

# Mitchell Hill Quarry Environmental Permit Application

## Waste Management Plan

Prepared on behalf of Mick George Limited



September 2020

## Document control

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## 1.0 Introduction

### 1.1 Report Context

- 1.1.1 This document has been prepared by WYG on behalf of the operator, Mick George Limited (Mick George) as part of an environmental permit application for a mining waste facility at Mitchell Hill Quarry, Twentypence Road, Cottenham, Cambridge, CB24 8PP.
- 1.1.2 In December 2018, planning permission (reference S/0088/18/CM) was granted by Cambridgeshire County Council (CCC), to allow the winning and working of sand and gravel at Mitchell Hill Quarry. The scheme relates to approximately 72 hectares (ha) of land which is located approximately 2.7km north east of Cottenham. The site location is shown on Drawing Number CP/FRIM/MH/01.
- 1.1.3 The quarry area comprises two blocks of arable land which is divided by a road (Long Drove) which runs in a west to east direction off Twentypence road. The largest part of the site is Mitchell Hill Farm and extends to approximately 59.4 ha. This part of the site is bounded by Twentypence Road to the west and Long Drove to the north and east. The remainder of the site is Chear Fen which is approximately 13.2 ha of land and is located to the north of Long Drove.
- 1.1.4 Both parts of the site are estimated to contain a total of 1.7 million tonnes of sand and gravel. This is divided as 1.45 million tonnes for Mitchell Hill Farm and 0.25 million tonnes for Chear Fen. It is proposed to progressively work the site from south to north over a twelve year period. This work includes a restoration element whereby Mitchell Hill Farm will be progressively infilled and restored to agricultural land and Chear Fen will be restored to wet grassland for nature conservation after use.
- 1.1.5 As part of the works, the site will construct an aggregate washing plant which will be used to separate the mineral from any oversized material or fines (silt) that are excavated from the site. Any silt laden water that is generated from this process will be discharged into settlement lagoons where the silt will subsequently settle out of the water column and result in clean water which can either be reused by the aggregate washing plant or discharged into the quarry's external drainage system. The settlement lagoons will be deep enough to encounter the Kimmeridge Clays below the mineral which will provide an impermeable geological barrier preventing infiltration of the silt bearing water into the surrounding geology.
- 1.1.6 The silt that is generated from the operation of the aggregate washing plant is considered to

be extractive waste and therefore falls under the scope of the Mining Waste Directive. Furthermore, it is proposed that the extractive waste will be deposited for a period greater than three years and therefore the site falls under the scope of a mining waste operation with mining waste facilities. This will require an Environmental Permit to facilitate this operation.

- 1.1.7 This document comprises Mick George’s Waste Management Plan in order to support its Environmental Permit Application for the settlement lagoons. Much of the information required has already been produced in order to support the planning application and satisfy the requirements of The Quarries Regulations 1999. In these cases, the relevant information is referred to under the appropriate headings below and the existing data/reports have been included as an appendix.
- 1.1.8 The purpose of this Waste Management Plan is to ensure that Mick George prevents or reduces waste production and its harmfulness, promotes backfilling of the excavation void and recovery of waste and ensures the short and long term safe disposal of the extractive waste generated.

## **2.0 Facility Classification**

- 2.0.1 The proposed mining waste facility is not considered to be a Category A facility as it will not contain hazardous waste or dangerous substances. For further details on waste classification, refer to Section 4 below.
- 2.0.2 In addition, as part of a general environmental risk assessment in Appendix C, specific risk assessments have been carried out regarding the stability of the lagoons and these demonstrate that the predicted consequences of failure due to loss of structural integrity (of the silt lagoons) are insignificant in terms of loss of life, danger to human health or environmental impact.
- 2.0.3 The risk assessments demonstrate that due to the proposed design, operation and maintenance of the facility, even in the event of an accident, the mining waste facility will be able to contain the waste within the boundaries of the facility in the manner for which it was designed.

### **3.0 Waste Prevention and Reduction**

- 3.0.1 The nature of the site operations and the treatment processes have been designed to minimise waste production by consideration of the phasing sequence, mineral extraction method and selection of plant and machinery. The Extractive Materials Management Statement (Appendix A) provides details of the quantities and classification of the extraction materials generated at the site.
- 3.0.2 A key control on waste prevention will be the removal and proper storage of topsoil (which does not comprise waste) in separate stockpiles to other extractive wastes. It is proposed to replace the topsoil after closure of the mining waste facility, i.e. use it for site restoration, and, therefore, it is not envisaged that other re-use options will be required.
- 3.0.3 Similarly, waste material which is to be returned to the void will be temporarily stored in a separate area of the site. This process will ensure that waste is recovered where feasible.
- 3.0.4 It is not proposed to use chemicals to treat the extracted material and, therefore, the use of less dangerous substances is not a consideration at this site.
- 3.0.5 During the operation of the facility, further measures to reduce the quantity of waste generated will be considered as necessary, e.g. during review of the Waste Management Plan and / or when plant or machinery needs replacing.



## 4.0 Waste Characterisation

### 4.1 Category

- 4.1.1 With reference to the Environment Agency's 'How to comply with your environmental permit. Additional guidance for: mining waste operations' (EPR 6.14) Section 2.2.6 states the following:-

*"Extractive waste may be considered as inert waste without specific testing if information about the site and the operations makes it reasonable to consider that the extractive waste does not contain dangerous substances and is free of contamination from human activity or mineralisation, and is included in the list of inert extractive waste in Appendix 3 of this guidance".*

- 4.1.2 Based on the details outlined in the following sections, it's considered that the extractive waste that will be generated at the site is inert and therefore specific testing is deemed unnecessary.

### 4.2 Information Used and Basis of Characterisation

#### Geological Surveys

- 4.2.1 As part of the planning application to CCC (reference S/0088/18/CM) a Hydrogeological and Hydrological Risk Assessment was undertaken which is provided as Appendix B. The assessment provides information on the geology for the site based on the results of mineral evaluation drilling, installation of monitoring boreholes and geological logs of boreholes that were drilled into the area available from BGS records. Within Appendix B we have also attached an Envirocheck report on the site and its environs for background information.
- 4.2.2 The results of the mineral evaluation and borehole logs show that the superficial deposits on site comprise between 0.4m and 2.1m of soil and silty, sandy and stoney clay overlying between 1.0 and 3.0m of sand and fine to medium gravel with clay lenses. No evidence of contamination or potentially naturally occurring mineralisation was noted.

#### Processes and/or Activities that may give rise to the Extractive Waste

- 4.2.3 All extractive waste will solely derive from the washing of mineral resources that are excavated from the site. This process will be undertaken using an aggregate washing plant that will be located within a specific area on site. The location of the plant is shown on Drawing MGL/MH/LGNS/01 and details of the washing plant are shown on Drawing Number SP784-

LAYOUT-01D.

- 4.2.4 The purpose of the washing process is to separate the mineral from any oversized material and fines (silt) and allow the mineral to undergo further processing (via screening) to ensure that is suitable for sale. There will be no chemicals used for this process.
- 4.2.5 Any silt and process water that is generated from the washing process will be discharged into the settlement lagoons which will be excavated into the mineral with appropriate slope angles to minimise any slope stability issues The silts will settle from the water column in these lagoons and result in clean water which can be reused by the aggregate washing plant.
- 4.2.6 Details regarding site operations and waste treatment process is detailed in Section 5 of this document.

List of Inert Extractive Waste

- 4.2.7 With reference to Appendix 3 (List of Inert Extractive Wastes) in the Environment Agency’s EPR 6.14 guidance, it’s considered that the extractive waste falls under the following description:-

*"Fine grained particles of extractive waste carried in suspension in water, dried by mechanical means or dried by settlement, drainage or evaporation produced during the processing and treatment of the mineral resource to make it suitable for use or sale".*

- 4.2.8 Based on this description, it’s considered that the extractive waste falls under the following waste code:-

**Table 1: Proposed Waste Type**

<b>EWC Code</b>	<b>Description</b>
<b>01</b>	<b>WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS</b>
<b>01 04</b>	<b>Wastes from physical and chemical processing of non-metalliferous minerals</b>
01 04 12	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11

## 5.0 Site Operations and Waste Treatment

### 5.1 Overview

- 5.1.1 All extractive waste will solely derive from the extraction of mineral resources at Mitchell Hill Quarry as authorised by CCC under planning permission reference S/0088/18/CM. No extractive waste from external sources will be accepted as part of this proposal.
- 5.1.2 The works in the Mitchell Hill extraction area will comprise 8 phases (as shown on Drawing Number CP/FRIM/MH/03B) and will comprise a processing area which will be located in Phase 8. The processing area will comprise an aggregate washing plant including three settlement lagoons excavated into the Kimmeridge Clays which will be utilised to separate the excavated mineral from any oversized material and fines (silt). This will allow further treatment of the mineral to make it suitable for sale or use. Details of the washing plant are shown on Drawing Number SP784/LAYOUT/01D.
- 5.1.3 Mineral will be excavated from the site using a tracked excavator and dump truck and transferred to the processing area where it will be placed into stockpiles prior to washing. The excavated mineral will then be transferred from the stockpile to the aggregate washing plant via a tracked excavator and dump truck. Once the material has been processed via the washing plant, any mineral that is separated from the process will be subject to further treatment (via screening) using on site plant before being transferred to designated stockpiles located to the east of the plant site (as shown on Drawing Number CP/FRIM/MH/03B) prior to transfer off site. Any silt and process water that is generated from the washing process will subsequently be pumped into the three settlement lagoons (via pipeline) located to the north of the plant site. The settlement lagoons will be deep enough to encounter the Kimmeridge Clays below the mineral which will provide an impermeable geological barrier preventing infiltration of the silt bearing water into the surrounding geology (as shown on Drawing Number MGL/MH/LGNS/01).
- 5.1.4 As shown on Drawing Number MGL/MH/LGNS/01, there will be three settlement lagoons (Numbered 1-3) on site which will be connected via pipes. In terms of this proposal, it is proposed that any silt laden water from the washing plant will be discharged into Lagoon 1. Once discharged, the silt will settle out from the water column to allow clean water to be reused by the aggregate washing plant.
- 5.1.5 No silt will be removed from the area as part of this proposal. Any silt that accumulates within the lagoons will be naturally dewatered and subsequently used as part of the restoration

scheme for the wider quarry site at the appropriate time.

### **5.2 Quantity of Extractive Waste Produced**

5.2.1 It is proposed that approximately 90,000m<sup>3</sup> of extractive waste will be generated as part of this proposal.

### **5.3 Capacity of Settlement Lagoons**

5.3.1 The total capacity of the settlement lagoons will be 72,000 m<sup>3</sup>.

## 6.0 Environmental Risk Assessment

6.0.1 Based on the nature of the proposed activities, it's considered that the main environmental risks are as follows:-

- Stability;
- Groundwater (Hydrogeology);
- Surface water (Hydrology);
- Particulate Matter (dust);
- Mud (on roads);
- Noise and Vibration; and
- Migration of Silt from the Site.

6.0.2 Most of the above risks including hydrogeology, hydrology, dust and noise were addressed as part of the planning application to CCC. This includes a Hydrogeological and Hydrological risk assessment which is provided as Appendix B.

6.0.3 Despite the above, there are some risks (e.g. migration of silt from the site) that were not addressed within the planning application. As such, an environmental risk assessment has been undertaken in accordance with the template provided in the Environment Agency's risk assessment guidance; a copy is provided in Appendix C. The risk assessment has been produced by collating existing information produced to support the planning application and to comply with The Quarries Regulations 1999.

6.0.4 As part of this assessment, only receptors within 1km of the site were considered which are outlined in Table 2 below.

**Table 2: Sensitive Receptors within 1km of the Site**

Receptor	Direction from Operational Area	Minimum Distance from Proposed Site Boundary (approx. m)
<b>Designated ecological habitats/sites of geological importance e.g. Ramsar, SAC, SPA, SSSI, LNR, NNR, LWS</b>		
N/A		
<b>Domestic Dwellings/ Farmhouses</b>		
Gravel Diggers Farm & Elm Farm Houses	SE	40
Isolated Farm Houses – Mitchell Hill Farm	E	240

Micel Leah Cottage, Napoleon Farm & Other Isolated Farm Houses	W	515
Isolated Farm Houses	NNW	765
Denny Lodge Cottages	ESE	880
Village – Chittering	E	990
<b>Commercial and Industrial Premises</b>		
Eastern Concrete	SE	270
Amey Cespa Recycling Centre	SSE	755
<b>Highways or Minor Roads</b>		
Long Drove	-	On site
Twenty Pence Road – B1049	Adjacent	W
A10	E	910
<b>Recreation/Open Spaces</b>		
Twenty Pence Marina	WNW	170
Cambridge Gun Club	E	520
<b>Sensitive land uses e.g. farmland, allotments, commercial fish farms</b>		
Chear Fen Farm	E	190
Mitchell Hill Farm	W	210
Taylor's Lodge	W	510
Kimptons Farm	WNW	755
Denny Lodge Farm	ESE	910
<b>Priority Habitats</b>		
Deciduous Woodland	SE	470
Deciduous Woodland	SE	525
Deciduous Woodland	S	525
<b>Surface Water e.g. rivers and streams</b>		
Engine Drain	On site S & E	Intersects site
Unnamed Pond	On site	On site
Fourth Sock Drain	N	Adjacent to site
Various unnamed agricultural drainage ditches surrounding site	Surrounding	>8
The Lakes / Twenty Pence Pit	W	30
River Great Ouse	N	30
Multiple unnamed drains	NW	140
Cottenham Lode	W	120
Unnamed Settling Ponds	E	235
Unnamed Ponds	ESE	270
Multiple Unnamed Drains	NW	285
Multiple Unnamed Drains	E	235
Third Sock Drain	WNW	471
Beach Ditch	ESE	680
Car Dyke	SW	690
Multiple Unnamed Ditches	WSW	770
Multiple Unnamed Drains and Ponds	S	970
<b>Groundwater (sensitivity)</b>		
According to the Multi-Agency Geographic Information for the Countryside's (MAGIC) website, the site is not situated within a Groundwater Source Protection Zone.		

- 6.0.5 The environmental risk assessment demonstrates that the proposed mitigation measures will ensure the safe disposal of mining waste in both the short and long term. The settlement lagoons will be excavated from in situ minerals within the aggregate processing area. The settlement lagoons will be deep enough to encounter the Kimmeridge Clays below the mineral

which will provide an impermeable geological barrier preventing infiltration of the silt bearing water into the surrounding geology.

6.0.6 The lagoons measure approximately as follows:-

- Lagoon 1 – 140m by 35m;
- Lagoon 2 – 125m by 65m; and
- Lagoon 3 – 80m by 65m.

and will have an excavated depth of no greater than 6 m. Each lagoon will be excavated with side slopes of 1 in 2.5 to ensure that the side slopes are stable.

6.0.7 The risk assessment has not identified any “significant” risks and, therefore, no more detailed risk assessments are required. MGL/MH/LGNS/01.

## **7.0 Risk Mitigation**

- 7.0.1 The environmental risk assessment in Appendix C details the proposed risk mitigation measures which Mick George propose to put in place at Mitchell Hill Quarry.



## 8.0 Control and Monitoring

- 8.0.1 The risk assessment in Appendix C demonstrates that, due to the nature of the waste to be generated (inert) and the proposed mitigation measures, there will be no significant risk from leachate, particulate matter, mud, odour, noise/vibration or accidents at the site. Therefore, no quantitative monitoring of these parameters is proposed.
- 8.0.2 It is proposed that there will be a point discharge to the external drainage system from Lagoon 3 (as shown on Drawing Number MGL/MH/LGNS/01) into Long Drove Ditch at NGR TL 48522 70402 . The settlement lagoons will collect silt from the aggregate washing process as well as surface water run-off which will be drained to a sump prior to discharge into the settlement lagoons.
- 8.0.3 The proposed discharge has been authorised by the Environment Agency as a water discharge activity will be regulated under the environmental permit (reference EPR/LB3699EG) that was issued in February 2020 to Frimstone Limited who are a subsidiary company of Mick George Limited. A copy of the environmental permit is provided as Appendix E.
- 8.0.4 As detailed in the water discharge permit (Appendix E), the permit allows two discharge outlets. Both outlets allow the discharge of effluent that will be generated from the dewatering of the quarry to allow mineral working below the water table. In terms of this permit application, any effluent that is generated from the aggregate washing process is only permitted to be discharged via Outlet 1.
- 8.0.5 Both discharge points have a set of limits (Schedule 3 of the environmental permit) which will need be to be complied with to demonstrate compliance. This will help minimise the risk to surface water.

## 9.0 Proposed Plan for Closure

9.0.1 With reference to the Environment Agency's EPR 6.14 guidance, Box 2.2.11a states the following:-

*"Except where the extractive waste is deposited in a Category A facility the closure and aftercare provisions of Article 12 of the Directive do not apply to mining waste facilities that:-*

- only accept inert waste and unpolluted soil; or*
- are for waste resulting from the extraction, treatment and storage of peat or prospecting of mineral resources (except oil and evaporites other than gypsum and anhydrite)".*

9.0.2 As detailed in Section 2 of this document, it is considered that the proposed facility is not a Category A facility and therefore is exempt from the requirements outlined in Article 12 of the directive. Nevertheless, the following details outlines the proposed measures for aftercare in accordance with the planning permission.

9.0.3 As shown on Drawing Number CP/FRIM/MH/03, Rev B, the aggregate processing plant and the silt lagoons are situated within Phase 8 of the proposed working phase. As part of the works, the plant site (Phase 8) will be the last area that will be worked for mineral resource.

9.0.5 Prior to extraction, it is proposed that all plant and the lagoons will be removed to allow access to the underlying mineral. Any water that is present at this stage will be discharged to the site's external drainage system via Outlet 1 (as shown on Drawing Number 2658/ESSD/04). Any silt that is present within the lagoons will naturally dewater and will be used to facilitate the restoration of the wider quarry site.

9.0.6 As mentioned in Section 1.1.4, the Mitchell Hill area of the wider quarry site will be restored to agricultural land. The restoration of the site will be undertaken in accordance with an approved restoration scheme (via planning) and will be subject to a 5-year period aftercare scheme as a function of the planning permission.

## **10.0 Measures for the Prevention of Environmental Pollution**

- 10.0.1 The Environmental Risk Assessment discussed in Section 6.9 above please see Appendix C) has identified all of the potential hazards and pollution linkages at the site, the risks they pose, and the risk management measures which Mick George proposes to implement in order to mitigate those risks. The proposed risk mitigation measures are considered to meet the requirements of the Mining Waste Directive, including the need to prevent water pollution.
- 10.0.2 In accordance with the Environment Agency's guidance, the water balance of the facility has been determined. Details of the water balance can be found in the Hydrogeological Risk Assessment that accompanies this application as Appendix B.
- 10.0.3 The Environmental Risk Assessment (Section 6) considers the potential for "leachate" to be generated over the life of the site (in order to prevent the contamination of soil, groundwater and surface water). The environmental risk assessment has demonstrated that, as the wastes to be generated will be inert, there will be no source to generate polluting "leachate". Therefore, it will not be necessary to collect or treat "leachate" at the site.

## Appendices

# **Appendix A – Extractive Materials Management Statement**

## Extractive Materials Management Statement

Site Details	
Site Name	Mitchell Hill Quarry
Address	Twenty Pence Road, Cottenham, Cambridge, CB24 8PP
Site Manager	Darren Griffiths
Phone Number	07469 852432
Email Address	Darren.griffiths@mickgeorge.co.uk
Primary mineral(s) produced at the site	Sand and Gravel
Quantity of extractive material assessed as not waste (cubic metres)	Soils: 18,000 m <sup>3</sup> Overburden: 72,000 m <sup>3</sup>
Maximum storage time of any extractive material before final deposit	5 years
Expected date for completion of operations at the site	2035

Part 1: Overview of the Production Process	
<b>Description of the Operations</b>	<p><u>General</u></p> <p>Planning permission was granted by Cambridgeshire County Council (reference S/0088/18/CM) to allow the extraction of sand and gravel at the site. Mineral extraction will take place below the water table in the superficial deposits and therefore dewatering will be undertaken to ensure safe and efficient working conditions are maintained. The sand and gravel will be extracted using a tracked excavator and dump truck where it will be placed into the designated stockpiles located in the processing area. The sand and gravel will then be washed and separated into different grades.</p> <p>Any silt laden water that is generated from the washing process will be discharged into settlement lagoons (via pipeline).</p> <p><u>Key Points</u></p> <ul style="list-style-type: none"> <li>• The extractive materials: soils, overburden and silt are the result of overburden stripping and mineral washing respectively.</li> <li>• Silt is deposited into settlement lagoons.</li> <li>• All the soils and overburden will be used in site restoration.</li> <li>• Active planning permission ref. S/0088/18/CM</li> </ul>

	<ul style="list-style-type: none"> <li>Restoration Plan – CP/FRIM/MH/04</li> </ul>
<b>Extractive Materials Produced (cu.m<sup>3</sup>)</b>	<ul style="list-style-type: none"> <li>Non-Waste - Topsoil – approximately 18,000 m<sup>3</sup></li> <li>Non-Waste – Overburden – approximately 72,000 m<sup>3</sup></li> <li>Waste – Silt – approximately 72,000 m<sup>3</sup></li> </ul>
<b>Description of the use of Extractive Materials</b>	All topsoil and overburden material will be stripped and stored on site to be used to create agriculture in accordance with the approved restoration scheme.
<b>Description of areas of temporary storage of extractive materials</b>	The storage location for the overburden materials is all within the extraction area and permitted operational land.

Part 2: Assessment Against the “Avesta Polarit” Tests	
<p><b>Identification of Materials</b></p> <p><i>Identification of specified types and volumes of extractive materials to be used in restoration works</i></p>	<p>The extractive materials identified in Part 1 for which non-waste status is sought are:</p> <p>Soils: 18,000 m<sup>3</sup> Overburden: 72,000 m<sup>3</sup></p> <p>The works at Mitchell Hill Quarry will comprise 8 phases and will comprise progressive extraction, infilling restoration. Any soil or overburden that is stripped from the site will either be stored in the form of a screening bund (and subsequently used as part of the restoration works) or will be placed in a previously worked area as part of the restoration works. Details of the approved working plan are provided in the following plans:-</p> <ul style="list-style-type: none"> <li>CP/FRIM/MH/03, Rev B – Site Layout (Phasing Plan)</li> <li>CP/FRIM/MH/03a, Rev B – Phase 1</li> <li>CP/FRIM/MH/03b, Rev B – Phase 2</li> <li>CP/FRIM/MH/03c, Rev B – Phase 3</li> <li>CP/FRIM/MH/03d, Rev B – Phase 4</li> <li>CP/FRIM/MH/03e, Rev B – Phase 5</li> <li>CP/FRIM/MH/03f, Rev B – Phase 6</li> <li>CP/FRIM/MH/03g, Rev B – Phase 7</li> <li>CP/FRIM/MH/03h, Rev B – Phase 8</li> <li>CP/FRIM/MH/03i, Rev B – Phase 9</li> <li>CP/FRIM/MH/03j, Rev B – Phase 10</li> </ul> <p>In terms of subsoil, upper subsoil will be spread to an average depth of 380mm. Lower subsoil will be spread to an average depth of 500mm.</p> <p>Topsoil will be spread to an average depth of 350mm within Mitchell Hill Farm. At Chear Fen, the topsoil will be spread to an approximate depth of 200mm.</p>
<b>Guarantee of Use</b>	Planning permission S/0088/18/CM regulates mineral extraction. Conditions 40-44 regulate the development and retention of topsoil, subsoil and overburden for

<p><b><i>Guarantee of use of specified extractive materials</i></b></p>	<p>restoration. Condition 49 and 50 regulates the placement of material in accordance with an approved restoration scheme.</p> <p>All soils and overburden are required to be retained on site and used in the restoration of the site.</p>
<p><b>Time Period for Use</b></p> <p><b><i>Time periods for use of specified extractive materials</i></b></p>	<p>Planning permission expires 2035.</p> <p>Restoration is progressive where appropriate. Restoration shall be completed once mineral extraction has ceased. The approved working plans (as listed above) demonstrates the schedule of works and progressive restoration.</p>
<p><b>Use as part of the Overall Operation</b></p> <p><b><i>Confirmation that the specified extractive materials do not need further processing and that their use in restoration is an integral part of the overall operation</i></b></p>	<p>Topsoils and overburden will be stripped in order to access the sand and gravel. These materials will either be stored to form of a screening bund (and subsequently used as part of the restoration works) or will be placed in a previously worked area as part of the restoration works.</p> <p>In accordance with condition 39 of the planning permission, all soil storage bunds will be subject to regular maintenance (i.e. grassing and weeding). This will ensure that the soil can be used without further processing.</p>
<p><b>Necessity and Lawfulness of Use</b></p> <p><b>Confirmation of the necessity of use and lawfulness of the use of the specified extractive materials</b></p>	<p>Mitchell Hill Quarry is subject to planning permission S/0088/18/CM which allows the extraction of sand and gravel with subsequent restoration.</p> <p>All material extracted from Mitchell Hill Quarry is naturally inert. All soils are retained for restoration of the site.</p>

<p><b>Part 3: Assessment of the Status of Extractive Materials</b></p>	
<p><b>Extractive Materials Assessed as Waste</b></p>	<p>It is anticipated that the quantity of silt (the extractive material assessed as waste) will total 72,000 m<sup>3</sup>.</p> <p>The silt material is generated from the production process of washing target mineral and is accumulated within the settlement lagoons. It is stored entirely separately from those materials assessed as 'non-waste'.</p> <p>The extractive material assessed as 'waste' above is part of the production process. For this reason, it fails the following criteria of the 'By-products test' provided in Article 5 of the Waste Framework Directive (2008/98/EC):-</p> <p><i>"The substance or object can be used directly without any further processing other than normal industrial practice".</i></p>



	At no point during site operations will it come into contact with the extractive material assessed as 'non-waste'.
<b>Extractive Materials Assessed as Not Waste</b>	<p>Approximately 18,000 m<sup>3</sup> of soils and 72,000 m<sup>3</sup> of overburden will be used to restore the site in accordance with the permitted restoration scheme.</p> <p>With reference to the 'By-product test' provided in Article 5 of the Waste Framework Directive, the above extraction materials meet the criteria and are assessed as 'non-waste'.</p>

**Part 4: Statement by the Verifier**

To: *The Operator (include company name and contact address)*

To: *The Environment Agency (include lead contact name and address)*

1. I have reviewed the Extractive Materials Management Statement set out in Parts 1 to 3 and all of the supporting documentation referred to in the Extractive Materials Management Statement and I confirm:-
  - a) That the extractive materials management statement contains the information set out in The Definition of Waste: Minerals Industry Guidance Note for Extractive Materials in respect of the range of extractive materials that it identifies as not-waste sufficient enable the recommendation of not-waste status to be made for those materials, and
  - b) That the conclusions set out in the Extractive Materials Management Statement regarding the non-waste status of those materials are appropriate having regard to the Environment Agency's 'Guidance on the Legal Definition of Waste and its Application' guidance document and the Waste Framework Directive (2008/98/EC).
  - c) The Operator is aware of the need to assemble confirmation information which may be inspected by the Environment Agency.
  
2. I recommend that the materials described in this Extractive Materials Management Statement and listed below as 'not-waste' should not be considered as extractive waste by the Environment Agency. I have advised the Operator that appropriate Environmental Permits or Exemption should be obtained for the management of those materials listed below as 'extractive waste'.

**Not Waste**

Soils: 18,000 m<sup>3</sup>

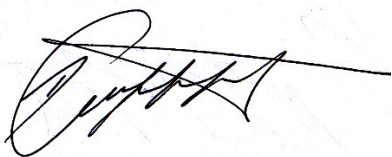
Overburden: 72,000 m<sup>3</sup>

Signature of verifier:

**Extractive Waste**

Silt: 72,000 m<sup>3</sup>

Date of verification: 1.10.20



Name of verifier: Darren Griffiths (on behalf of Mick George Limited)

## Qualifications:

### EPIC/QPTC

- Loading shovel operators licence
- Tele handler Licence
- Articulated Dumper Licence
- First Aid Certificate/ Defibrillator Cert
- Lifting and Slinging Operations
- Lift Planner
- IOSHH Managing Health & Safety
- Safe Operation & Inspections of Excavations, Tips & Stockpiles
- EPIC – Risk assessment in Quarries
- INLPTA – Certificate in Business Communications
- Confined Spaces – Entry point Officer
- Presentation Skills

### NVQ

- Level 2 Welding and cutting
- Level 2 Mobile Plant operation
- Level 4 Health, Safety & Environmental Management in Extractive & Mineral Processing Industries.

### Loughborough University

- Post Graduate Diploma in Management & Leadership

### Doncaster University

- IOQ – Professional Examination in Quarrying

## Verifiers address:

6 Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XU

## **Appendix B – Hydrogeological and Hydrological Assessment and Envirocheck report**

## **Appendix C - Environmental Risk Assessment**

**Table A1: Environmental and Amenity Risk Assessment**

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Dust from any vehicle movements associated with the construction of the settlement lagoons	Occupiers of domestic dwellings listed in Table 2.  Workforce in commercial and industrial properties identified in Table 2.  Sensitive land uses identified in Table 2.	Atmosphere	<p>The construction of the settlement lagoons will involve the excavation of mineral from the designated area leaving appropriate side slopes to reduce the likelihood of any failures.</p> <p>During this construction period, any prolonged dry weather or high winds, the risk of dust emissions will be elevated. As such, a water bowser will be used to dampen this area to suppress any dust.</p> <p>The use of modern plant and regular maintenance shall be practiced to minimise the risk of mechanical failure which may result in increased dust emissions and vehicle speeds will be limited on site and access road to prevent re-suspension and entrainment of dust.</p> <p>During construction the Site Manager will undertake a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.</p> <p>Once the site has been constructed and the slit materials being to be pumped in, there will be no issues with dust emissions.</p>	<p>According to the Dust Assessment that was provided as part of the planning application (Appendix D), the prevailing wind for the area is from the south west. There are no sensitive receptors located within 1km north east of the site and therefore the probability of exposure is considered to be low.</p> <p>Despite this, there is still a potential risk for sensitive receptors to be affected in the event that a strong wind blows in their direction during construction of the settlement lagoons</p>	<p>Local nuisance – dust on cars, clothing, vegetation, etc.</p> <p>Smothering.</p> <p>Nutrient enrichment.</p>	<p>Not significant due to management techniques employed and the very limited time frame for construction.</p>

# Mitchell Hill Quarry – Waste Management Plan



				Management actions should prevent this happening.		
Noise from vehicle movements and use of plant and machinery associated with the construction of the settlement lagoons	Occupiers of domestic dwellings listed in Table 2.  Workforce in commercial and industrial properties identified in Table 2.  Sensitive land uses identified in Table 2.	Atmosphere	<p>The construction of the settlement lagoons will involve the excavation of mineral from the designated area. During that time all noise generating activities will be undertaken within the hours stipulated within the planning permission (ref. S/0088/18/CM).</p> <p>As detailed on the site layout plan (Drawing Number CP/FRIM/MH/03B), a series of screening bunds will be placed along the perimeter of the aggregate processing area. These bunds will be developed using soils that will be stripped from the site as part of the mineral extraction activities. These bunds will minimise the potential for noise to impact receptors that are situated beyond the site boundary during this period.</p> <p>All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer’s requirements to minimise the risk of mechanical failure which could result in increased noise emissions. All equipment and vehicles when not in regular use shall be switched off.</p> <p>All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.</p>	Intermittent during construction.	Intermittent noise and vibration disturbance during construction.	Not significant due to management techniques employed and the very limited time frame for construction.
Noise from pumping water/material into and between settlement lagoons	Occupiers of domestic dwellings listed in Table 2.  Workforce in commercial and industrial properties	Atmosphere	<p>Pumping will only take place during approved site operational hours.</p> <p>All pumping will be undertaken inside a series of screening bunds will be placed along the perimeter of the aggregate processing area. These bunds will be developed using soils that will be stripped from the site as part of the mineral extraction activities. These bunds</p>	Intermittent.	Minimal noise and vibration disturbance during operating hours	Not significant due to management techniques and bunding.

# Mitchell Hill Quarry – Waste Management Plan



	identified in Table 2.  Sensitive land uses identified in Table 2.		will minimise the potential for noise to impact receptors that are situated beyond the site boundary.			
Mud arising from vehicle movements associated with the construction of the settlement lagoons	Occupiers of domestic dwellings listed in Table 2.  Workforce in commercial and industrial properties identified in Table 2.  Sensitive land uses identified in Table 2.	Tracked by vehicles	<p>The construction of the settlement lagoons will involve the excavation of mineral from the designated area. During that time any vehicles leaving the site that gather significant amounts of mud will be dampened or washed as and when necessary.</p> <p>The amount of mud on local roads will monitored daily by site operatives. In the event that mud is deposited on the access road and/or highway then a road sweeper will be employed if necessary.</p> <p>Both the lagoons and bunds will be regularly checked and maintained in accordance with the Quarry Regulations to ensure continuing integrity and fitness for purpose.</p> <p>As detailed in Section 4 of this document, it's considered that the extractive waste is inert and therefore the risk of the waste to impact sensitive receptors is considered to be low.</p>	Unlikely due to measures in place.	Mud on roads is unsightly and can increase the risk of road traffic incidents.	Not significant due to management techniques employed and the very limited time frame for construction.
Failure of the settlement lagoons side slopes leading to accidents	MGL workforce and site visitors	Accidents and loss of life	<p>All side slopes will be excavated at minimum 1 in 2.5 slope angle to ensure that the slopes will be stable prior to filling with waster/silt. Once the settlement lagoons are filled the weight of the liquid/silts will ensure there is no chance of any slope failure.</p> <p>During construction the Site Manager will undertake a daily visual assessment stability and all site operatives will be vigilant and report any problems to the Site Manager.</p>	Unlikely due to measures in place	MGL workforce and site visitors	Not significant due to nature of the construction principles employed and management techniques employed.

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			<p>MGL have a site specific set of Health and Safety rules which are strictly adhered to by all employees. Within this document the need to remain vigilant and aware of all site dangers is uppermost.</p> <p>All site visitors will undergo a site induction which will point out any areas of danger and the need to be vigilant at all times.</p> <p>Site signage will ensure all are aware of the dangers around this facility.</p>			
Failure of the settlement lagoons side slopes leading to groundwater pollution	Groundwater.	Infiltration into surrounding geology	<p>The construction of the settlement lagoons will involve the excavation of mineral from the designated area. The settlement lagoons will be deep enough to encounter the Kimmeridge Clays below the mineral which will provide an impermeable geological barrier preventing infiltration of the silt bearing water into the surrounding geology.</p> <p>All side slopes will be excavated at minimum 1 in 2.5 slope angle to ensure that the slopes will be stable prior to filling with water/silt. Once the settlement lagoons are filled the weight of the liquid/silts will ensure there is no chance of any failure.</p> <p>It is not proposed to use chemicals to treat the extracted material and therefore any materials in the lagoons can be considered inert.</p>	Unlikely due to measures in place	Groundwater contamination	Not significant due to nature of the construction principles employed, the type of extractive waste to be stored and management techniques employed.
Migration of silt and water from site following flooding	Surface water features identified in Table 2.  Groundwater.	Run-off following a lagoon failure  Infiltration	<p>The construction of the settlement lagoons will involve the excavation of mineral from the designated area. The settlement lagoons will be deep enough to encounter the Kimmeridge Clays below the mineral which will provide an impermeable geological barrier preventing infiltration of the silt bearing water into the surrounding geology.</p> <p>As detailed on the Site Layout Plan (Drawing Number CP/FRIM/MH/03B), the settlement lagoons will be located within aggregate processing area. There will also</p>	Unlikely due to measures in place	Silt / water contamination	Not significant due to nature of the extractive waste and management techniques employed.



# Mitchell Hill Quarry – Waste Management Plan



			<p>be bunds constructed around the aggregate processing area using soils that will be stripped from the site as part of the mineral extraction activities.</p> <p>In the event that the water in the lagoons overtops, it is considered that the bunds will minimise the migration of silt/water.</p> <p>Both the lagoons and bunds will be regularly checked and maintained in accordance with the Quarry Regulations to ensure continuing integrity and fitness for purpose.</p> <p>As detailed in Section 4 of this document, it's considered that the extractive waste is inert and therefore the risk of the waste to impact sensitive receptors is considered to be low.</p>			
Possibility of humans falling into settlement lagoons	MGL workforce and site visitors	Accidents and loss of life	<p>MGL have a site specific set of Health and Safety rules which are strictly adhered to by all employees. Within this document the need to remain vigilant and aware of all site dangers is uppermost.</p> <p>All site visitors will undergo a site induction which will point out any areas of danger and the need to be vigilant at all times.</p> <p>Site signage will ensure all are aware of the dangers around this facility.</p>	Unlikely due to measures in place	MGL workforce and site visitors	Not significant due to nature of the construction principles employed and management techniques employed.

## **Appendix D – Dust Assessment**

## **Appendix E – Water Discharge Permit**