30	47	49	38
02/08/2022 21:45	47	49	41
02/08/2022 22:00	46	49	40
02/08/2022 22:15	46	49	41
02/08/2022 22:30	45	47	40
02/08/2022 22:45	44	45	37
02/08/2022 23:00	43	45	36
02/08/2022 23:15	46	46	37
02/08/2022 23:30	42	44	35
02/08/2022 23:45	44	46	35
03/08/2022 00:00	54	46	36
03/08/2022 00:15	44	45	35
03/08/2022 00:30	44	45	35
03/08/2022 00:45	39	42	33
03/08/2022 01:00	37	40	32
03/08/2022 01:15	36	38	32
03/08/2022 01:30	38	41	33
03/08/2022 01:45	37	40	31
03/08/2022 02:00	35	38	30
03/08/2022 02:15	35	38	30
03/08/2022 02:30	45	43	31
03/08/2022 02:45	37	40	30
03/08/2022 03:00	37	40	32
03/08/2022 03:15	40	42	33
03/08/2022 03:30	37	40	33
03/08/2022 03:45	44	46	35
03/08/2022 04:00	47	45	36
03/08/2022 04:15	39	42	35
03/08/2022 04:30	45	45	34
03/08/2022 04:45	40	42	35
03/08/2022 05:00	45	44	34
03/08/2022 05:15	42	45	37
03/08/2022 05:30	44	45	35
03/08/2022 05:45	42	42	34
03/08/2022 06:00	43	43	35

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
03/08/2022 06:15	43	46	36
03/08/2022 06:30	40	42	36
03/08/2022 06:45	44	46	38
03/08/2022 07:00	45	48	39
03/08/2022 07:15	45	47	39
03/08/2022 07:30	46	49	40
03/08/2022 07:45	47	50	41
03/08/2022 08:00	47	50	42
03/08/2022 08:15	48	52	41
03/08/2022 08:30	49	52	43
03/08/2022 08:45	51	52	42
03/08/2022 09:00	47	49	42
03/08/2022 09:15	47	50	42
03/08/2022 09:30	47	50	40
03/08/2022 09:45	48	51	41
03/08/2022 10:00	47	50	42
03/08/2022 10:15	49	51	41
03/08/2022 10:30	47	50	38
03/08/2022 10:45	51	54	42
03/08/2022 11:00	48	51	42
03/08/2022 11:15	49	49	39
03/08/2022 11:30	48	50	40
03/08/2022 11:45	46	49	41
03/08/2022 12:00	47	51	39
03/08/2022 12:15	49	52	40
03/08/2022 12:30	48	52	39
03/08/2022 12:45	50	52	36
03/08/2022 13:00	46	49	39
03/08/2022 13:15	47	50	37
03/08/2022 13:30	46	49	38
03/08/2022 13:45	45	47	38
03/08/2022 14:00	44	46	36
03/08/2022 14:15	46	45	36
03/08/2022 14:30	40	42	34
03/08/2022 14:45	51	51	36
03/08/2022 15:00	43	46	33
03/08/2022 15:15	47	49	39
03/08/2022 15:30	43	46	37

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
03/08/2022 15:45	46	46	38
03/08/2022 16:00	42	45	37
03/08/2022 16:15	48	52	39
03/08/2022 16:30	45	48	38
03/08/2022 16:45	44	47	37
03/08/2022 17:00	43	45	38
03/08/2022 17:15	44	45	37
03/08/2022 17:30	41	44	36
03/08/2022 17:45	44	43	37
03/08/2022 18:00	41	43	34
03/08/2022 18:15	45	46	36
03/08/2022 18:30	43	42	35
03/08/2022 18:45	41	43	32
03/08/2022 19:00	47	48	32
03/08/2022 19:15	46	45	30
03/08/2022 19:30	39	42	31
03/08/2022 19:45	41	44	30
03/08/2022 20:00	36	37	30
03/08/2022 20:15	47	39	30
03/08/2022 20:30	40	43	31
03/08/2022 20:45	41	45	30
03/08/2022 21:00	45	44	29
03/08/2022 21:15	41	45	27
03/08/2022 21:30	44	44	27
03/08/2022 21:45	39	39	27
03/08/2022 22:00	43	40	27
03/08/2022 22:15	37	37	28
03/08/2022 22:30	37	38	27
03/08/2022 22:45	38	37	27
03/08/2022 23:00	46	46	27
03/08/2022 23:15	36	41	25
03/08/2022 23:30	37	37	24
03/08/2022 23:45	30	31	25
04/08/2022 00:00	49	44	25
04/08/2022 00:15	41	34	25
04/08/2022 00:30	38	36	27
04/08/2022 00:45	26	28	25
04/08/2022 01:00	39	39	25

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$
04/08/2022 01:15	29	31	25
04/08/2022 01:30	33	36	24
04/08/2022 01:45	29	32	25
04/08/2022 02:00	27	29	25
04/08/2022 02:15	41	32	25
04/08/2022 02:30	28	30	25
04/08/2022 02:45	26	28	25
04/08/2022 03:00	26	28	25
04/08/2022 03:15	26	27	24
04/08/2022 03:30	36	36	26
04/08/2022 03:45	34	34	26
04/08/2022 04:00	35	36	24
04/08/2022 04:15	26	27	25
04/08/2022 04:30	37	33	26
04/08/2022 04:45	33	32	27
04/08/2022 05:00	38	37	28
04/08/2022 05:15	34	36	29
04/08/2022 05:30	37	37	30
04/08/2022 05:45	38	39	31
04/08/2022 06:00	39	39	31
04/08/2022 06:15	38	41	31
04/08/2022 06:30	38	38	32
04/08/2022 06:45	41	44	32
04/08/2022 07:00	44	46	33
04/08/2022 07:15	38	39	32
04/08/2022 07:30	41	44	31
04/08/2022 07:45	38	40	32
04/08/2022 08:00	42	46	32
04/08/2022 08:15	38	42	31
04/08/2022 08:30	36	37	31
04/08/2022 08:45	45	42	31
04/08/2022 09:00	38	40	31
04/08/2022 09:15	41	44	31
04/08/2022 09:30	37	40	32
04/08/2022 09:45	37	39	31
04/08/2022 10:00	37	40	30
04/08/2022 10:15	39	42	31
04/08/2022 10:30	39	41	32

Appendix F (continued)			
Start Time	**Results dB (T = 15 minutes)**		
	$L_{Aeq,T}$	**$L_{A10,T}$**	**$L_{A90,T}$**
04/08/2022 10:45	43	46	32
04/08/2022 11:00	36	40	31
04/08/2022 11:15	46	50	32
04/08/2022 11:30	39	41	32
04/08/2022 11:45	40	42	32
04/08/2022 12:00	36	36	30
04/08/2022 12:15	41	42	32
04/08/2022 12:30	36	38	30
04/08/2022 12:45	38	42	29
04/08/2022 13:00	39	40	29
04/08/2022 13:15	36	38	31
04/08/2022 13:30	35	37	31
04/08/2022 13:45	38	40	32
04/08/2022 14:00	41	41	33
04/08/2022 14:15	40	42	31
04/08/2022 14:30	44	45	33
04/08/2022 14:45	39	43	32

Appendix G – Survey Details and Results – Plant Noise Measurements

Date and Location of Survey

Thursday 4th August 2022

On site at Shotley Holdings Ltd, Folly Farm

Survey carried out by

Sarah Large

Weather Conditions

Dry, warm, sunny / part cloudy, 22-24°C. Generally still at ground level, west / north westerly wind with occasional gusts up to 3-4m/s.

Instrumentation and Calibration

The instrumentation used (including serial number in brackets) is tabulated below. The sensitivity of the meter was verified on site immediately before and after the survey using the field calibrator. The measured calibration levels were as follows:

Instrumentation	Start Cal	End Cal
Norsonic 140 Sound Level Meter (1403138)	113.9 dB(A)	113.7 dB(A)
Norsonic 1251 Calibrator (31991)		

The meter and calibrator are tested monthly against Norsonic Calibrators, type 1253 (serial number 22906) and type 1256 (serial number 125626100) both with UKAS approved laboratory certificates of calibration. In addition, the meter and calibrator undergo traceable calibration at an external laboratory every two years.

Survey Details

Attended short term measurements were used to obtain noise levels from different activities and plant operation on site. The measurement duration was variable, but aimed to capture a full cycle of the activity being undertaken or a representative period of activity where sources were fairly steady and consistent.

The microphone was at a height of around 1.2-1.4m above local ground level, with a windshield used throughout

Appendix G (continued)

Results – Folly Farm, 04 August 2022

Activity	Start Time	Duration T (mm:ss)	Distance (m)	Results dB				Comments / Observations
				$L_{Aeq,T}$	$L_{Amax,f}$	$L_{A10,T}$	$L_{A90,T}$	
Crusher	13:46:18	04:28	12	73	79	77	61	Engine idling, no material running. At 13:47 increased engine load (max power).
Crusher	13:51:03	01:40	22	71	75	73	61	Engine idling, increased to max load, no material running. Engine idling 66-67dB(A), max load 74dB(A).
Wheel loader	14:00:16	00:18	8	76	77	77	75	HL960, engine idling and fan running.
Wheel excavator / grab	14:09:30	00:14	12	70	75	72	67	HW140 with grab.
Tracked excavator	14:10:36	00:43	3	88	98	93	77	HX220L Drive by at 2-3m closest point.
Soil screener	14:16:55	01:01	10	72	81	72	71	Powerscreen Warrior 1400X. Loading with HX220L most noise from screener).
Soil screener	14:18:11	00:30	18	72	79	75	68	
Soil screener	14:19:12	00:27	15	71	78	73	70	
Soil screener	14:20:06	00:17	30	67	75	69	64	
Soil screener	14:21:28	00:22	10	78	80	78	77	
Soil screener	14:22:11	00:28	25	69	76	70	68	
Dump truck	14:26:26	00:20	3	76	87	80	67	Volvo A30G. Engine idling and revved engine .
Dump truck	14:27:19	00:56	3	75	82	79	65	Volvo A30G. Drive by and maneuvering, reverse and drive by.
Sand screener	14:32:09	00:19	10	77	87	78	76	Machine running no material.
Sand screener	14:32:54	00:40	13.5	74	75	74	73	
Shovel loader	14:33:44	00:04	2	76	77	76	75	HL960 type. Drive by at 2m with bucket of sand.
Sand screener	14:34:08	00:23	13.5	75	76	75	74	Machine running with material.
Sand screener	14:34:48	00:14	24	70	71	71	70	
Sand screener	14:35:32	00:50	22.5	67	70	68	67	
Sand screener	14:36:36	00:27	10	73	75	74	73	

Spectral levels were also obtained and are available on request

Appendix H - Noise Calculation Method and Calculation Sheet

Specific noise levels are predicted or measured in terms of the Equivalent Continuous Noise Level, $L_{Aeq,T}$ over a given reference time interval, T. In the Planning Practice Guidance for the NPPF the time interval for daytime, evening and night the reference time interval is 1 hour.

The calculation method for any plant which is relatively fixed in location is that set out in BS 5228-1: 2009 + A1: 2014, Annex F, and is the "Method for activity L_{Aeq}" described in section F.2.2 or the "Method for plant sound power level" described in section F.2.3.

The calculation method for site mobile plant such as lorries and dump trucks is that set out in BS 5228-1: 2009 + A1: 2014, Annex F, and is the "Method for mobile plant using a regular well defined route (e. g. haul roads)" described in section F. 2. 5.

Ground Absorption has been calculated using the technique set out in BS 5228-1: 2009 + A1: 2014, Annex F, assuming 90% soft ground between the working areas of the extensions and the receiver locations and 60% soft ground for all other working areas on site.

The method of assessing screening is that attributed to Maekawa as used in BS 5228-1: 2009 + A1: 2014, Annex F and various other Government published documents. This method uses the calculated path difference and octave band noise data for each noise source over the frequency range stated in BS 5228-1: 2009 + A1: 2014, Annex F.

The effects of ground absorption are not used in the calculations if screening has been assessed and offers a higher attenuation.

The nearest distances to the respective dwellings, from the various items of plant, have been used in an acoustic model for the site to calculate the reasonable worst case $L_{Aeq,T}$ site noise levels.

A summary site noise calculation sheet for one of the receiver locations is included below.

Appendix H (continued)

	PDE Folly Farm	**5228**	**07-Dec-22**	**SL**			Receiver Height above Local Ground :		1.5	m															
							Barrier Height (extraction)		3	m															
	Extraction - Phase 1																								
					Activity	**Power LWA**	**1 hour**	**Capacity**	**Source**				**2 way flow**	**Speed**								**BS5228**		
Ref	**Plant Item**	**Comments on Plant**			**LAeq @ 10 m**	**or LWA / m**	**On-time %**	**Tonnes**	**Height**				**Q per hour**	**V kph**		**Plant Set back(m)**					**method**		
1	Crusher + Excavatr	waste process	cumulative		83	111	100		3.5							0	m back	1	Activity						
2	Screener (soil) (Powerscreen) + Excavator	waste process	cumulative		79	107	100		3.5							0	m back	1	Activity						
3	Excavator - picking line	waste process	cumulative		81	109	100		2							0	m back	1	Activity						
4	2 Excavators - working piles	waste process	cumulative		82	110	100		2							0	m back	1	Activity						
5	HGVs on access road for waste site (incl tipping)	waste process	cumulative		76	104	100		2				24	15		0	m back	4	Haul Road						
6	Excavator	Quarry	Temp Ops		76	104	100		2							0	m back	1	Activity						
7	Dump truck	Quarry	Temp Ops		77	105	100		2							0	m back	3	Defined Area						
8	Dozer	Quarry	Temp Ops		78	106	100		2							0	m back	1	Activity						
9	Excavator	Quarry	Extraction		76	104	100		2							0	m back	1	Activity						
10	Dump truck	Quarry	Extraction		77	105	100		2							0	m back	3	Defined Area						
11	Soils wash plant + Excavator	Quarry	Extraction		80	108	100		4							0	m back	1	Activity						
12	Sand screener + Loading shovel	Quarry	Extraction		79	107	100		3.5							0	m back	1	Activity						
13	HGVs on access road for quarry site	Quarry	Extraction		76	104	100		2				8	15		0	m back	4	Haul Road						

	Location No.	**2a**	**Rose House**																						
	Receiver Height	38.5	m AOD																						
	Site Noise Level for Items 9 to 13	47	dB LAeq, 1 hour, free field		Extraction Phase 1																				
	Site Noise Level for Items 1 to 5 & 9 to 13	49	dB LAeq, 1 hour, free field		Extraction Phase 1 + Cumulative																				
Ref	**Plant Item**	**Plan Distance**	**Working Distance**	**Ground Height**	**Working Height/depth**	**Source Height**	**Angle Degrees**	**Range Metres**	**Barrier -Receiver**	**Barrier Height**	**Path Diff.**	**Barrier Atten.**	**Soft Ground %**	**Ground Atten.**	**Resultant LAeq**										
1	Crusher + Excavatr	530	530	30.0	0.0	33.5	0	0	360	38.0	0.036	7.8	60.0	3.7	40.7										
2	Screener (soil) (Powerscreen) + Excavator	470	470	28.0	0.0	31.5	0	0	380	39.0	0.260	13.6	60.0	3.5	32.0										
3	Excavator - picking line	600	600	30.0	0.0	32.0	0	0	380	39.0	0.076	9.0	60.0	4.1	36.4										
4	2 Excavators - working piles	560	560	30.0	0.0	32.0	0	0	370	39.0	0.092	9.4	60.0	4.0	37.6										
5	HGVs on access road for waste site (incl tipping)	420	420	37.0	0.0	39.0	68	0	0	0.0	-1.000	0.0	60.0	3.7	38.9										
6	Excavator	150	150	37.0	0.0	39.0	0	0	0	0.0	-1.000	0.0	90.0	3.5	49.0										
7	Dump truck	150	150	37.0	0.0	39.0	0	140	0	0.0	-1.000	0.0	90.0	3.5	49.0										
8	Dozer	150	150	37.0	0.0	39.0	0	0	0	0.0	-1.000	0.0	90.0	3.5	51.0										
9	Excavator	190	190	37.0	-0.5	38.6	0	0	170	40.0	0.059	8.4	90.0	4.0	42.0										
10	Dump truck	190	190	37.0	-0.5	38.6	0	140	170	40.0	0.059	9.0	90.0	4.0	41.5										
11	Soils wash plant + Excavator	490	490	28.0	0.0	32.0	0	0	310	40.0	0.138	12.4	90.0	4.9	33.8										
12	Sand screener + Loading shovel	470	470	38.0	0.0	41.5	0	0	280	40.0	0.000	0.0	90.0	5.3	40.3										
13	HGVs on access road for quarry site	340	340	37.0	0.0	39.0	87	0	0	0.0	-1.000	0.0	60.0	3.4	36.4										

Drawings

A3

12000 X
36850 Y

612100
612200
612300
612400
612500

C426 - Station Road

Main Access

Station Farm

BH21
BH22
Skip Park

BH9
BH8
BH7

SW A

BH2

Future Mineral Workings
and Landfill
EPR SP3239BB

Office

Weighbridge

BH41

Closed Site
WML 70687

BH18

Cell 6A

BH42

LM4A

Cell 3A

Cell 4A

LM4B

LM2A

LM2B

Cell 5A

Cell 2A

SW B

SW C

SW B-2

LM1A

LM1

BH13B

Cell 1

Capped Area

LM5

Operational
Area

Cell 1A

Non
Hazardous

SW B-P42

BH40

SW D

BH35

BH33

BH15

BH32

BH4

Folly Farm House

GENERAL NOTES

Key

- SW A — Surface water monitoring point
- BH8 — Landfill gas monitoring borehole
- BH3 — Landfill gas and groundwater monitoring borehole
- LM5 — Leachate Monitoring Point
- Closed Landfill Boundary
- Recycling Area Boundary
- Installation Permit Boundary
- Current Operational Area
- Future landfill void

Rev	Date	Description	By	Chk	App

ayesa

CLIENT
SHOTLEY HOLDINGS LIMITED

PROJECT
FOLLY FARM WASTE MANAGEMENT FACILITY

DRAWING TITLE
OPERATIONAL AREAS

STATUS	SUITABILITY
FINAL	–

Date: 23/07/24	Scale: 1:2500	Drawn: KW	Chk: CF	App: CF

Project No:	Drg. No:	Rev:
K6157	K6157.1001	A

A3

SCALE BAR
0 125 250

N

Bentley
Bentley Junction
Station Road
Dingle Dell
Bentley Grove
Garden Centre
Teapot Hill
FB
Station Farm
The Heath
Buxton Wood
Rookery Farm
Buxton Wood
A137
Tattingstone
Glebe Farm
Back Lane
Pond Hal Farm
The Hollies
Workings
FB
Hazel Shrub
Folly Farm House
Folly Farm
Goppey Farm
Dodnash Priory Farm
Little Charles New Plantation
FB
Dodnash Fruit Farm
Nine Oaks
Morant
Stutton Lane
Orchard Cottage
Furze Plantation
Vale Lane
Wallers Farm
Vale Cottages
Vale Farm
Keeble's

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

GENERAL NOTES

1km radius from centre of site

Approximate Site Boundary

Rev	Date	Description	By	Chk	App

ayesa

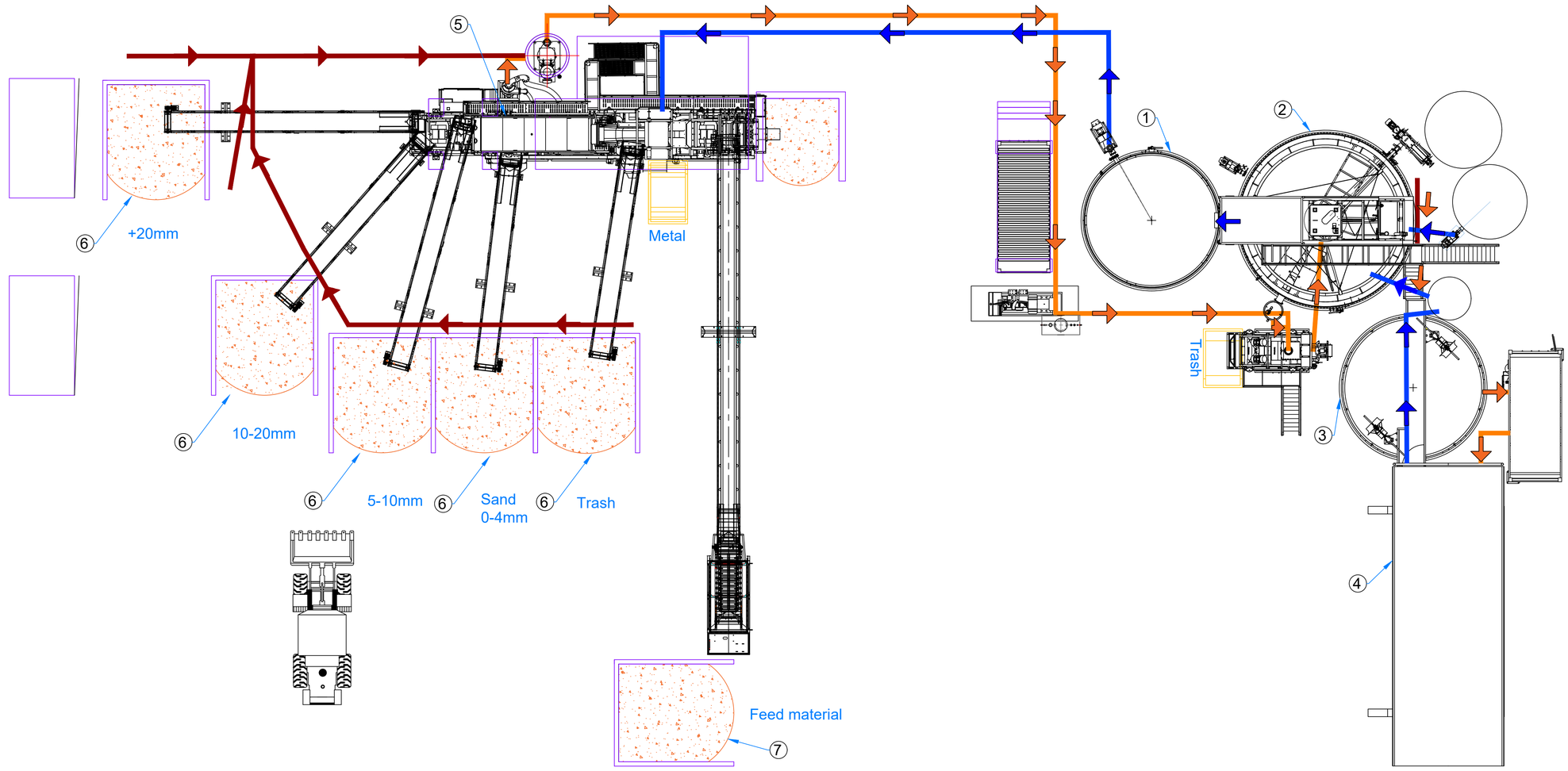
CLIENT
SHOTLEY HOLDINGS LIMITED

PROJECT
FOLLY FARM WASTE MANAGEMENT FACILITY

DRAWING TITLE
RECEPTOR LOCATIONS

STATUS					SUITABILITY
FINAL					–
Date: 24/07/24	Scale: SCALE BAR	Drawn: KW	Chk: CF	App: CF	
Project No: K6157	Dwg. No: K6157.1003				Rev: A

EQUIPMENT LIST	
PLANT ID:	**DESCRIPTION:**
1	Water Tank
2	Thickener
3	Sludge
4	Press
5	Mixing Vessel
6	Graded Materials
7	Feed Stock



CONCRETE SLAB THICKNESSES TO BE DETERMINED BY, AND THE RESPONSIBILTY OF A QUALIFIED CIVIL ENGINEER / CONTRACTOR.

RETAINING WALLS TO BE DETERMINED BY, AND THE RESPONSIBILTY OF A QUALIFIED CIVIL ENGINEER / CONTRACTOR.

POWERX ACCEPTS NO RESPONSIBILITY ON SLAB THICKNESS, DETAILS SHOWN ARE A GUIDE ONLY.

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Site 7 Meriden Park
Cornets End Lane
Meriden
CV7 7LG
T: 02476 405 100
www.pxequip.com

Revisions

Rev	Notes	Date:	Drawn by:	Checked by:
A	First Issue	20/05/25	M.Clarke	-

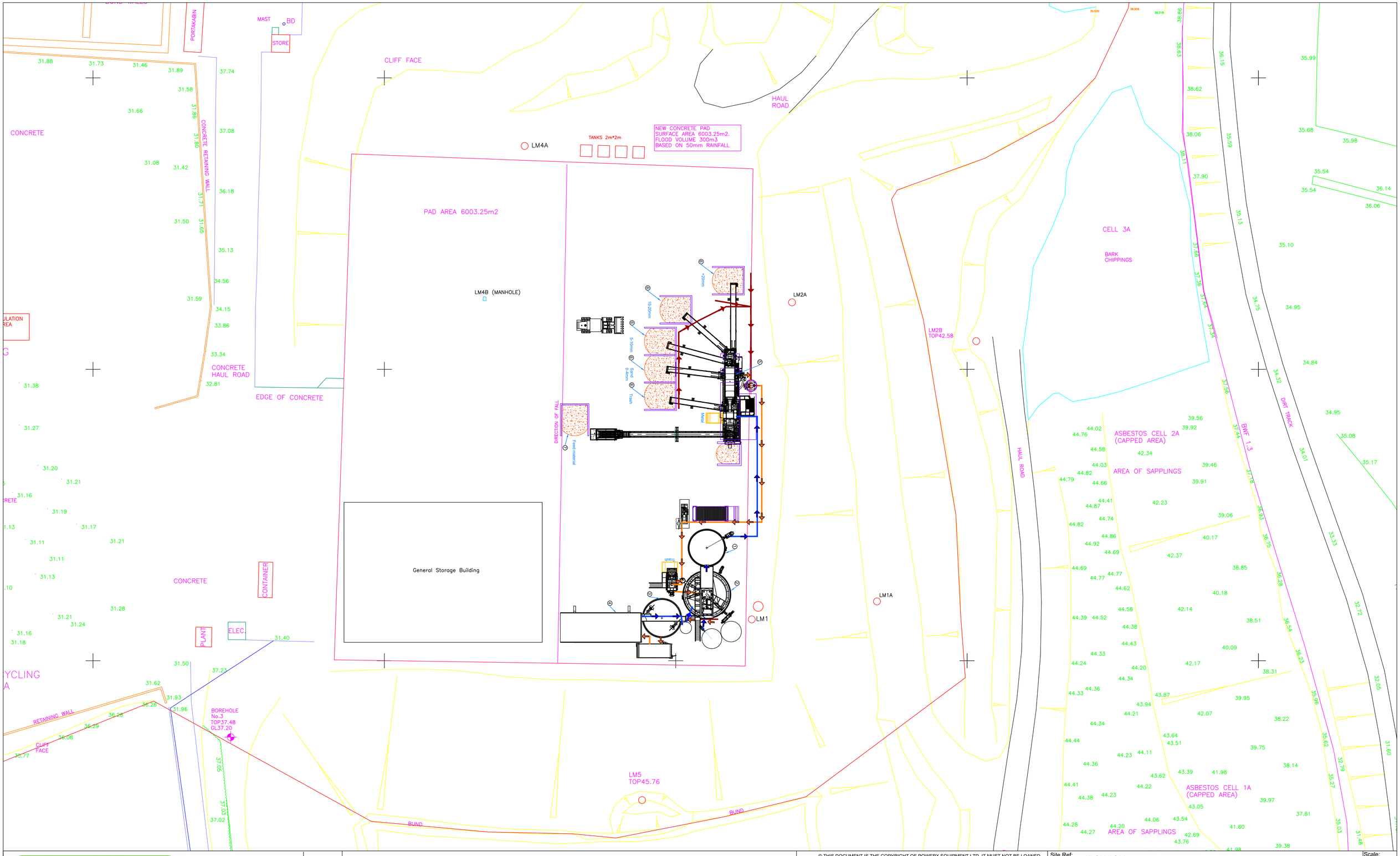
Notes:

FILE PATH: X:\Enquiries\E2100-E2199\E2186 JOE Colin Skip Hire\3. Technical\3.2 Drawings\3.2.3 Project Detail
PLOT DATE: 20/05/2025 4:18:18 PM
SAVED BY: MATTHEW

Revision	Site Ref:	Scale:
A	IPSWICH	N.T.S
	Customer: COLLIN SKIP HIRE	Sheet No: Page 1 of 2
	Drawing No. E2186-PD-003 - 01	Description: PLANT LAYOUT / Sheet Size: A3

ALL LEADING DIMENSIONS IN METRIC (mm). TRAILING DIMENSIONS IN IMPERIAL (ft, inch) UNLESS OTHERWISE STATED.

PLEASE NOTE THAT THIS IS A PRE-SALES DRAWING AND SHOULD BE USED FOR DISCUSSION / QUOTATION PURPOSES ONLY



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Revisions				
A	First Issue	20/05/25	M.Clarke	-
Rev	Notes	Date:	Drawn by:	Checked by:

Notes:

FILE PATH: X:\Enquiries\E2100-E2199\E2186 JOE Colin Skip Hire\3. Technical\3.2 Drawings\3.2.3 Project Detail
PLOT DATE: 20/05/2025 4:18:23 PM
SAVED BY: MATTHEW

Revision	A
Site Ref:	IPSWICH
Customer:	COLLIN SKIP HIRE
Drawing No.	E2186-PD-003 - 02
Description:	SITE LAYOUT
Scale:	N.T.S
Sheet No:	Page 2 of 2
Sheet Size:	A3

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