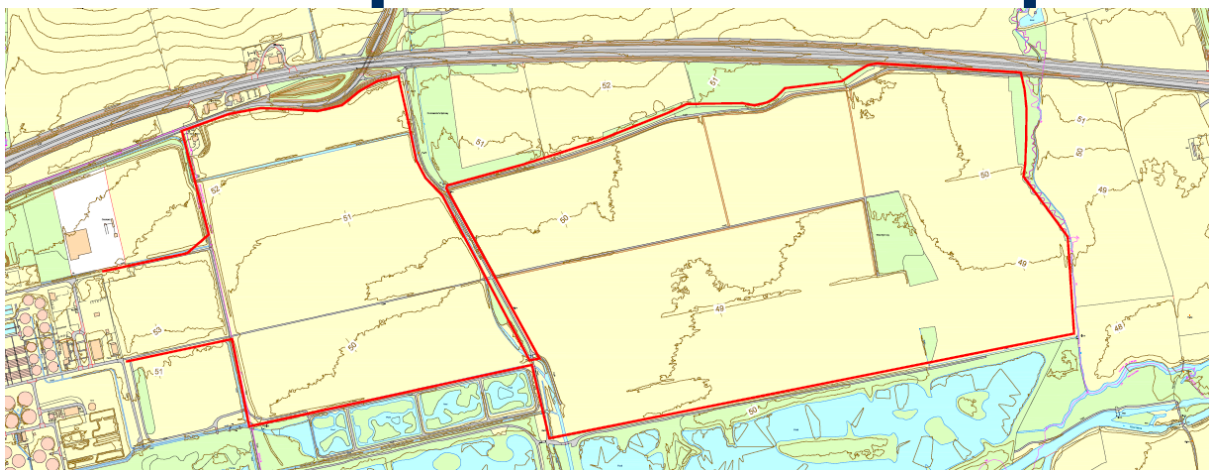


# Great Billing Quarry

**Discharge of Condition  
14**

**Dust Action Plan  
(Revised)**

**Consent No.  
17/00053/MINFUL**



29<sup>th</sup> April 2021

**MICK GEORGE** 

## Condition 14

**Condition 14 requires a Dust Action Plan to be submitted to and approved and the assessment shall include the following information:**

- I. A scheme for the management and mitigation of dust in order that all site operations take place without causing harm to the amenity of the locality or nearby land uses;**
- II. A procedure for the review of operations upon the receipt of complaints by the Mineral Planning Authority, upon notification to the operator;**

### General

- 14.1. Without appropriate mitigation there is potential to generate levels of airborne dust that could be perceived by the public as nuisance but based on good management techniques and best practice, site generated dust can be controlled well within acceptable levels. The government look to minerals operators to keep dust emissions at a level that reflects the highest environmental standards and to work for continual improvement based on Best Available Techniques.
- 14.2. Appropriate guidance to determining authorities and quarry operators is set out in the Planning Practice Guidance (Minerals) 2014 (PPG) , the purpose which seeks to minimise any significant adverse environmental effects that may arise from the minerals extraction by framing policies considering planning applications. The PPG seeks to ensure that environmental impacts of mineral workings are minimised and controlled and foster good community relations between mineral developers and operators and those living close to mineral workings. The implementation of such policies is a necessary investment to secure the environmental mitigation that will enable development to proceed in accordance with best practice guidance.
- 14.3. The implementation of environmentally sensitive management practices are critical for the effective control of dust, and central governmental advice documents recommend the formal adoption of an Environmental Management System to assist in the management of fugitive dust emissions from operational quarries. Mick George Ltd will implement a **Dust Action Plan** as part of a co-ordinated approach to the control and management of dust. By understanding how the dust is generated and then dispersed, measures can be introduced to ensure that the potential source of dust is eliminated prior to it becoming airborne. With the employment of good site management techniques, site generated dust can be controlled to well within acceptable levels.
- 14.4. Central governmental research recognises that the use of a **Dust Action Plan** for a quarrying and associated operations reflects a positive and pro-active approach to dust management to ensure that the amenity of local residents or other sensitive locations is assured and consistent with current good practice guidance.

- 14.5. The PPG advises of methods of reducing and controlling dust and outline good practice in dust assessment. If not managed or controlled, dust from surface mineral operations can have a noticeable environmental impact and affect the quality of life of local communities and historic research recognises that dust is a material planning consideration and confirms that concerns about dust are most likely to be experienced near to dust sources, generally within 250 metres as acknowledged within the original dust assessment contained within the Environmental Statement (reference 30755 September 2017 - Paragraph 10.3.29). Moreover, the government looks to the minerals industry to keep dust emissions at a level that reflects high environmental standards and to work for continuous improvement.
- 14.6. As a positive and pro-active means of controlling dust, this **Dust Action Plan** identifies trigger levels that relate to wind direction and proximity to residential properties and other sensitive uses. When those trigger conditions are reached, the Dust Action Plan can provide for additional dust suppression measures to be implemented as appropriate.
- 14.7. At the Great Billing Quarry, the critical dust control zone has been established as being 250m of active operational areas within the quarry being consistent with the environmental appraisals prepared by Peter Brett Associates and such areas will include:
- Areas of soil stripping
  - Areas of mineral extraction
  - Areas of mineral and waste processing
  - Areas of infilling and restoration
  - Areas of soil replacement
  - Site infrastructure area (weighbridge/mineral storage)
- 14.8. The Site Manager will exercise day to day control of the site and will have particular responsibility for ensuring full compliance with the conditions attached to planning permissions and authorisations, along with Mick George Ltd's own Environmental Management Procedures.
- 14.9. Staff at all levels will receive the necessary training and instruction in their duties relating to the control of all operations and the potential sources of dust emissions. Particular emphasis will be given to dealing with plant malfunctions and abnormal conditions. A high standard of housekeeping will be maintained at all times. Operations with the potential to cause airborne dust emissions will be constantly monitored by the Site Manager or their appointed deputy. All findings, including the prevailing weather conditions, will be recorded in a logbook kept specifically for the purpose.
- 14.10. Should visible dust be generated, the Site Manager or their appointed deputy will act promptly to identify the source of the dust and take the necessary corrective action. Each event and the action taken will be recorded in the site logbook. As part of the training of all personnel, site staff will be instructed to inform the Site Manger or their appointed deputy

whenever visible dust emissions are observed or likely to occur as a result of any operations carried out at the quarry.

14.11. The Site Manager will carry out daily inspections and log observations of site conditions including any occurrences of dust or the onset of potential dust conditions. A graded scale of dust occurrences is proposed, together with responses, as follows:

Score	Condition	Action required
0	No visible dust	None
1	Visible dust travelling up to 5m from the source	Damp surfaces down, review operations and weather conditions, and take further preventative actions as appropriate.
2	Visible dust travelling reaching the sides of the quarry void, or edge of stripped areas during restoration	Damp down and reduce/relocate any operations causing the release; review operations and weather conditions, and take further preventative actions as appropriate to prevent further releases.
3	Visible dust outside the operational area	Carry out emergency damping down and treatment of source areas; carry out inspection at site boundary to ascertain extent and amount of dust migrations; advise MPA and provide plan for any modification to operations to prevent recurrence.

14.12. Best available techniques shall be employed to minimise dust and the following measures consistent with advice within the PPG will be used in order to minimise and control dust nuisance:

- A supply of water will be maintained at all times within lagoons or temporary reservoirs.
- All active haul roads associated with mineral extraction will be kept damp as required by motorised spraying units during site operations (i.e. water bowsers, as shown on the image over the page).
- 20mph speed limit on site for all traffic.
- The surfaced access road will regularly be swept.
- The direction of exhausts on site vehicles will be such that exhaust gases cannot be emitted in the downward direction.
- The drop height for materials being loaded and unloaded by plant will be kept to a minimum.
- The topsoil mounds, once formed, will be seeded to grass at the first appropriate opportunity.
- All loaded HGV's will be sheeted.



### **Soil handling operations**

- 14.13. Soil stripping operations are relatively limited in duration and the timing of such operations can readily be controlled. When stripping or replacing soils observations will be made of the wind direction and when it appears from visual inspection the wind direction is towards identified dust sensitive locations within the Critical Dust Control Zone this will identify the circumstances when additional dust suppression measures including the additional dampening of haul roads and temporary suspension of site operations should be considered during the operations. In general, the strategy will require the Site Manager, to take necessary precautions to prevent adverse dust emissions.
- 14.14. Topsoil mounds, will be seeded at the earliest opportunity to bind the surface and minimise the effects of wind blow. The effects of wind blow across stripped surfaces and bare ground will be minimised by ensuring that loosened soils and other materials are not left untreated on the ground. During dry conditions, water will be applied as necessary to stabilise any loose bare surfaces. Impacts during site operations will be controlled by minimising the drop heights of soil from excavators to dump trucks. Care will be taken in respect of site haulage to control the occurrence of dust emissions, particularly during the restoration phase of the proposed development, during soils haulage.
- 14.15. All site traffic will keep to designated haul routes to reduce entrainment of fine material into the atmosphere. A water bowser will be made available during the site operations, to spray water to the access routes.

### **Mineral Extraction**

- 14.16. When mineral extraction takes place, although being dewatered the material being handled is likely to be in a damp state. When excavating mineral at source, observations will be made of the wind direction and when it appears from visual inspection the wind direction is towards identified dust sensitive locations within the Critical Dust Control Zone this will identify the circumstances when additional dust suppression measures including temporary suspension of site operations should be considered during the winning of the mineral operations. In general, the strategy will require the Site Manager, to take necessary

precautions to prevent adverse dust emissions. Under Critical Conditions when the wind direction indicate that the wind direction is towards dust sensitive locations operations and are being carried out within the critical dust control zone then additional dust suppression measures shall be implemented.

- 14.17. During dry conditions, water will be applied as necessary to stabilise any loose bare surfaces. Impacts during site operations will be controlled by minimising the drop heights of material from excavators to dump trucks and loading shovels.
- 14.18. All site traffic will keep to designated haul routes to reduce entrainment of fine material into the atmosphere. A water bowser will be made available during the site operations, to spray water to the site access road as and when necessary. The site access road will be inspected by the site manager on a daily basis, to determine the need for maintenance and dust suppression. All vehicles loaded with imported fill materials or processed mineral will be sheeted in order to minimise spillages or wind whipping of loose material.

### **Mineral Processing**

- 14.19. “As-raised” mineral will be deposited in temporary stockpiles close to the mineral processing plant from where it will be transferred to the mineral washing plant using a rubber tyred loading shovel. The material within the “as-raised” stockpile will be damp but should it start to dry out then a water bowser will be able to apply sufficient water to control any fugitive dust.
- 14.20. After passing through the processing plant the graded products will be in a saturated state and will be separated into graded stockpiles which will be consistently added to with equally saturated mineral. The fine silt from the washing process will be channelled to purpose designed ponds where the water will be syphoned off and re-used for further mineral washing. The wet silt will be retained within the ponds until dredged out as required and then deposited within the quarry void.
- 14.21. When mineral is exported from the site, such operations will be controlled by minimising the drop heights of material from loading shovels. Care will be taken in respect of site haulage to control the occurrence of dust emissions.
- 14.22. A water bowser and road sweeper will be made available during the site operations, to spray water to the paved site access road and to clean any deposits from the road as and when necessary. The site access road will be inspected by the site manager on a daily basis, to determine the need for maintenance, cleaning and dust suppression. All vehicles loaded with processed mineral will be sheeted in order to minimise spillages or wind whipping of loose material. All laden departing road transport will similarly be sheeted and will be inspected for cleanliness, prior to leaving the site.

**Restoration operations**

- 14.23. When replacing soils, observations will be made of the wind direction and when it appears from visual inspection the wind direction is towards identified dust sensitive locations within the Critical Dust Control Zone this will identify the circumstances when additional dust suppression measures including temporary suspension of site operations should be considered during the infilling operations. In general, the strategy will require the Site Manager, to take necessary precautions to prevent adverse dust emissions. Under Critical Conditions when the wind direction indicate that the wind direction is towards dust sensitive locations operations and are being carried out within the critical dust control zone then additional dust suppression measures shall be implemented.
- 14.24. All site traffic will keep to designated haul routes to reduce entrainment of fine material into the atmosphere. A water bowser and road sweeper will be made available during the site operations, to spray water to the paved site access road and to clean any deposits from the road as and when necessary. The site access road will be inspected by the site manager on a daily basis, to determine the need for maintenance, cleaning and dust suppression. All vehicles loaded with imported fill materials will be sheeted in order to minimise spillages or wind whipping of loose material.
- 14.25. The restoration regime includes the importation and placing of controlled wastes to infill the void resulting from mineral extraction. Such infilling is controlled under an Environmental Permit issued and enforced by the Environment Agency although such infilling activities will still be encompassed within the site's Dust Action Plan.

**Summary**

- 14.26. The foregoing standard good working practices and additional mitigation measures are generally accepted by the government and the surface minerals industry as providing effective control against the impact of airborne dust at quarry sites. With the implementation of these measures, the risk of a dust-related impact at the residential dwellings or public rights of way will be negligible.
- 14.27. During critical conditions, the Site Manager will consider the need for additional measures to be taken to eliminate unacceptable off-site disturbance by dust. Where additional measures are not considered necessary, for example due to the presence of rainfall or wet conditions, the reasons will be recorded in the site diary. Where additional measures are necessary, these may include the imposition of additional speed limits on all internal haul roads or the consideration of moving site activities to an alternative location until suitable weather conditions return or the additional use of bowsers.
- 14.28. If these or other measures fail to rectify the situation, the site operations causing the dust generation shall be relocated or cease for the combined duration of the trigger levels and critical conditions.



### Dust Monitoring

- 14.29. Dust monitoring will be undertaken should it be required (i.e. at the reasonable request of the MPA or following a complaint). Dust monitoring will ensure all site operations are reflected in the results, regardless of meteorological conditions.
- 14.30. A frisbee type deposition gauge will be used for the monitoring of depositional dust (see Figure 1). The gauge will be suitably mounted and be of a calibrated cross sectional area to allow for accurate calculation of deposition rate. A foam insert within the Frisbee head will be used to prevent general detritus such as leaves from influencing the recorded dust levels. Similarly a bird guard fitted around the Frisbee head reduces contamination by bird strike. The gauge will be exposed for approximately one month at a time prior to the sample being analysed. The collection bottle will then be removed and replaced by a clean bottle. The used collection bottle and sample will be sent for analysis.



Figure 1. Example Frisbee gauge

- 14.31. Samples will be analysed by a UKAS accredited laboratory where the sample will be analysed for the total solids (dust) present. This result will then be used to calculate a deposition rate. A permanent record for all these results will be kept available for inspection by relevant parties upon request.
- 14.32. The deposition gauge should be located away from trees and large buildings. The tripod style base should be secured to prevent the gauge from being blown over and the collecting bottle should be covered to minimise the occurrence of algae in the sample. Should there



be evidence of contamination of the sample this will be factored into any analysis of the results.

- 14.33. Dust results will be compared with the 'custom and practice' guideline limit of 200mg/m<sup>2</sup>/day. Dust results will require detailed qualitative analysis if exceeding this level to establish if the results are directly relatable to site operations. The following information will be included for within dust monitoring reports:
- a) Monitoring dates
  - b) Deposition rates
  - c) Relevant monitoring notes
- 14.34. The consequences of airborne dust emissions crossing the site boundaries may extend to nuisance being caused to locations within the identified Critical Dust Control Zone. Should these emissions be visible, it is likely that complaints will be made directly to the site or unitary authority.

### **Complaints and Review**

- 14.35. A register of any complaints will be maintained onsite and at the Company's Head Office. All complaints will be reported directly to the Site Manager who will investigate every complaint ensuring that any necessary corrective measures are taken, details of which will be recorded in the site logbook. Any complaints received directly to Mick George Ltd will be forwarded to the local planning authority.
- 14.36. All complaints will be logged and investigated to the current conditions, observation logs and weather records. Where substantiated evidence is found, then further actions or modification to the working plans should be proposed and agreed with the MPA and the Environmental Protection Officer of the unitary authority.
- 14.37. The provisions of the Dust Action Plan will be reviewed initially at annual intervals in light of any complaints received and any relevant change in government advice published. The review interval may be extended in future years in agreement with the unitary authority's Environmental Protection Officer.