



AIRFIELD QUARRY
GALLY LEAZE, GLOUCESTERSHIRE

DUST MANAGEMENT PLAN

November 2024

Version 6

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1.0 INTRODUCTION

This Dust Management Plan (DMP) relates to Airfield Quarry, Gally Leaze, Gloucestershire. The Airfield Quarry sand and gravel extraction site is operated by Hills Quarry Products.

1.1 About Hills Quarry Products

Hills Quarry Products is part of The Hills Group, a 119 year old family owned business involved in the extraction of sand and gravel since the early 1900s and more recently in the production of quality assured ready-mixed concrete. Hills Quarry Products currently operate sand and gravel quarries in Gloucestershire, Wiltshire, Oxfordshire, Berkshire and Dorset.

Hills Quarry Products are active members of the Mineral Products Association (MPA), the industry body at the forefront of introducing new and improved practices. They work in close partnership with local environmental bodies such as the Wiltshire Wildlife Trust and the Cotswold Water Park Trust at our Cerney Wick and Shorncliffe quarries in the Cotswold Water Park and the Gloucestershire Wildlife Trust.

1.2 Site Description

The scheme for minerals extraction at the Former RAF Down Ampney Airfield is described in full in the planning application documents for Gloucestershire County Council planning reference 21/0032/CWMAJM:

‘The extraction of minerals, provision of associated infrastructure including access and processing facilities, associated ancillary buildings, structures and operations, with site restoration using imported materials to agriculture and enhanced ecological interest and bio-diversity. (The application site straddles the administrative boundaries of Gloucestershire and Wiltshire County Council. All of the proposed mineral extraction is within Gloucestershire.) Former RAF Down Ampney Airfield & Surrounding Areas The New Road Down Ampney Gloucestershire GL7 5PL’

1.3 Site Location

The quarry lies to the south-east of the village of Down Ampney in Gloucestershire and largely encompasses the old airfield between Down Ampney and Marston Maisey.

The mineral planning authority for the area is Gloucestershire County Council, and the site is within the local authority of Cotswold District Council. The public roads accessing the site are within areas controlled by Wiltshire Council, a unitary authority.

1.4 Scope of DMP

The scope of this DMP is limited to matters relating to dust, including:

- the larger fractions of dust often referred to a nuisance ('disamenity') dust; and
- those particles which are smaller, typically <15µm in diameter, and settle less readily.

The smaller particles are known as Total Suspended Particulate ('TSP') and include PM₁₀ and PM_{2.5}, for example.

1.5 Requirement for DMP

Gloucestershire County Council (GCC), the Minerals and Waste Planning Authority, granted planning consent in September 2024 subject to a number of planning conditions. Planning Condition 32 required the Applicant to submit a Dust Management Plan (DMP):

'Prior to commencement of development, a dust management plan (DMP) shall be submitted to the Mineral Planning Authority for approval in writing and implemented thereafter as approved in full and maintained thereafter for the duration of this permission. The DMP should be in line with the submitted DMP dated November 2020 and include the following:

- *dust monitoring (daily on-site and off-site inspections as a minimum, with frequency adjusted according to dust risk, e.g. higher frequency in dry and windy conditions, with records available for inspection by the Mineral Planning Authority);*
- *maintenance of a daily log on weather conditions and incidents;*
- *appropriate measures for management of operational processes (materials handling and processing) to minimise dust emissions;*
- *provision of measures for the management of track out (for example, but not limited to, sheeting of vehicles before leaving site and effective use of wheel wash facilities);*
- *regular audit of effectiveness of the DMP and revision as appropriate;*
- *Minimising drop heights locations of dust, wind speed and wind direction monitoring equipment;*
- *measures to dampen down the haul roads and stockpiles when dusty; and*
- *installation of sprinklers;*
- *Inspection regime for monitoring conveyor belts;*
- *Dust monitoring of site boundaries located near, near neighbours;*
- *The requirement to submit an annual summary report to the MPA on visual inspections / complaints / actions taken.*

Reason: To safeguard the amenity of the area and local residents and in accordance with Policy DM01 of the adopted Minerals Local Plan for Gloucestershire (2018 - 2032)'

1.6 DMP Status

A DMP is intended to be a 'live' document which serves as a reference during daily operations, and as such is reviewed at least annually and updated where necessary or on a more frequent basis should the following occur:

- significant changes are made to the plant or operational practices;
- the Regulator requests that the DMP is updated; and / or
- complaints are received, which on subsequent investigation result in the identification of further control measures or remedial action, in addition to those set out within this DMP.

1.7 DMP Structure

Hills has developed an Environmental Management System (EMS) as part of the Environmental Permit required for the site restoration. This DMP will form part of that EMS and be reviewed and updated as necessary.

1.8 DMP Availability

The DMP, and ultimately the complete EMS, are available in the Airfield Quarry site office.

1.9 Staff training

All employees receive appropriate training according to their specific tasks and responsibilities. They are made aware of the importance of the company's this DMP. They are also advised of the need to take all reasonable measures when undertaking their duties to safeguard both the environment and the amenities of the locality of the site. The training needs of staff have been identified in the training matrix.

According to their individual roles and responsibilities, the training of employees includes (but is not limited to):

- Access to, and familiarisation with, the environmental permit, the planning consent and this DMP as appropriate to their role;
- An appreciation of the relevant legislation surrounding their specific role (where necessary);
- Awareness of the relevant permitted operations at the site and associated equipment;
- An understanding of the necessary procedures for receiving, inspecting and recording incoming waste and the management of materials being dispatched;
- Competence in the handling, processing, inspection and recording of relevant details;
- The need to deal appropriately with any non-compliant wastes;

- Related housekeeping requirements, including; site tidiness, plant and equipment maintenance, site inspections and security;
- Dealing with spillages and leaks, fires and other possible accidents / emergencies

A record of all staff training (internal & external), including any formal qualifications is maintained at the site and updated routinely.

2.0 SITE SETTING AND METEOROLOGY

2.1 Sensitive Receptors

The term 'sensitive receptors' includes any persons, locations or systems that may be susceptible to changes as a consequence of the site proposals, including site preparation, mineral excavation and site restoration as well as transport to and from the site. Receptors may include humans (which are potentially sensitive to health and / or disamenity impacts) and also ecology.

The 'study area' therefore comprises the Airfield Quarry site and also locations where sensitive receptors may exist and have the potential to be affected by the development proposals. Air quality and dust considerations are of relevance at differing distances from the site and these have been selected based on the screening distances described in relevant guidance, for example:

- Disamenity dust: IAQM screening distance of 250m from quarry operations for a sand and gravel site;
- Health impacts:
- screening distance of 1km from mineral extraction:
- DMRB screening distance of 200m from access roads and those on the wider highway network:

The relevant sensitive receptors include:

- Residences close to the site;
- Ecological sites; and
- Heritage Features.

The proximity of receptors to working phases and extraction areas can be seen in Drawing AQ1. In most cases, receptors are over 250m from the site and therefore may be 'screened out' in relation to disamenity dusts according to IAQM Guidance.

'The Down Ampney Pits' which are designated by Gloucestershire County Council as a local conservation area (Local Wildlife Site) are found at the south of the Site. A full description of the Down Ampney Pits Local Wildlife Site is provided in the Ecology Assessment submitted with the Environmental Statement. The air quality assessment confirmed that the risk of impact and the effect can be summarised as follows:

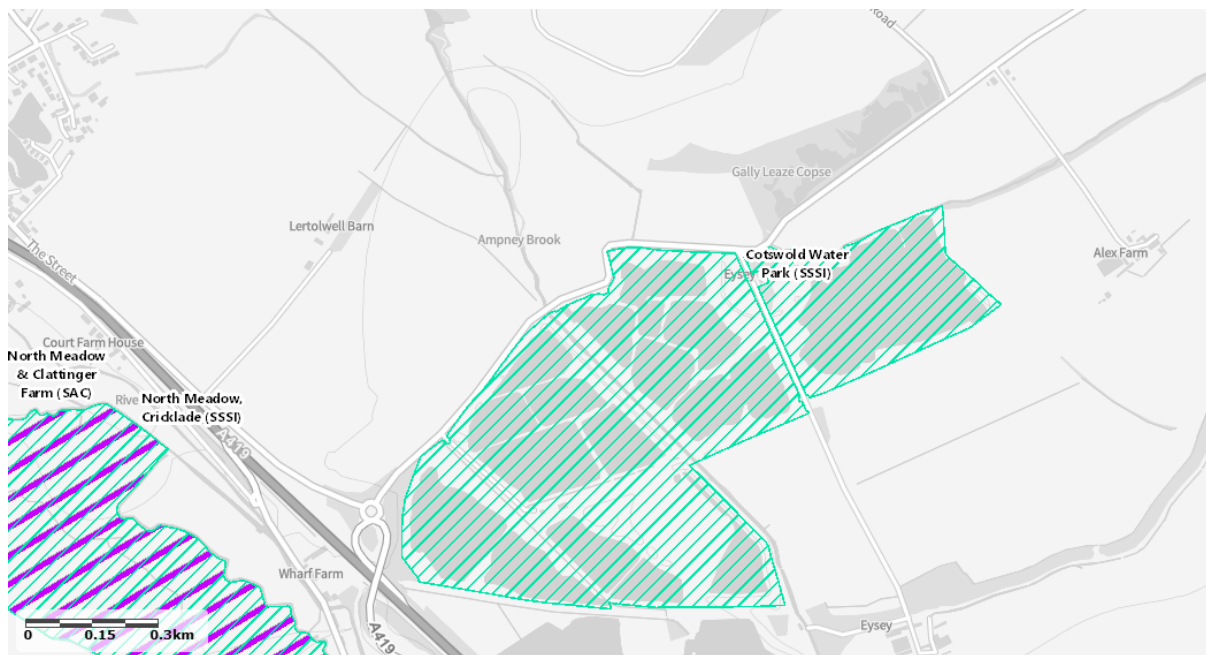
- Highly effective pathway (the ecological receptor is very close); and
- Medium Residual Source Emissions (see Table 5-2 above).
- Result in a 'Medium Dust Impact Risk'.

The site is of local importance only and according to the IAQM is therefore of Low Receptor Sensitivity. The operations from the quarry and plant area are therefore expected to result in a 'Negligible Effect' according to the IAQM Guidance. This was accepted by the Council as being the case in relation to planning application 21/0032/CWMAJM.

There are other ecological sites with European and National designation such as the North Meadow and Clattinger Farm SAC near Cricklade (also designated as the North Meadow Cricklade SSSI) however these are further from the quarry site and outside the screening distances for mineral dust.

Natural England confirmed Cotswold Water Park as a Site of Special Scientific Interest (SSSI) for its rich array of waterbirds and aquatic plants on 29th September 2021.

Figure 5-1 – Cotswold Water Park SSSI (nearest units)



The SSSI covers an area of nearly 2000 hectares and is considered to be of special interest for its:

- non-breeding shoveler *Spatula clypeata*, gadwall *Mareca strepera*, pochard *Aythya ferina*, tufted duck *A. fuligula*, great crested grebe *Podiceps cristatus*, coot *Fulica atra*, green sandpiper *Tringa ochropus* and lesser black-backed gull *Larus fuscus*;
- assemblage of over 20,000 waterbirds during the non-breeding season;
- diverse assemblage of breeding birds of lowland open waters and their margins and scrub;
- breeding great crested grebe; little egret *Egretta garzetta* and little ringed plover *Charadrius dubius*; and

- the aquatic plants: starry stonewort *Nitellopsis obtusa*, lesser bearded stonewort *Characurta*; pointed stonewort *Nitella mucronata* and clustered stonewort *Tolypella glomerata*.

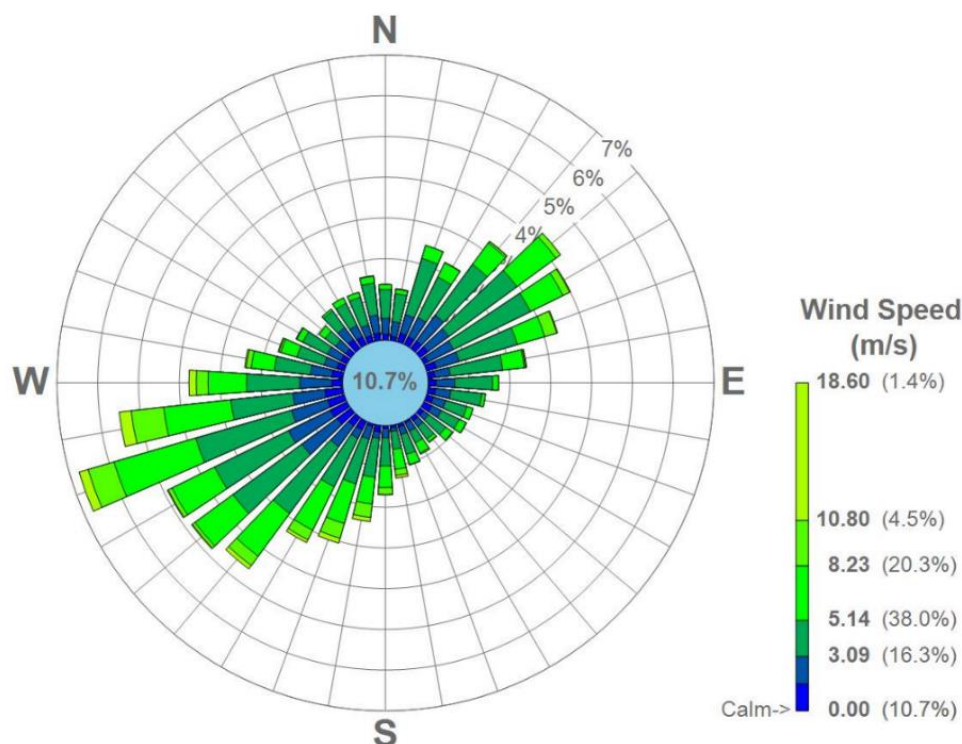
Notably the SSSI covers an area of historic and existing quarrying and none of the species noted above are directly sensitive to dusts from sand and gravel quarries. This was accepted by the Council as being the case in relation to planning application 21/0032/CWMAJM (i.e. there were no concerns raised in relation to the newly notified areas of the Cotswold Water Park SSSI).

Historic England lists the presence of a 'Settlement at Bean Hay Copse' (Scheduled Monument, List Entry Number:1003446). The Archaeological Evaluation Report produced by Wessex Archaeology indicates that this is entirely below ground with no above ground features. The site is currently used as an arable field and is located to the west of the proposed quarry.

2.2 Meteorology

With regard to dust, fugitive dust emissions occur when particles are disturbed and released by physical activities (i.e. excavating, loading, tipping and transport). Stronger winds (often regarded as those greater than 5 m/s, for example) across fine material can cause windblown dust emissions.

Figure 5-2 – RAF Fairford Observation Station



The most important climatological parameters governing the dispersion of dusts are therefore wind speed and direction. The closest observation station to the extension area is

located at RAF Fairford located less than 3km east-north-east of the Site. A windrose for this site is presented in Figure 5-2.

The data set shown is for the year of 2018. It can be seen that the majority of winds were from the west-south west with winds of all speeds from these sectors (220°–270°) occurring for approximately 30% of the year and winds above 5m/s for nearly 23% (i.e. winds which have the highest potential for dust release). On this basis, locations to the north and east of the site had the highest potential for dust impacts.

Rainfall is also an important climatological parameter in the generation of dust; rainfall will suppress dust at the source. According to Arup (1995) rainfall greater than 0.2mm per day is sufficient to suppress dust emissions. The quarried sand and gravel is also damp when extracted. Rainfall data for the local area of the site (Cirencester) has been obtained from the Met Office records with 1981 – 2010 mapped averages across the UK. The annual average number of days where the rate of rainfall exceeds 1mm is 129.9 days per year (36% of the year). On these days disamenity dusts will be naturally suppressed.

3.0 DESCRIPTION OF OPERATIONS

3.1 Overview of Working Scheme and Restoration

The Site is worked and restored progressively in ten phases (nine and the plant site), as shown on Drawing AQ1.

Soils are stripped prior to developing each phase, using an excavator and dump trucks. These soils are stored in bunds, which are strategically placed within the Site. The bunds/stores are no more than 3m high for topsoil and 5m high for subsoil. The bunds are seeded with a low maintenance grass seed mix where they are in place for more than 6 months, immediately following their construction. Full details are provided in the Soil Management Plan (required by planning condition 7 to consent 21/0032/CWMAJM).

The soil stores and bund heights are subject to Planning Conditions:

- Condition 8 (bund heights);
- Condition 37 (restricting location of stores soils relative to retained trees); and
- Condition 40 (timing of soil stripping activities).

The mineral is extracted using an articulated wheeled loading shovel operating on the quarry floor and loaded directly on to a screen located above the field conveyor. In some instances a 360 and a dump truck is utilised back to the conveyor, for instance in a 'corner' where it would be impractical to install a spur conveyor within 200m. The screen removes any clay or poor-quality mineral which is returned to the quarry void for use in restoration, using the loading shovel. The accepted mineral is transported to the Plant Site, via a field conveyor, for processing, storage and sale. As confirmed in the dust risk assessment for the application scheme (and as accepted by the Council) there is no requirement to enclose the conveyor as risks are negligible.

Mineral extraction extends down as far as the underlying Oxford Clay. Dewatering is required to facilitate safe and efficient recovery of the mineral. In each phase, groundwater is pumped to a sump on the quarry floor. Here, the captured water is settled to remove any suspended solids before being discharged into a water course.

3.2 Plant Area

A drawing showing the plant area is included at the end of this DMP as Drawing 17493-G11. This may be subject to change as a result of compliance with other conditions. The plant area includes the following:

- Field conveyor;
- Mobile plant including loading shovels to move and load minerals;
- Wash Plant;
- Screener;

- Aggregate Bagging Plant;
- Concrete Plant;
- Office/Staff Facilities/Workshop;
- Weighbridge/Weighbridge Office;
- Wheel Washes; and
- Silt lagoons.

The Wash Plant is operational in the Plant Area to remove any impurities from the Sand and Gravel. The wash water is pumped to the Silt Management Area. Here, the impurities/suspended solids are removed in settlement lagoons. The clean water is either recycled back into the Wash Plant or discharged into a water course.

3.3 Working Hours

The following working hours apply to the quarry, as detailed in the Planning Decision Notice for the site (paragraph 15). Any operations authorised by this permission shall only be carried out on the Site between the following hours:

- Plant Site mobilisation including maintenance (no fixed plant operation):
 - 06:00 to 18:00 Mondays to Fridays
 - 06:00 to 18:00 Saturdays
- Concrete Batching operations:
 - 06:30 to 18:00 Mondays to Fridays
 - 06:30 to 13:00 Saturdays
- All other operations:
 - 07:00 to 18:00 Mondays to Fridays
 - 08:00 to 13:00 Saturdays
- No HGVs shall enter or leave the site prior to 07:00 or after 18:00
- There shall be no working on Sundays or Bank or National Holidays.

3.4 Output & Duration

Mineral extraction at Airfield Quarry is estimated to take just over 13 years based on an average of 510,000 tonnes per annum, although a maximum of 540,000 tonnes per annum is being proposed for flexibility. The sand and gravel material is damp when extracted.

Quarry restoration will be achieved by importation of suitable materials at an average of 200,000 tonnes per annum and is estimated to take 25 years. Restoration will be commenced when extraction is phase 1 is approximately 50% complete.

3.5 Access

The site access road joins the C124/Eastern Spine Road, which in turn joins the A419 to the south-west of the Site at the A419 interchange.

3.6 Restoration

The planning permission for the site ensures that it will be restored to a mix of farmland suitable for arable, low land meadows, permanent pasture and wet woodlands.

4.0 DUST RISK ASSESSMENT

4.1 Guidance

A 'Good Practice Guide' issued on behalf of the Mineral Industry Research Organisation (MIRO) was released in 2011. The purpose of the Guide is to assist in the identification, control and management of dust arising from the extractive industries during:

- Site design and preparation of planning applications;
- Site opening and preparation (soil and overburden removal, handling and storage);
- Quarrying for the extraction of minerals;
- Extraction and mineral processing; and
- Site restoration and closure.

The guidance provides a useful reference for available methods of mitigation and monitoring.

The IAQM has also released the document '*Guidance on the Assessment of Mineral Dust Impacts for Planning*' in June 2016. Designed specifically for the planning process, the guidance is based upon the judgement of the IAQM Minerals Working Group. The IAQM guidance provides an effective methodology in the absence of any other guidance for the assessment of dust from mineral sites.

4.2 Step 2A – Define the Potential Dust Emission Magnitude

Source emissions from quarrying operations can come from several activities, including those listed by the Appendix 4 of the IAQM 2016 Mineral Dust Guidance:

- Site preparation / restoration;
- Mineral extraction;
- Materials handling;
- On-site transportation;
- Mineral processing;
- Stockpiles / exposed surfaces; and
- Off-site transportation.

Some of these will be subject to embedded mitigation (for example the use of a conveyor) and others minimised through operational management in accordance with this site DMP.

The residual source emissions (i.e. after mitigation) are as follows:

Table 4-1- Residual source emissions

Source	Description and residual source emission
Site preparation / topsoil replacement	The mineral extraction will be preceded by soils stripping and also some bund formation from the stripped topsoil and subsoil. The soils include a fine loam, which have a moderate particle size and humus content. The residual source emission from the site preparation and replacement of soil is (at worst) 'medium' .
Mineral extraction	The damp sand and gravel is extracted using a standard excavator before being deposited into the conveyor hopper. The residual source emission from the mineral extraction is 'very small / negligible' .
Materials handling	There is minimal handling of the extracted material other than being extracted by the excavator before being deposited into the conveyor hopper. The residual source emission from materials handling is 'very small / negligible' .
On-site transportation (mineral extraction)	The site uses a materials conveyor to take all (damp) extracted materials from the extraction area to plant area, with the shovel running <200m from working area to conveyor hopper/ screen for loading to spur conveyors. The residual source emission from the on-site transportation is 'very small / negligible' .
Washing, Bagging and Concrete plant	The sand and gravel is processed in a wash plant that includes rinsing, screening, scrubbing and sand washing capabilities. There are stockpiles of material in the plant area before export from the site. The concrete plant and bagging plant is fitted with dust arrestment filters such as those described in Process Guidance Note 3/01(12). The processing of the mineral is mechanical and also hydraulic, meaning that the material remains damp. The residual source emission from the mineral processing is 'medium' .
Stockpiles / exposed surfaces	The damp nature of the material and relatively large particle size means that the risk of windblown materials from stockpiles is minimised. By locating stockpiles as far as possible from residential receptors (i.e. embedded mitigation) the risk is further reduced. Although the stockpiles are close to the Local Wildlife site this is not considered to be a high sensitivity receptor. The residual source emission from the on-site transportation is 'small' .
Site Restoration	Inert material is imported to the site for the purposes of filling the voids created through mineral workings. This material has the potential to be dusty when dry and tipped into the created void. On-site transportation of the restoration material also has the potential for re-suspension of dust on haul roads. The residual source emission from the restoration using inert material is 'medium' .
Off-site transportation	Sand and gravel is removed from site in HDV that have been through the site wheel wash. This minimises the potential for trackout of material onto the highway network. Inert material travels by haul roads to the far reaches of the site and the HDV are wheel-washed as they leave site. The residual source emission from the off-site transportation is 'small' .

At Airfield Quarry the residual dust emission is 'small' for most activities and at worst, medium (for site preparation, soil stripping, bund formation, operations in the plant area) according to the IAQM residual source emissions assessment method.

4.3 Step 2B – Define the Sensitivity of the Area

In relation to receptor sensitivity, the considered receptors include:

- Human receptors not associated with the site;
- Human receptors associated with the site; and
- Ecological receptors (European, National and Local)

Areas of the site which are over 250m from human receptors include:

- Phase 4;
- Phase 5;
- Phase 6;
- Phase 8; and
- Silt Management area.

This leaves 5 areas with the potential to impact on sensitive human receptors:

- Phase 1;
- Phase 2;
- Phase 3;
- Phase 7; and
- The Plant area.

The air quality assessment prepared in support of planning application 21/0032/CWMAJM described human receptors as those either associated with, or not associated with the site. This approach was accepted by the Council as being acceptable and permission was granted on this basis. Should the ownership / occupation of property (notably receptor R1) change to the extent that it is no longer associated with the site, the DMP would be updated to reflect the change in sensitivity to disamenity dust. All residences (whether associated with the site owners or not) which are regularly inhabited would be regarded as 'high' sensitivity receptors to Particulate matter (PM₁₀ and PM_{2.5}).

The level of dust deposition likely to lead to a change in vegetation is very high (over 1 g/m²/day) and the likelihood of a significant effect is therefore very low except on sites with the highest dust release close to sensitive habitats. There are no sensitive designated ecological sites within 250m of Airfield Quarry and ecological receptors have therefore been

screened out for purposes of disamenity dust assessment. This approach has been accepted by the Council and Natural England through the consultation process for 21/0032/CWMAJM.

4.4 Step 2C – Define the Risk of Impacts and Effects

The residual disamenity dust impacts from the operations are predicted to result in effects can be summarised as follows:

Table 4-1 Effects

Source	Impact Descriptor
Phase 1	'negligible' and therefore not significant.
Phase 2	'slight adverse' and therefore not significant.
Phase 3	'slight adverse' and therefore not significant.
Phase 4	No impacts (over 250m from operations). 'negligible' effect.
Phase 5	No impacts (over 250m from operations). 'negligible' effect.
Phase 6	No impacts (over 250m from operations). 'negligible' effect.
Phase 7	'slight adverse' and therefore not significant.
Phase 8	No impacts (over 250m from operations). 'negligible' effect.
Phase 9	No impacts (over 250m from operations). 'negligible' effect.
silt management	No impacts (over 250m from operations). 'negligible' effect.
Plant Area	'negligible' and therefore not significant.

5.0 DUST AND PARTICULATE MANAGEMENT

5.1 Responsibility for Implementation of the DMP

The control of dust and particulate emissions from the facility is the overall responsibility of the Site Manager. A list of staff responsibilities and contact details are included as appendix A to this DMP.

Note: This section will require further update by the operator prior to commencement of operations on site.

Any activities causing excessive emissions beyond site boundaries will be immediately suspended until the appropriate dust suppression measures have been implemented. Such measures include the use of water to dampen running surfaces or spraying stockpiles.

5.2 Sources and Control of Fugitive Dust / Particulate Emissions

As described in section 4.2 of this DMP, the potential dust source at Airfield Quarry are operations including:

- Site preparation / restoration;
- Mineral extraction;
- Materials handling;
- On-site transportation;
- Mineral processing;
- Stockpiles / exposed surfaces; and
- Off-site transportation.

5.3 Dust Suppression

5.3.1 Mineral Extraction

The extracted sand and gravel will be damp and therefore the potential for dust release is low whilst extracting the minerals. No further dust suppression is necessary.

5.3.2 Mineral Transport

The damp sand and gravel is extracted using a standard excavator before being deposited into the conveyor hopper. The site uses a materials conveyor to take all (damp) extracted materials from the extraction area to plant area, with the shovel running <200m from working area to conveyor hopper/ screen for loading to spur conveyors. The conveyor is fitted with a belt cleaning system (i.e. a scraper), to remove the remaining bulk material off the return strand of conveyor belts. This also prevents material from piling up under the belt. Additional cleaning off the belt is undertaken on demand if required. There is no requirement to enclose the conveyor as the routing ensures that dust risks from this source are negligible

5.3.3 Bund forming / earthworks

The formation of bunds and earthworks is unlikely to be initially dusty as the (fine loam) soil material is likely to be damp when initially extracted. The highest risk of dust release is when any bunds are left to dry without any further mitigation.

As described in Section 3 of this DMP, the bunds/stores are no more than 3m high for topsoil and 5m high for subsoil. The bunds are seeded with a low maintenance grass seed mix where they are in place for more than 6 months, immediately following their construction. Full details are provided in the Soil Management Plan (required by planning condition 7 to consent 21/0032/CWMAJM).

The soil stores and bund heights are subject to Planning Conditions:

- Condition 8 (bund heights);
- Condition 37 (restricting location of stores soils relative to retained trees); and
- Condition 40 (timing of soil stripping activities).

Notwithstanding the above design measures, a water bowser is available at the site should additional application of water is required during bund creation and / or to promote grassing.

5.3.4 Plant area

Potentially dusty plant in this area is fitted with dust arrestment filters. Notwithstanding these above design measures, a water bowser is available at the site should additional application of water is required on the exposed surfaces within the plant area.

In accordance with standard practice, drop heights are minimised for stored product which may contain less moisture than the extracted material. For this reason, there is also a fixed sprinkler system for storage bays at the bagging plant.

5.3.5 Open Areas

The phased nature of the extraction results in some open (i.e. extracted areas) within the site. Where above the water table there is the potential for wind blow of dusty material from these areas. A water bowser is available at the site should additional application of water is required on the open areas (i.e. extracted but not yet restored) within the site.

5.3.6 Restoration

The tipping of inert materials is controlled by the operational staff, particularly when the risks of impact are highest:

1. When tipping is undertaken closest to receptors;
2. When the inert material is dry; and
3. When the weather is dry and winds are above 5m/s.

A water bowser is available at the site should additional application of water is required on the areas within the site undergoing restoration. After the restoration soils have been emplaced, these area are seeded immediately.

SHOULD THE ABOVE MEASURES BE INSUFFICIENT TO PREVENT DUSTS BEING RELEASED WHICH HAVE THE POTENTIAL TO IMPACT RECEPTORS ALL RESTORATION WORKS ARE PAUSED WHILST FURTHER MITIGATION MEASURES ARE TAKEN. THESE INCLUDE PREVENTION OF TIPPING DUSTY MATERIAL AND / OR TIPPING ONLY WHEN THE WEATHER CONDITIONS ALLOW.

5.4 Resuspension from Vehicles

HGVs carrying loose sand and gravel into or out of the Site are securely sheeted.

Two wheel washes are provided, one for vehicles using the plant site area and the other for vehicles which have delivered inert material to the restoration are and are leaving the site. Water from the wheel wash is appropriately treated and circulated though the adjacent silt lagoons.

A road sweeper is hired when necessary, with the frequency dictated by the season, level of operations and other on site conditions.

As discussed in Section 5.3 above, a water bowser is also available on site to dampen down haul roads and stockpiles where necessary (albeit haul roads are lightly trafficked due to the use of the conveyor system).

5.5 Water usage/ availability

The Silt Management Area consists of large settlement lagoons which represent a readily available source of water for use in the wheel wash and water bowsers / dust suppression system at all times throughout the year.

6.0 MONITORING

6.1 Aims

The aim of the monitoring is to provide the operator with an ongoing qualitative of the effectiveness of the mitigation measures employed at the site. Where monitoring indicates that mitigation is not as effective as desired, the responsible person must ensure that the measures described in the action plan (chapter 7 of this DMP) are taken.

Monitoring therefore takes three forms:

- i. Monitoring of the conditions which may lead to dust release (i.e. 'source');
- ii. Monitoring of the weather conditions which may lead to dust impacts at receptors (i.e. 'pathway'); and
- iii. Monitoring of the dust itself along (and outside, if necessary) the site boundary ('receptor').

Daily on-site inspections are completed, with the frequency adjusted according to dust risk, (e.g. higher frequency in dry and windy conditions), with records available for inspection by the Mineral Planning Authority as required.

6.2 Daily Checks: Visual Monitoring

The IAQM Dust Monitoring guidance¹ highlights the value of visual dust monitoring. It advises that an inspection for visible dust emissions in the vicinity of the site boundary (internal and external) should be conducted at least once on each working day. If during the first visual inspection the risk is considered to be high (i.e. dry and windy conditions) additional visual inspections are carried out in addition to additional mitigation being carried out.

Visual monitoring involves observation of dust deposition onto a surface and dispersion on and off-site. Whilst such observations are necessarily influenced by subjective opinion, the approach is simple to implement, and can be used effectively to minimise problems occurring. The monitoring involves observing both the conditions likely to lead to dust release (weather and nature of activity) in addition to the observation of any effects. Visual monitoring for dust will therefore also include perception of the potential for dust release and be associated with procedures described in this DMP.

6.2.1 Visual Monitoring: Sources

The potential sources of dust are detailed in Table 4-1 are inspected during the daily checks and the results recorded on the daily logs. This includes, for example, monitoring of conveyor belts for dust build-up and damage which is undertaken for maintenance purposes in addition to prevention of dust release.

¹ IAQM (2018) Air Quality Monitoring in the Vicinity of Demolition and Construction Sites

6.2.2 Visual Monitoring: Impact

The monitoring locations vary around the Airfield Quarry site depending on the operations that are active at the time of monitoring (as not all activities take place all the time). The quarry manager/assistant manager/ supervisors and plant operators are tasked with recording any emissions and the point at which the monitoring takes place. Appendix A contains a list of staff responsibilities.

Monitoring is undertaken at fixed points on the access road and boundary between the plant site and the LWS. Further monitoring is undertaken on the boundary nearest the current area of extraction and the current area of restoration.

Action: These fixed point monitoring locations should be identified on a drawing included within the DMP. This section will require further update by the operator prior to commencement of operations on site.

6.2.3 Visual Monitoring: Recording

Daily dust checks are completed and logged on the forms included in DMP Appendix B. The checks relate to the conditions which lead to dust release as well as monitoring of the dust itself along and outside, the site boundary. A windsock provides an additional visual guide as to the wind strength and direction.

The site staff responsible for this monitoring undertake this daily inspection and record the results. The inspection focusses on the following areas:

- i. Monitoring for conditions likely to increase the risk of dust release;
- ii. Visual assessment of any dust release; and
- iii. Monitoring of any visible surface soiling.

The results of these inspections will be recorded in the Daily Log. This includes both the prevailing conditions at the time of the observation (weather and nature of construction activity), the observation of any dust and location at which observations were made. The Site Log will be made available to the Local Authority on request and is available in the Airfield Quarry site office.

6.2.4 Visual Monitoring: Further Mitigation Requirements

Should significant volumes of fugitive dust escape into the surrounding environment as a result of site operations the control measures detailed in Section 5.3 above would then be applied until the dust levels return to normal.

Should dust issues be reported outside normal working hours the individual responsible for investigation and mitigation (if required) is as detailed in Appendix A.

6.3 Meteorological Conditions

As noted above, a windsock provides an additional visual guide as to the wind strength and direction. This is supplemented with a logging weather station located near the site offices.

The logging weather station (rainfall, temperature, wind speed and direction) allows incidents to be investigated, should they occur.

The position of the logging weather station will be identified on the detailed Plant Area Site Plan when it is updated to an “as built” layout.

6.4 Particulate Matter Monitoring

There is no routine TSP / PM₁₀ monitoring at the Airfield Quarry site.

7.0 ACTIONS, REPORTING AND COMPLAINTS RESPONSE

7.1 Logging / Reporting of Incidents and Actions

Hill Quarry Products use an Environmental Management System (EMS), across all their sites. The EMS 'Environmental Incident Report Sheet' is completed when a complaint is received for any environmental related issue.

The relevant EMS sheets are included as appendix C to this DMP:

- HQP Incident Flow Diagram;
- HQP Incident Report; and
- HQP Env Investigation Form.

The monitoring form shown in Appendix B should be used as the initial on-site evaluation step before the Hill Quarry Products EMS procedure is used.

7.2 Complaints

Hills Quarry Products have an existing procedure for managing any complaints received in relation to their operations and this would be implemented in the case of any dust issues giving rise to complaint at Airfield Quarry.

7.3 Engagement with the Community

Airfield Quarry will have an ongoing relationship with the local community, and although at the time of writing there is no established Liaison Group, it is likely that one will arise as the site develops.

Action: Future revisions of the DMP should include for updates to this section with details of community liaison groups, when established.

7.4 Management Responsibilities

Senior management at Hills Quarry Products will deal with complaints received in accordance with their existing complaints protocol. The individuals responsible are as detailed in Appendix A.

7.5 Annual Reporting

Hills Quarry Products will submit annual summary reports to the Mineral Planning Authority on visual inspections / complaints and operational improvements / actions taken in response to any dust emission incident. This is consistent with the requirement as detailed in Planning condition 32 of Permission reference 21/0032/CWMAJM.

7.6 Further Mitigation: Actions

The incident monitoring sheet and Hills Quarry Products EMS sheets (included as appendix C to this DMP) will inform the requirement for further mitigation as well as prevention of further incidents:

- Details of Remedial Actions;
- Following the Investigation, has the 'Root Cause' been identified?; and
- Are there any Procedural changes required?

Further mitigation options include (but are not limited to) the following:

Table 7-1- Residual source emissions

Source	Description and residual source emission
Site preparation / topsoil replacement	Smaller areas of working Additional water application Ceasing working until weather conditions allow
Mineral extraction	Ceasing working until weather conditions allow
Materials handling	Ceasing working until weather conditions allow
On-site transportation (mineral extraction)	Additional water application
Washing, Bagging and Concrete plant	Ceasing working until weather conditions allow
Stockpiles / exposed surfaces	Reduction of stockpile heights Additional seeding / covering Additional water application
Off-site transportation	Used of road sweeper should the standard mitigation (wheel wash and sheeting) not being effective

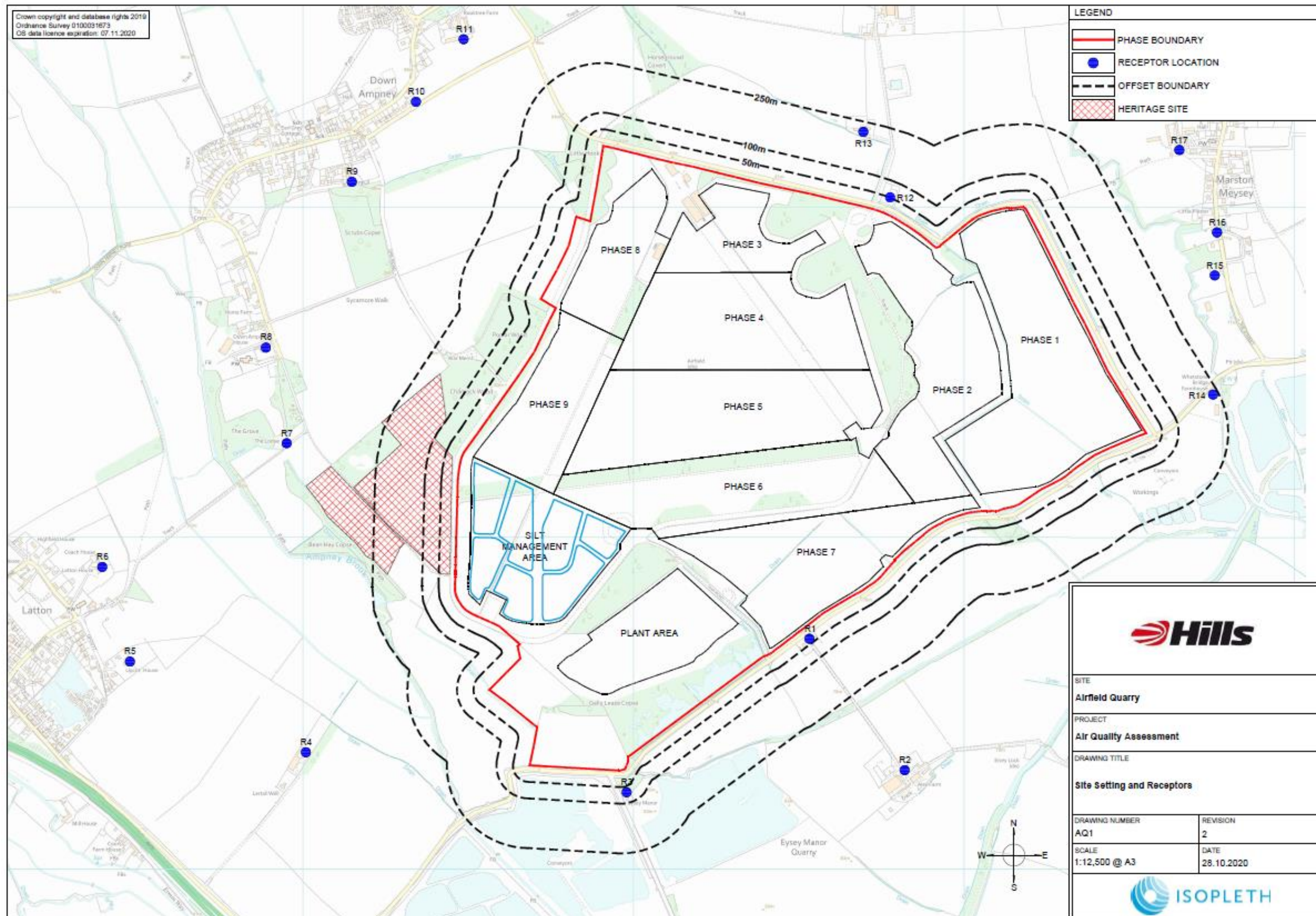
As described in 5.3.6 should the above measures be insufficient to prevent dusts being released which have the potential to impact receptors all restoration works are paused whilst further mitigation measures are taken. These include prevention of tipping dusty material and / or tipping only when the weather conditions allow.

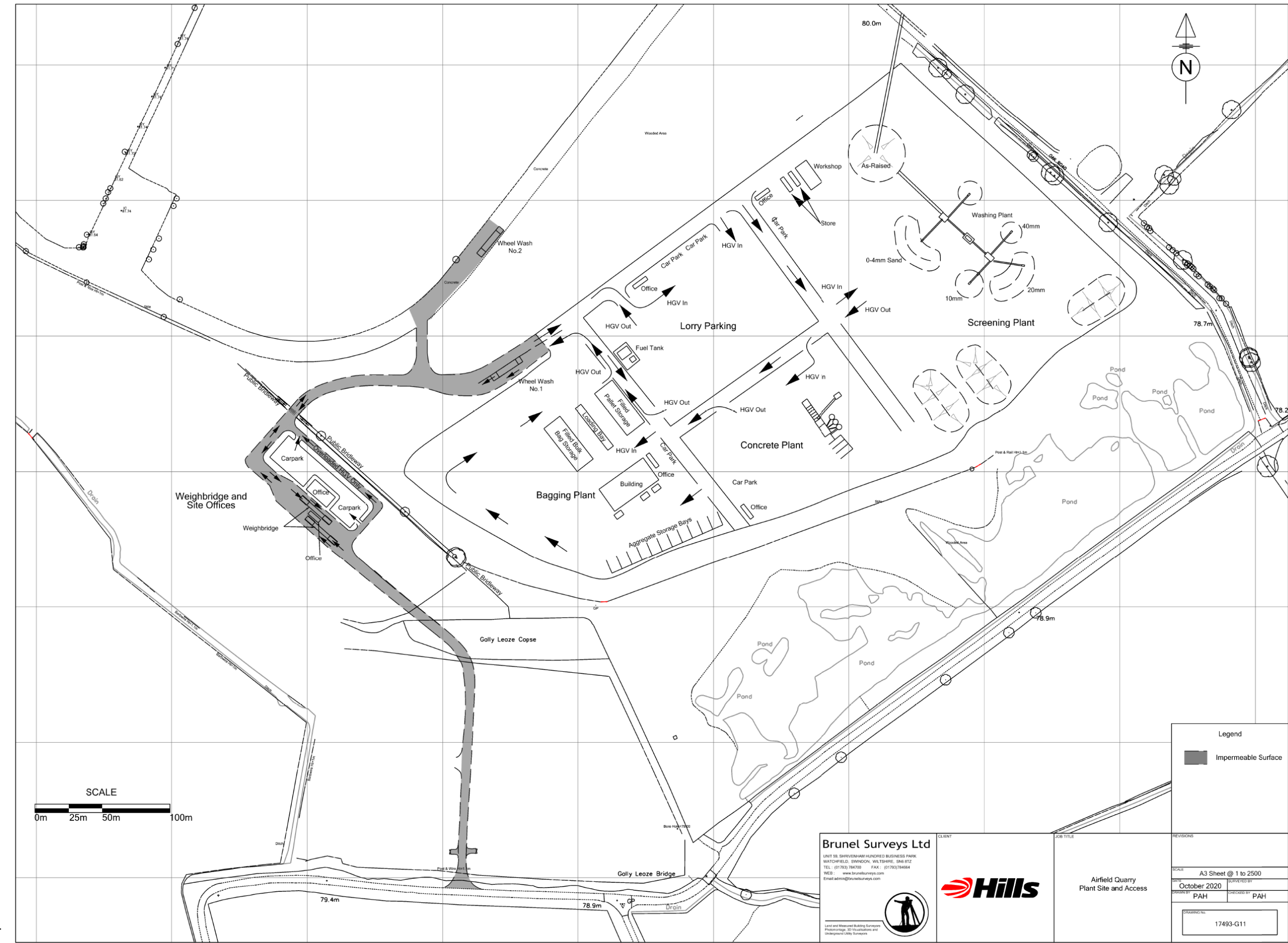
8.0 CONTINUOUS IMPROVEMENT

Senior Management (as detailed in Appendix A) will review the dust management, mitigation and DMP to ensure that the site continuously improves on a frequent basis and as part of the continued development of activities on the site.

This DMP will therefore be subject to change during the life of the site, as described in section 1.6.

Drawing AQ1: Site Setting
And
Drawing 17493-G11 Plant Site Layout





APPENDIX A: SITE RESPONSIBILITIES

<<to be included prior to operation of the site>>

[Note: It is the responsibility of:

- the manager to ensure dust control measures are in place, serviced, maintained.
- the appointed 8.1.d to fulfil these responsibilities in the absence of the manager.
- the staff to ensure they report faults/defects to management and that the dust control measures are turned on/off when required.

The management structure will likely be:

- Site Manager (8.1.c)
- Assistant Manager (8.1.d)
- Foreman (8.1.d)
- Mobile Plant Operatives]

APPENDIX B: MONITORING FORM

Basic details

Date of Survey	
Time of Survey	
Duration of Survey	
Name	
Title / Role	
Signature	

Risk of dust arising (weather), circle appropriate box, then multiply for total risk score

Wind Conditions (m/s approximate)		Moisture Conditions	
Calm <1	1	Saturated	1
Light breeze 2-3	2	Wet	2
Moderate breeze 6-8	3	Damp / Drying	3
Strong breeze 11-14	4	Dry to touch, underlying dampness	4
Gale (or stronger) 17+	5	Very Dry	5
Risk Score			

[For example: damp with a breeze of 7m/s would result in risk scores of 3 and 3 for a total of 9. A score of 9 represents 'medium risk' of dust arising as shown below.]

		Moisture				
		1	2	3	4	5
Wind	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25
		<div> <div></div> Low Risk <div></div> Medium Risk <div></div> High Risk </div>				

Observation: Site activities

In the boxes below the site activity should be recorded and observations of dust soiling made. Where the risk of dust arising is medium or high and the site observations indicate that there is a risk that there may be an impact (and possible effect) offsite the site manager must be informed and mitigation must be put in place to reduce this risk. The level of mitigation must be proportional to the risk.

Activity	Details / Observations

Overall Risk

The risk class and monitoring form will be used to inform the HQP EMS investigation process, as described in the:

- HQP Incident Flow Diagram;
- HQP Incident Report; and
- HQP Env Investigation Form.

The details will be used to determine the action priority as detailed on the HQP Incident Flow Diagram:

- Priority 1 - Immediate Corrective Action Required;
- Priority 2 - Within 1 Month;
- Priority 3 - Within 3 Month; and
- Priority 4 - Within 9 Month.

Where the Risk score shows conditions likely to lead to dust arising (i.e. medium or high risk) and site activities mean that this risk may lead to an impact at a sensitive receptor location, the activity should be scored as 'Priority 1' and avoided unless additional mitigation is in place.

Notification

Name / title of Supervisor	
Date and Time	
Actions taken	
Date and time of action (s)	
Signature	

APPENDIX C: HILLS QUARRY PRODUCTS EMS PROCEDURE

The Relevant files from the EMS can be found [here](#):