DUST RISK ASSESSMENT

EVERGREEN FARM, EAST GRINSTEAD

MR PEARCE

DECEMBER 2019

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EVERGREEN FARM, EAST GRINSTEAD

Our Ref: **4209_002R_1-0_AG**

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1.0	First issued draft version for comments		

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CONTENTS

1 INTRODUCTION

Anderson Acoustics Ltd has been commissioned by Mr Pearce in October 2019 to undertake a noise assessment for the proposed landfill capping works near Evergreen Farm, East Grinstead, RH19 4ND, within the area of Mid Sussex District Council (MSDC). The mineral planning authority is West Sussex County Council (WSCC) and so the application is made to them.

The capping of the existing site is necessary to mitigate existing environmental effects relating to leachate and gassing issues from the landfill site. In order to contain the health and environmental risks, the site will be capped with clay and soil to a height of approximately 2 to 3m above existing land. The scheme proposals, which are to be submitted for planning consent, involve the capping of landfill on open land to the north east of Evergreen Farm. The proposed capping area is adjacent to property used for care accommodation and a small local farm school. This report presents a risk assessment of the potential dust impacts from the proposed capping works at the nearest sensitive receptors for dust soiling and human health effects.

Details of dust policy and guidance are presented in Section 2 of this report, followed by a brief description of the site and proposed development is given in Section 3.

The dust risk assessment is presented in Section 4. Mitigation measures are presented in Section 5, followed by a summary of this report in Section 6.

2 PLANNING POLICY AND GUIDANCE

2.1 Air Quality Policy and Guidance

2.1.1 European and National Air Quality Standards

Air Quality Directive 2008/50/EC[1] introduced legally binding "limit value" targets for the member governments to reduce air pollution to concentrations at which minimal effects on health are likely to occur.

The directive was transposed into law through the Air Quality (England) Standards Regulations[2] with air quality objectives and dates they were to be achieved by. The sensitive locations, at which the standards and objectives apply, are places where the population is expected to be exposed to the various pollutants over the averaging period in question. For objectives to which an annual mean standard applies, the most common sensitive receptor locations used to measure concentrations are areas of residential housing, since it is reasonable to expect that people living in their homes could be exposed to pollutants over such a period of time. For shorter averaging periods of between 15 minutes, 1 hour or 1 day, the sensitive receptor location can be anywhere where the public could be exposed to the pollutant over these shorter periods of time.

Table 2.1: Air Quality Objectives for PM_{10}, $PM_{2.5}$ and NO_2

Pollutant	Air Quality Objectives for Particulates and NO_2		Date to be Achieved By
	Concentration	Measured as	
PM_{10}	50 µg/m^3 not to be exceeded more than 35 times a year	24 hour mean	31 December 2004
	40 µg/m^3	Annual mean	31 December 2004
$PM_{2.5}$	25 µg/m^3	Annual mean	2020 (but not in UKAQS)
	15% reduction urban background	Annual mean	2010-2020
NO_2	40 µg/m^3	Annual mean	31 December 2005
	200 µg/m^3 not to be exceeded more than 18 hours in a year	Hourly mean	31 December 2005

The Environment Act 1995[3] introduced the requirement for local authority management of air quality. Part IV of this Act details the duties of local authorities in carrying out their local air quality management (LAQM) to tackle poor air quality. Part of the requirement is for the Review and Assessment of air quality, production of Updating and Screening Assessments (USA) and Status Reports. Where exceedance of these objectives is shown or anticipated the local authority is required to produce an Air Quality Action Plan to reduce emissions and pollutant concentrations.

[1] Council Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe
[2] DEFRA. 2010. The Air Quality Standards (England) Regulations.
[3] Office of the Deputy Prime Minister. 1995. The Environment Act.

2.1.2 National and Regional Planning Policy and Guidance

The **NPPF**[4] presents the Government's planning policies for England and how these are expected to be applied, with the development of local and neighbourhood plans under the framework. Paragraph 170 e) of the NPPF identifies that the planning system should aim to conserve and enhance the natural and local environment by "*preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality...*"

Paragraph 181 states "*Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan*".

Planning Practice Guidance Air Quality[5] (PPG-A) has been produced to give indication of details the local authority may want to consider when there are concerns about air quality and special requirements; such as the height of chimneys and securing mitigation measures through planning conditions and obligations. The PPG considers that dust can also be a planning concern for effects on local amenity. The guidance considers that assessments should be proportional to the nature and scale of development proposed and the level of concern about air quality. The mitigation of air quality impacts and effects is to depend on the proposed development and should be proportionate to the likely impact.

Planning Practice Guidance Mineral[6] (PPG-M)has been produced to provide guidance on the content of a dust assessment study. The guidance indicates the following key stages:

- establish baseline conditions of the existing dust climate around the site of the proposed operations;
- identify site activities that could lead to dust emission without mitigation;
- identify site parameters which may increase potential impacts from dust;
- recommend mitigation measures, including modification of site design;
- make proposals to monitor and report dust emissions to ensure compliance with appropriate environmental standards and to enable an effective response to complaints.

Guidance on the Assessment of Mineral Dust Impacts for Planning[7]. The Institute of Air Quality Management guidance on how a dust assessment for mineral sites should be undertaken uses distance-based screening to identify mineral sites where the dust impacts are unlikely to be significant, and where a more detailed assessment is required using the source, pathway, receptor approach. Where effects are significant further mitigation is required.

[4] Ministry of Housing, Communities & Local Government. 2019. National Planning Policy Framework.

[5] Department for Communities and Local Government. 2014. Planning Practice Guidance – Air Quality. Revision date March 2014

[6] Department for Communities and Local Government. 2014. Planning Practice Guidance – Air Quality. Revision date March 2014

[7] Mayor of London. 2014. The Control of Dust and Emissions from Construction and Demolition Supplementary Planning Guidance

2.1.3 Local Air Quality Guidance

The Air quality and emissions mitigation guidance for Sussex[8] provides guidance on screening for emissions assessment and air quality assessment. The guidance provides a procedure for calculating the level of mitigation required and the mitigation options available.

The West Sussex Waste Local Plan (WSWLP)[9] Policy W16: requires there are no unacceptable impacts on the quality of air and that there are no unacceptable impacts on the management and protection of such resources including any adverse impacts on air quality management areas.

The MSDC Local Plan was adopted in 2015[10] and includes policy DP29 – Noise, Air and Light Pollution requires developments "*The environment, including nationally designated environmental sites, nationally protected landscapes, areas of nature conservation or geological interest, wildlife habitats, and the quality of people's life will be protected from unacceptable levels of noise, light and air pollution by only permitting development where:*

- *It does not cause unacceptable levels of air pollution;*
- *Development on land adjacent to an existing use which generates air pollution or odour would not cause any adverse effects on the proposed development or can be mitigated to reduce exposure to poor air quality to recognised and acceptable levels;*
- *Development proposals (where appropriate) are consistent with Air Quality Management Plans.".*

2.1.4 Consultation with MSDC

The dust risk assessment was requested by MSDC to address "*concerns that the proposed works for this site will generate dust emissions likely to adversely affect nearby residents in the care home and a school. The issue of dust has not been assessed in the application and I would expect to see an assessment of the potential dust impacts and details of any mitigation measures proposed*".

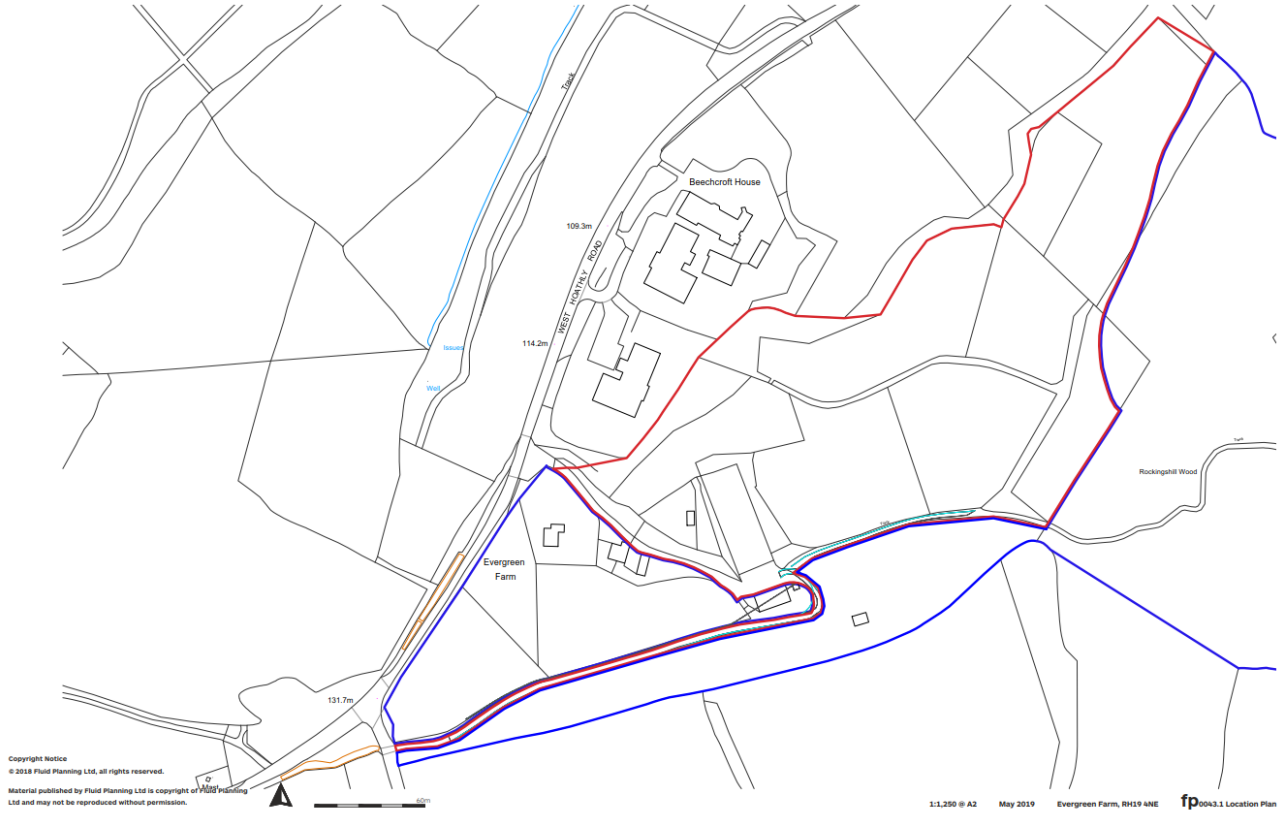
[8] The Sussex Authorities. Air Quality and emissions mitigation guidance for Sussex. 2019.
[9] West Sussex County Council. West Sussex Waste Local Plan. 2014.
[10] Mid Sussex District Council. Mid Sussex District Plan. 2018.

3 SITE DESCRIPTION AND DEVELOPMENT PROPOSALS

3.1 Existing Site

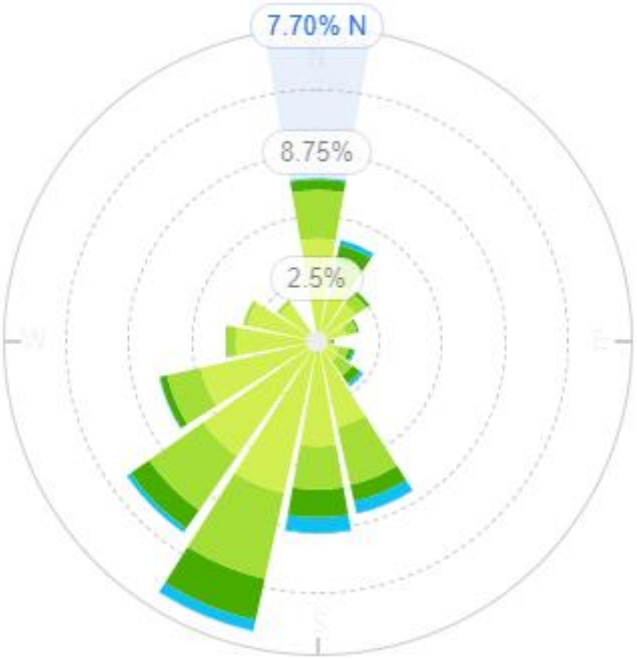
The proposed development site is located in a largely rural area to the south of East Grinstead, to the north east of Evergreen Farm. Immediately to the west lies Beechcroft Centre and associated grounds, which is understood to provide accommodation and specialist care for young adults. To the north-west lies Trefoil Montessori Farm School, and residential premises. In all other directions immediately adjacent to the site lies open land.

Figure 3.1 Site location and receptors



The area is open with good dispersion. Under the predominant wind conditions from the southwest the receptors are distant to the site. Under low wind speed or easterly wind conditions there are receptors close to the site in the west. The wind rose for Gatwick Airport is presented in Figure 3.2. High risk weather conditions would be strong winds from the east during dry periods.

Figure 3.2 Wind Rose for Gatwick Airport



3.2 Dust Soiling and Human Health Receptors

The sensitive receptors noted as being closest to the site are the Beechcroft Care Centre and Trefoil Montessori Farm School. The nearest façade of Beechcroft Care Centre is located approximately 15 m west of the site and the nearest façade of Trefoil Montessori Farm School is located approximately 80 m from the site and beyond the school lies art schools and residential properties.

Beyond the adjacencies, approximately 330m north east of the site, are residential properties on Lister Avenue and approximately 430 m east of the site lies a farm and associated residences on Harwood Lane. National Trust property, Standen House lies approximately 430m to the south.

All of these receptors are considered as high sensitivity for dust soiling effects. All the receptors described above have a residential element with the exception of the school.

Medium sensitivity receptors nearby include places of work and parks.

Low sensitivity receptors for dust soiling and human health effects include farmland and footpaths.

Evergreen Farm Woodland Campsite is understood to cease should planning permission be granted for the capping works.

3.3 Ecological Receptors

An ecological receptor is any sensitive habitat affected by dust deposition. The Weir Wood Reservoir is a SSSI located around 1 km to the south of the site perimeter. It is a SSSI for bird habits and is not considered dust sensitive. The Ashdown Forest SAC and SPA are over 3 km to the southeast of the site and are not considered to be in the distance range for potential dust effects.

3.4 Existing Sources of Dust Emission

Existing sources of dust include seasonal dust emissions associated with agricultural activity. The former landfill is emitting concentrations of methane and benzo(a)pyrene that required remediation through the capping works.

3.5 Baseline PM_{10} Concentration

MSDC do not conduct monitoring of PM_{10} concentrations as part of their local air quality management role as PM_{10} concentrations are below the national objectives. The UK Air[11] background PM_{10} concentrations from 2017 based modelling is to be used for new air quality assessments and show the background PM10 concentrations for the site, modelled for 2020, to be <14 μgm^{-3}.

3.6 Proposed Capping Works

It is understood that the land of the proposed site is a polluted landfill with leachate and gassing issues. In order to contain the health and environmental risks, the proposed strategy is to cap with 2-3 m of soil and clay, which will be supplied to the site by an estimated 12,500 HGVs over the course of the intended works to deliver the 120,000 – 150,000 m^3 of material required.

Figures C1 and C2 in Appendix C present the existing and proposed site topography, respectively. A comparison of the two figures indicates that the proposed site levels broadly increase the existing site levels by between 2-3 m from the north west boundary of the site towards the south eastern boundary, with a steeper gradient across the land from the north-western boundary to the centre and a notably more shallow gradient from the centre to the south eastern boundary.

HGVs will deliver material to the site, intended for capping, through the entrance to the west, indicated in Figure C-1 in Appendix C and, depending on the weather conditions, follow the track around the eastern/south-eastern perimeter, or the track along the central spine, both of which are also indicated. It is proposed that HGVs will tip material at locations close to these set haul routes and then leave the site through the exit to the south.

The preliminary methodology advises that the onset of site works is anticipated in spring, where the cap will be laid and material spread across the shallow gradient section of the site (indicated in the figures in Appendix C), at the opposite side of the site to the two receptors. During the summer months, when land is dry and presents less of a safety risk to moving plant working on a gradient, site works will move to the section of the site with the proposed steeper gradient (i.e. the side closest to the two receptors). Following the summer months, as the ground becomes increasingly wet, works will once again recede to the shallow section of the site, farthest away from the two receptors.

It is proposed that one excavator, in proximity to the tipper wagon tipping point, will move material to its intended location for spreading by a bulldozer. The material will be tipped into a pit to contain the material and reduce the potential for wind whipping.

It is considered that daily site activities will be reasonably consistent throughout the duration of works.

The material type is soil and the moisture content of the imported soil will vary. Dry clay and soil has a high potential for dust mobilisation as a result of the fine size of the material.

Potential sources of dust emission include:

- Wind whipping of bare soil;
- Movement of tipper wagons and site plant over the site;
- Tipping of clay or topsoil from the tipper wagon into the reception pit;
- Movement of clay or soil from the reception pit by the excavator;
- Spreading of clay or soil by the bulldozer.

The capping works are similar to site preparation and restoration works that involved the handling of soils and overburden and these activities have a high potential for dust emissions.

[11] https://uk-air.defra.gov.uk/data/laqm-background-home

During wet periods works will be on the flat land closer to the receptors in the west such as the school and the care centre. During prolonged dry periods capping works will take place on the steeper section to the east and more distant to the school and care centre.

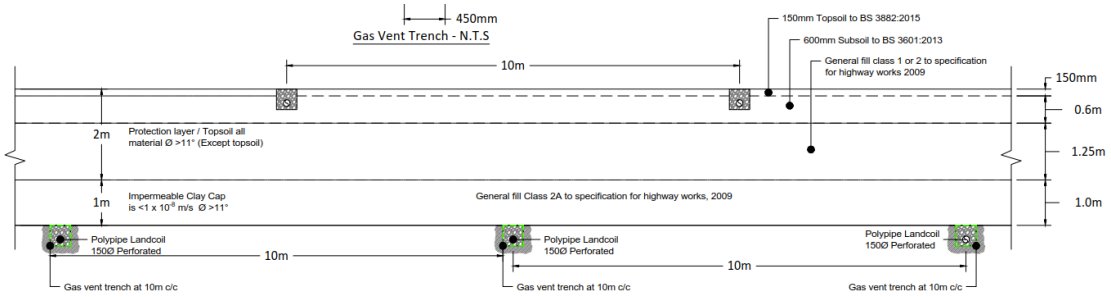
3.6.1 Capping Works Programme

It is understood that works are intended to run for approximately 80 weeks with an estimated 30-35 HGV deliveries to the site per day. The site will operate between 07:00 hrs and 17:00 hrs, Monday to Friday. The works are intended to take place over two phases; in the shallow section of the site, during generally wet conditions; and in the steep section of the site, during generally dry conditions. In order to minimise the impacts of works on the nearest dust soiling and human health receptors, initial works on site will comprise the build-up of ground levels to around final height along the boundary of the site to be capped nearest the noise sensitive receptors to the west of the site to provide a noise bund for the further works. Continuation of the capping works will then begin closest to the formed natural barrier working backwards away from the receptors.

3.6.2 Capping Material and Construction

The initial capping material will be a 1 m impermeable clay cap followed by a 2 m thick protection layer of top-soil or subsoil with topsoil on top. An example cross section is presented in Figure 3.1. The moisture content of the material will be dependent on the moisture content of the material brought to site and the weather conditions at the time of deposition. The material will be brought to site and spread at point so stockpiling or double handling of material is not anticipated.

Figure 3.3



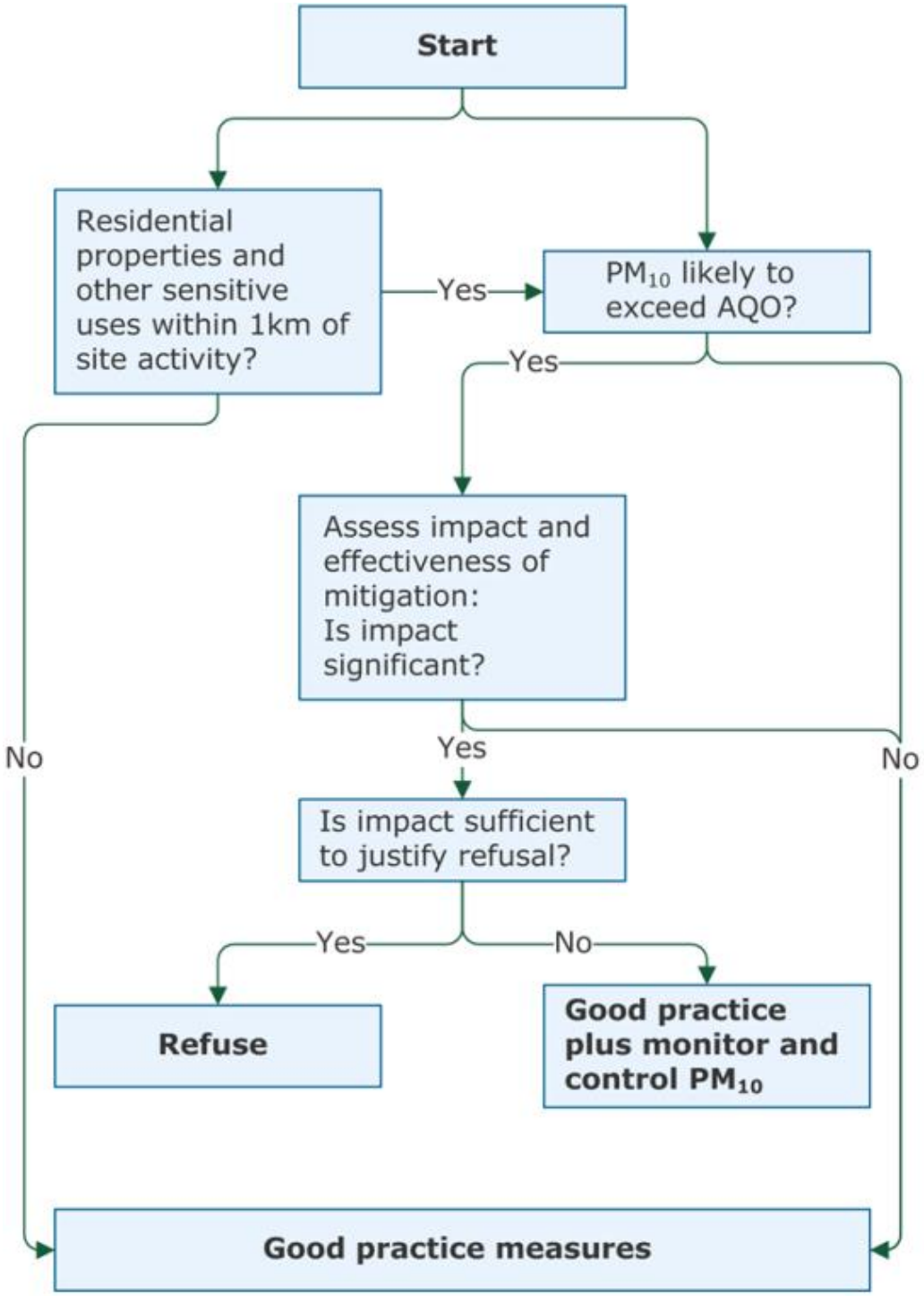
Haul roads will be constructed as required and a wheel wash will be located at the site entrance to avoid the trackout of mud. A road sweeper will also be located on site and used as required.

4 DUST RISK ASSESSMENT

4.1 Introduction

The dust risk assessment follows the procedures in the IAQM "Guidance on the Assessment of Mineral Dust Impacts for Planning". The assessment follows the procedure detail in the Minerals Planning Practice Guidance.

Figure 4.1 PPG-M Air Quality and Dust Flow Chart Assessment Procedure



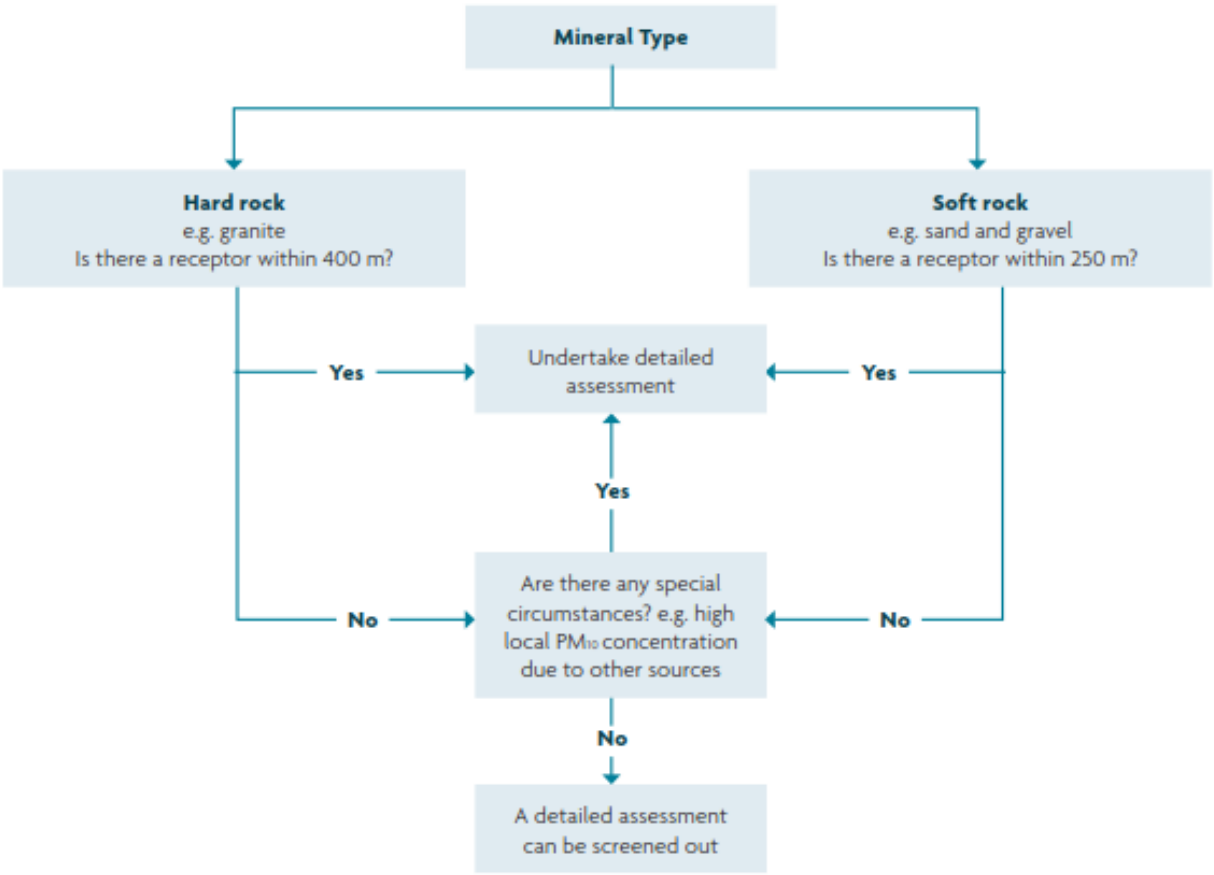
4.2 Screening

The first step of the assessment is screening to see if there is need for the assessment to proceed. As there is residential properties and other sensitive uses within 1 km of site activity. It is considered unlikely that the PM_{10} concentrations will exceed the air quality objectives and so "Good practice measures" are required.

The IAQM guidance provides a screening flow chart to assess if detailed assessment is required. It is recognised the works are capping with topsoil and this is considered as soft rock. As there are receptors within 250 m the assessment needs to proceed to detailed assessment.

The HDV movements are predicted to be around 30-35 per day and this is below the IAQM screening criteria of a change in HDV of 100 AADT.

Figure 4.2 IAQM Screening Flow Chart for Mineral Dust Assessment



For a detailed assessment the following content needs to be considered:

i. A description of the existing PM_{10} concentration (and dust deposition rates where available);

ii. A description of the location of receptors and their relative sensitivities to PM_{10} concentration and dust deposition;

iii. Details of potential dust sources associated with the proposed development, including the activities and materials involved (including a brief outline of quantities, duration, methods of handling and storage, etc.) and the resulting potential for releasing dust, covering fugitive sources, diffuse sources and point sources as applicable;

iv. A description of the control/mitigation measures incorporated into the scheme (including design features, management controls (e.g. Dust Management Plan) and, where appropriate, engineering controls);

v. A prediction, using appropriate assessment tools, of the likely PM_{10} and dust deposition impacts and resulting effects (on health, amenity, and/or ecology) at relevant sensitive receptors, and taking into account the following:

a) The likely magnitude of dust emissions (after control by measures incorporated into the scheme);

b) the likely meteorological characteristics at the site;

c) the dispersion and dilution afforded by the pathway to the receptors, taking into account distance, orientation, local terrain and features, and other relevant factors;

d) the sensitivity of the receptors to disamenity, health and/or ecology effects; and

e) any likely cumulative interactions.

vi. The residual PM_{10} and dust deposition impacts and their disamenity, health and/or ecology effects;

vii. A conclusion on the significance of the overall residual air quality effect, i.e. whether "significant" or "not significant";

viii. Where the effects are assessed as significant, appropriate further mitigation (including modification of site design) and control measures that could allow the proposal to proceed without causing significant adverse effects; and

ix. Proposals, where appropriate, for proportionate dust monitoring and reporting to check the ongoing effectiveness of dust controls and mitigation, check compliance with appropriate environmental standards and to enable an effective response to complaints.

4.3 Step 1- Baseline Characteristics and Baseline Conditions

Site characteristics, baseline conditions and details of the works are presented in section 3.

4.4 Step 2- Estimation of Dust Impact Risk

The residual source emissions have been predicted for each activity associated with the capping works and presented in Table 4.1. The categorisation of frequency of potentially dusty winds is presented in Table 4.2 and Table 4.3 gives the categorisation of the distance of the receptor from the dust source and Table 4.4 presents the pathway effectiveness.

Table 4.1 Residual Source Emissions

Activity	Residual Source Emissions
Capping works – tipping and spreading material	Medium – 1 excavator and 1 bulldozer. Material of high dust potential.
On-site transportation of material	Medium -Use of unsurfaced haul roads. Road surface of high dust potential. Less than a hundred movements of vehicles per day. Low vehicle speed.
Off-site transportation	Small- Wheel wash in place. Road sweeper available. 30-35 HDV movements per day.
Exposed surfaces	Medium – No stockpiles, exposed area <2.5 ha. Seeding and planting of areas once capping completed in that area.

Table 4.2 Categorisation of Frequency of Potentially Dusty Winds

Frequency Category	Criteria
Infrequent	Frequency of winds (>5 m/s) from the direction of the dust source on dry days are less than 5% Beechcroft Care Centre
Moderately frequent	The frequency of winds (>5 m/s) from the direction of the dust source on dry days are between 5% and 12% Trefoil Montessori Farm School
Frequent	The frequency of winds (>5 m/s) from the direction of the dust source on dry days are between 12% and 20% Lister Avenue
Very frequent	The frequency of winds (>5 m/s) from the direction of the dust source on dry days are greater than 20%

Table 4.3 Categorisation of Receptor Distance from Source

Category	Criteria
Distant	Receptor is between 200 m and 400 m from the dust source Lister Avenue
Intermediate	Receptor is between 100 m and 200 m from the dust source
Close	Receptor is less than 100 m from the dust source Trefoil Montessori Farm School Beechcroft Care Centre

Table 4.4 Pathway Effectiveness

		Frequency of potentially dusty winds			
		Infrequent	Moderately Frequent	Frequent	Very Frequent
Receptor Distance Category	Close	Ineffective Beechcroft Care Centre	Moderately Effective Trefoil Montessori Farm School	Highly Effective	Highly Effective
	Intermediate	Ineffective	Moderately Effective	Moderately Effective	Highly Effective
	Distant	Ineffective	Ineffective	Moderately Effective Lister Avenue	Moderately Effective

The dust impact risk for the following representative receptors has been determined and is presented in Table 4.5.

Table 4.5 Prediction of Dust Impact Risk

		Residual Source Emissions		
		Small	Medium	Large
Pathway Effectiveness	Highly Effective Pathway	Low Risk	Medium Risk	High Risk
	Moderately Effective Pathway	Negligible Risk	Low Risk Lister Avenue Trefoil Montessori Farm School	Medium Risk
	Ineffective Pathway	Negligible Risk	Negligible Risk Beechcroft Care Centre	Low Risk

4.5 Step 3- Estimation of Likely Magnitude of Effect

The magnitude of effect for the representative receptors has been determined and is presented in Table 4.6.

Table 4.6 Descriptors for Magnitude of Dust Effects

	Receptor Sensitivity		
	Low	Medium	High
High Risk	Slight Adverse Effect	Moderate Adverse Effect	Substantial Adverse Effect
Medium Risk	Negligible Effect	Slight Adverse Effect	Moderate Adverse Effect
Low Risk	Negligible Effect	Negligible Effect	Slight Adverse Effect Lister Avenue Trefoil Montessori Farm School
Negligible Risk	Negligible Effect	Negligible Effect	Negligible Effect Beechcroft Care Centre

Table 4.7 Summary of Dust Disamenity Effects at Representative Receptors

#	Representative Receptor location	Location relative to nearest dust Source	Residual Source Emissions	Pathway Effectiveness	Dust Impact Risk	Receptor Sensitivity	Magnitude of Dust Effects
1	Trefoil Montessori Farm School (and art school and residential beyond)	80 m upwind	Medium	Moderately Effective	Low Risk	High	Slight Adverse Effect
2	Beechcroft Care Centre	15 m upwind	Medium	Ineffective	Negligible Risk	High	Negligible Effect
3	Lister Avenue	330 m downwind	Medium	Moderately Effective	Low Risk	High	Slight Adverse Effect

Overall the proposed development is considered to have a sight adverse effect through disamenity from dust on the surrounding area. This is based on a consideration of the different magnitude of effects at individual receptors, and the number of receptors that would experience these different effects. The designed-in mitigation measures together with the operational measures proposed in Section 5 are considered to be appropriate to mitigate the potential impacts.

4.6 Human Health Effects

Following the PPG-M procedure the risk of human health effects from PM_{10} has been assessed using the flowchart procedure. Where there is background PM_{10} concentration is below 17 μgm^{-3} there is little risk of the process contribution from mineral works causing an exceedance of the annual mean PM_{10} objective. The human health effects of the proposed capping works are considered **Not Significant**.

4.7 Conclusion of Effects

PPG advises that in considering planning permission the question "*will the proposed development (including mitigation) lead to an unacceptable risk from air pollution, prevent sustained compliance with EU limit values or national objectives for pollutants or fail to comply with the requirements of the Habitats Regulations?"* needs to be answered. The proposed capping works do not lead to an unacceptable risk from air pollution, prevent sustained compliance with EU limit values or national objectives for pollutants or fail to comply with the requirements of the Habitats Regulations.

The disamenity, human health and ecological effects have been considered collectively and the air quality and the dust effect is considered as **Not Significant**.

5 MITIGATION AND DUST MANAGEMENT PLAN

Dust mitigation is required as part of normal working practice. Mitigation can be considered as basic good practice measures that apply to all sites and site-specific measures.

Basic good practice measures include a dust management plan, site design and planning and operational control measures.

Design measures proposed for the capping works are presented in Table 5.1.

Table 5.1 Good Practice Design Measures

Design Measure	Description
Phasing of capping activities	Dust generating activities on the side of site near the Beechcroft Care Centre and Trefoil Montessori Farm School will take place in wet months, which will minimise dust emission close to these receptors. Dry month working will be on the steeper section of the site. Following capping of areas planting of pasture and woodland will take place, minimising the time as an exposed surface.
Design and location of dust-generating activities	Tipping of soil and sub-soil fill is into a reception pit to minimise wind whipping of dust. No stockpiling of material will take place and material will be planted once lain.
Provision for dust mitigation measures	Noise screening bunds are to be constructed near Beechcroft Care Centre and Trefoil Montessori Farm School. A site water supply will be needed for the wheelwash and also for damping down using a bowser for areas where the mains supply cannot reach.
Equipment and vehicles	The haul routes will be located away from sensitive receptors, as far as is practical. It is noted the tipper wagons will tip as close as possible to the area to be capped, to avoid double handling of material. A hard-standing parking area will be used for off-site vehicles, to help reduce trackout.
Planting	Existing woodland around the site boundaries is to be retained where practicable and planting of pasture and woodland will take place following capping.

Table 5.2 Good Practice Operational Measures

Design Measure	Description
Management	Section 5 of the DRA forms the DMP and will be adhered to. All dust and air quality complaints will be recorded and the cause identified. Where visual dust is observed the alert measures from the DMP will be taken to reduce emissions in a timely manner, and record of the measures taken will be made in the site log.
Training	Site personnel will be given a toolbox talk on dust mitigation and the emergency preparedness plan section of the DMP to allow quick reaction in case of failure of planned dust mitigation.
Monitoring	Monitoring is proposed through the visual observation of dust on site on a daily basis. Off site inspection for dust soiling is proposed to be conducted on a weekly basis in dry or windy weather.

Communication	Details of site works and progress will be communicated to the premises within 400 m of the works.
Planning of activities	Capping works on the side of site near the Beechcroft Care Centre will take place in wet months, which will minimise dust emission close to these receptors. Dry month working will be on the steeper east section of the site which benefits from mature woodland providing a wind break. Care will need to be taken to avoid over-damping down making steep sections of the site dangerous to access for the site plant.
Vehicle movements	Vehicle mitigation measures to be deployed include: • Avoiding abrupt changes in direction of haul route; • Use of appropriate speed limit on site (10 mph on haul routes); • Regular application of water, whether by bowser or by fixed sprays, in dry conditions; • Use of paved access track to haul road; • Use of wheel wash on HDVs leaving site;
Materials handling	Clay and soil tipping activities to be avoided during prolonged windy and dry conditions unless fill material has high moisture content. Soil tipping into reception pit to reduce potential for wind whipping. Use of bowser spray to dampen fill material. Once the capping works are complete in and area the soil will be vegetated with quick growing plants.

6 CONCLUSIONS

A dust risk assessment has been undertaken to assess the impact of dust from the capping works on nearby dust sensitive representative receptors around the site.

The site activities have been considered and are predicted to cause a **Slight Adverse** effect at Lister Avenue and Trefoil Montessori Farm School through potential disamenity from dust. Human health and ecological effects are considered to be **Negligible**.

The dust management plan is presented in Section 5 of this report.

The disamenity, human health and ecological effects have been considered collectively and the air quality and the dust effect is considered as **Not Significant**.

APPENDIX A

SITE PLANS

Figure A-1 – Existing site and topographical levels

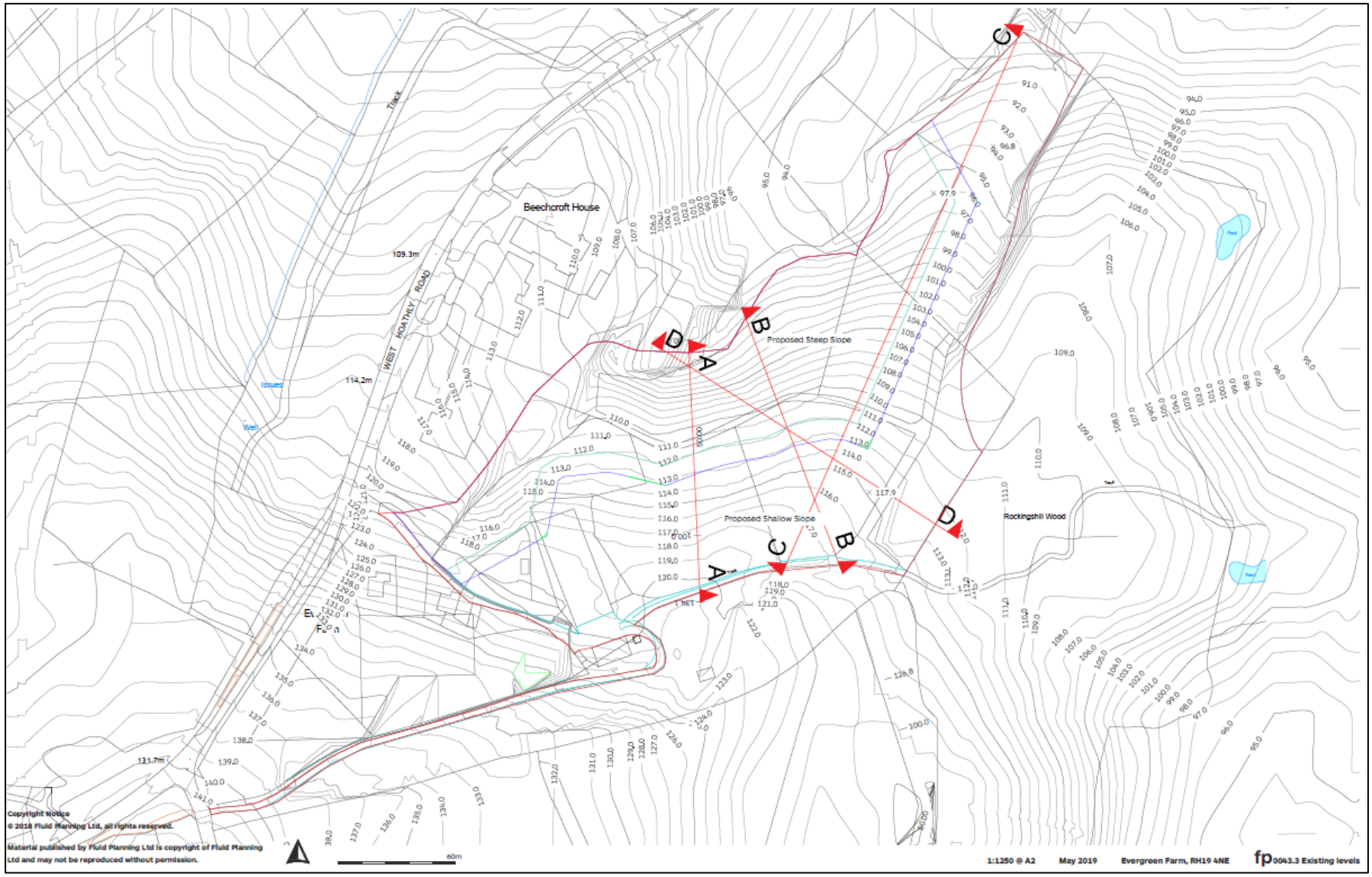


Figure A-2 – Proposed site and topographical levels