



FCC Environment

Barnsdale Bar Quarry Extension

Appendix 7.4 -Construction and Environmental Management Plan

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CONTENTS

1.0 INTRODUCTION 2

2.0 ROLES & RESPONSIBILITIES 2

3.0 POTENTIAL ENVIRONMENTAL IMPACTS 3

4.0 MITIGATION & MANAGEMENT STRATEGIES 4

5.0 GENERAL MEASURES 15

TABLES

Table 1: Environmental receptors that could potentially be impacted during construction

1.0 INTRODUCTION

- 1.1 FPCR Environment & Design Ltd. were commissioned by FCC Environment to undertake a suite of ecological surveys at a site to the north of Barnsdale Bar Quarry, Kirk Smeaton (central grid reference: SE 508 147). The area of land is being proposed for a quarry extension to extend the operational lifespan of the quarry. This Construction Environmental Management Plan (CEMP) has been prepared to mitigate potential negative operational phase effects.
- 1.2 The land for the proposed extension (hereafter referred to as the Site) is 25.98ha in extent and comprised three fields of intensively managed arable habitats, two areas of plantation woodland and a stand of semi-natural broadleaved woodland. Barnsdale bar limestone quarry was located adjacent to the Site to the south-east and the Site was bordered to the west by the A1. The landscape beyond was predominantly rural, consisting of open arable land with scattered stands of woodland.
- 1.3 This CEMP will address;
- Control and eradication of non-native invasive species on site;
 - Mitigation strategies for protected species, such as bats, nesting birds and badgers; &
 - Other environmental considerations including: light spill, noise, vibration, pollution, dust and fumes.

Proposals

- 1.4 The application seeks permission to extend the quarry laterally to the north-west, providing an estimated 20 years additional operational life for the quarry, meaning the extraction of the mineral would cease in 2040 with final restoration by 2042. The extension would be worked in 3 phases and progressively restored along with ongoing restoration operations at the existing quarry.
- 1.5 In addition to seeking approval for the new extraction area, the opportunity is also being taken by the applicant to reconcile a number of separately approved restoration proposals for the wider site. Secured by way of a Section 106 agreement, this new restoration plan will provide clarity to both the applicant and the Minerals Planning Authorities in the future.

2.0 ROLES & RESPONSIBILITIES

- 2.1 All works at all stages will be overseen, and are the responsibility of FCC Environment who will appoint a Site Manager. The Site Manager will:
- Adhere to prescriptions contained within the CEMP;
 - Arrange site-wide monitoring as required during the development;
 - Ensure environmental and waste requirements are included on requisitions and in subcontracts and orders;
 - Ensure oil, including diesel is stored in properly bunded tanks / including use of drip trays for plant and equipment / refuelling;

- Oversee and maintain records of the agreed programme of habitat and species protection as described in this document;
 - Monitor the site activities to ensure that all relevant environmental and ecological legal consents, licences and exemptions are in place in advance of relevant works commencing, and that the requirements are adhered to;
 - Ensure contractors are given appropriate environmental awareness training through Toolbox Talks and / or general site induction materials;
 - Monitor the environmental performance of contractors and provide direction as necessary;
 - Contribute to communication on environmental matters with stakeholders and statutory bodies;
 - Monitor implementation of any corrective action required;
 - Maintain a record of this document, and any other relevant ecological reports and all environmental monitoring during the construction process, which should be made available or inspection by any relevant statutory bodies as required;
 - Ensure that a suitably qualified ecologist undertakes any further on-site surveys or monitoring as required;
 - Report any environmental incidents to the appointed suitably qualified ecologist and to the relevant statutory authorities; and
 - Ensure that any required corrective ecological actions are taken in line with the relevant procedures.
- 2.2 As part of the works associated with establishing the site, a suitably experienced ecologist will provide a Tool Box Talk for all non-ecological personnel with appropriate training and information. A training record will be kept of those personnel who have received appropriate training. Tool Box Talk information sheets will be made available where necessary during all stages of construction.
- 2.3 The Site Manager will be responsible for compliance with regulations, planning conditions, environmental procedures, contractual agreements and obtaining legal consents.
- 2.4 In conjunction with having overarching responsibility for the ecological measures as detailed within this report the Site Manager will also ensure that all appropriate site protection measures are implemented in order to ensure no inadvertent effect upon ecological features. This includes the continued maintenance of any protective fencing during all on-site works.

3.0 POTENTIAL ENVIRONMENTAL IMPACTS

Hours of Work

- 3.1 Some potential impacts such as noise and vibration are only applicable whilst the site is being actively worked. The sites current operating hours will remain the same. Current Planning permissions allow for working from 07:00 - 18:00 Monday to Friday and 07:00 - 13:00 Saturday. There will be no works programmed on Sundays or at any other time (including Bank Holidays)

unless approved in writing in advance with the Local Planning Authority (LPA). However, in practice the quarry opens at 0630 and closes at 1700, Monday to Friday.

Potential Environmental Impacts on Receptors

Table 1: Environmental receptors that could potentially be impacted during construction.

Receptor	Potential Environmental Impact							
	Direct Loss	Noise	Light spill	Vibration	Pollution Spillage	Dust	Fumes	Silt
Air Quality						X	X	
Ground and Groundwater				X	X	X		
Flora and Fauna	X	X	X	X	X	X	X	X
Stakeholders		X	X	X		X	X	
Surrounding land		X	X	X	X	X	X	X

- 3.2 Full details of flora and fauna within the site are provided within the other Technical Appendices Reports undertaken by FPCR Environment and Design Ltd.

4.0 MITIGATION & MANAGEMENT STRATEGIES

Protection of Retained Habitats

- 4.1 The potential for impacts on retained habitats (i.e. Woodland W2 and the other boundary habitats) outside of the immediate working areas during works will be minimised through the erection of protective fencing and creation of protective buffer zones.
- 4.2 The retained habitats will be protected during works in accordance with BS 5837: 2012; this would include protection measures such as erection of sturdy fencing or similar to avoid disturbance, accidental incursions and damage. No material storage would be permitted within the fenced areas
- 4.3 Fencing will be inspected on a weekly basis by the site contractors and any repairs will be undertaken as necessary.

Non-native Invasive Plant Species

Himalayan Balsam

- 4.4 The invasive plant Himalayan balsam *Impatiens glandulifera* was noted along the margins of the site, within the row of trees along the A1. Under Section 14, Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) it is an offence to plant or otherwise cause Himalayan balsam to grow in the wild.

- 4.5 The Himalayan balsam is currently located within the 50m stand-off area between quarrying activities and the A1. This area will be used for soil storage and screening. To ensure that soils contaminated with Himalayan balsam are not spread during the works, mitigation will be implemented.
- 4.6 This mitigation will comprise an updated walkover survey conducted as soon as practicable, once planning permission is granted, to identify any further spread of Himalayan balsam, and/or any other Schedule 9 plants present on-site.
- 4.7 Areas affected will be marked out as 'contaminated zones' and no soil material should be moved or stored within 10m of this area during the period June – October when seeds pods burst and spread the plant into new areas.
- 4.8 Schedule 9 plants within the contaminated zones will be chemically or mechanically treated in an attempt to eradicate them from site. These methods are outlined further below in this section. The method used will be dependent on the level of infestation recorded as part of the updated survey.
- 4.9 All site workers present on site before or during site clearance will be briefed by an Ecological Clerk of Works (ECoW) on the identification of Himalayan balsam, associated legislation and their responsibilities through a Toolbox Talk.

Methodologies and Treatment of Himalayan Balsam

- 4.10 Treatment must be undertaken to prevent plants from producing seeds so that the seed bank becomes exhausted and no viable seeds remain. Eradication can usually be completed within 2 years where there is no off-site source of seeds, as seeds typically only persist within soils for 18 months to 2 years.
- 4.11 Where there is a high likelihood, or continued evidence of re-infestation from an external source such that control is not easily achieved within the first two years, consideration may need to be given the potential efficacy of eradication/control against re-infestation levels.
- 4.12 Where treatment is stopped prior to eradication, Himalayan balsam can quickly return to its original levels due to its dispersal and reproduction mechanism.

General

- If the flowers have already produced and set seed (up to October) plants will be allowed to die back naturally, with treatment commenced at the start of the following growth season;
- Arisings will be removed and may be burnt in a suitable location on site subject to any local licensing requirements or removed to a designated site able to receive Himalayan balsam arisings, or buried on site;
- Care should be taken during removal of any arisings that vehicles and containers are not over-filled to avoid any spillage of contaminated materials, which may have active seed heads; &
- Should any removal of plants be required following the growing season once seeds have set, plants should be bagged to ensure any active seed heads are not dropped onto habitats, where they may burst and scatter seeds which will then persist.

Mechanical control

- 4.13 Given the relatively low numbers of the species noted within this area during the 2017 surveys, chemical treatment should be avoided in the first instance. Mechanical removal of the species can be achieved using the following methods:
- Where established stands are present, these areas can be cut using mechanical means or hand-held trimmers, dependent on topography and ease of access:
 - Plants will be cut in May below the first node on the stem, close to ground level; &
 - Arisings should be placed in a dry area and allowed to dry out, following which they can be left on site to reduce naturally, burnt or disposed of as inert waste.
 - Where infestation is more scattered, hand pulling should be undertaken to minimise potential damage to native flora;
 - Plants should be hand pulled in May-June using protective gloves, as individuals or in groups; &
 - Pulled plants should be placed in a dry area as above and allowed to dry out, following which they can be left on site to reduce naturally, burnt or disposed of as inert waste.
 - Dependent on re-growth levels during the growing season, re-growth should be removed by hand-pulling, cutting or spot spraying with an approved herbicide, in July/August and September/October of each year's treatment;
 - Arisings will be removed and treated as above; &
 - Treatment should be undertaken for 2 years, with a review of progress at the end of season 2, to confirm the likely need for ongoing treatment or monitoring with treatment as necessary.

Chemical Control

- 4.14 Plants will be treated by chemical control, unless works are planned which necessitate excavation.
- Plants will be treated with a non-residual herbicide (Glyphosate based) that is appropriately approved for use around watercourses three times in the growing season in May/June; July/August and September/October. Treatment should be undertaken for 2 years minimum, after which the need for similar on-going treatment should be reviewed.

Excavation

- 4.15 Should excavation be used, excavation should be undertaken to a depth of 0.5 metres and up to 6m metres from the outer plants. Excavated soils should be retained on site as follows:
- Either, in a designated area at least 10m from the site boundaries or on site areas where new infestation may occur, cordoned off and appropriately signed. Arisings should be placed on a root barrier membrane and treated within an appropriate herbicide for a period of 2 years, after which now inert soils can be used as backfill or in landscaping; Or
 - Buried on site to a depth of at least 1 metre. Burial immediately beneath hardstanding may also be undertaken for Himalayan balsam;

- All excavations and disposal must be supervised by an experienced clerk of works and subject to strict site rules and compliance to ensure it is not spread; &
- Should off-site disposal be required, soils must be treated as controlled waste and taken to an appropriately licenced receiving facility.

Butterfly-bush

- 4.16 Butterfly-bush *Buddleja davidii* is a non-native invasive species and although it is not listed on Schedule 9 of the Wildlife and Countryside Act, the removal of the extensive stands of this species from the site would allow for the creation of additional areas of habitat of high conservation value. Additionally, removal of this species will help limit its spread into other retained and created habitats. As such, as part of the restoration scheme, removal of the dense stands of butterfly-bush will be undertaken.

Methodologies and Treatment of Butterfly-bush

- 4.17 Given the size and maturity of some of the stands it is considered that the most effective method of removal, for the majority of the site would be to grub out the bushes with excavators or bulldozers.¹ Any accumulated organic matter will be scraped back to bare substrate, taking care to remove seedlings and any seeds that fall on the ground. Care must also be taken in removing debris because stem and root fragments readily regenerate. On the capped slopes of the eastern landfill area, the stands of butter-fly bush will be manually felled, with the self-sown native trees retained *in-situ*. The stumps will then be treated with an appropriate herbicide to stop re-growth.
- 4.18 Once removed, the bushes should be burned on site, if permitted; alternative methods involve burying the waste at a depth of 1m or disposing of it offsite at a registered waste facility.
- 4.19 The wider quarry site will be monitored for regrowth / recolonization of seedlings as part of the wider monitoring of the site. Where the monitoring surveys note that butterfly-bush is re-seeding within cleared areas, or encroaching into undesired areas, proposed management will include regular summer mowing or cutting using flails for smaller areas or in large stands with a tractor and swipe or flail. Eradication can usually be completed within 2 years where there is no off-site source of seeds, as seeds typically only persist within soils for 18 months to 2 years.

Protected Species

Bats

- 4.20 All species of bats and their roosts are listed on the Conservation of Habitats and Species Regulations 2017 (as amended) making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection.

¹ Bacon, J (Ed); Day, J; Symes, N; & Robertson, P. (2003) The Scrub Management Handbook: Guidance on the management of scrub on nature conservation sites. The Forum for the Application of Conservation Techniques (FACT), with the assistance of English Nature.

Some bat species, including soprano pipistrelle, are species of principal importance under NERC (2006).

- 4.21 The quarry extension proposals will result in the loss of woodland block W1, towards the end of phase 2 and the existing quarry face, during phases 1 and 2. Both of these habitat features have the potential to support roosting bats. Given that many of the potential impacts to roosts will not occur for a number of years following the baseline surveys, the mitigation proposed below follows broad principles, with the details dependant on licensing and further surveys conducted during the bat survey season prior to the commencement of works.

Woodland W1

- 4.22 Ground based surveys identified a number of mature trees within woodland W1 as providing potential roosting features. Due to constraints with aerial assessments of trees within W1, and after consultation with Natural England, a series of bat trapping surveys were undertaken to determine if the woodland contained any significant numbers of roosting bats or maternity roosts.
- 4.23 Nine individual bats of two species (brown long-eared *Plecotus auritus* & Natterer's *Myotis nattereri*) were caught during the three trapping surveys. No lactating females or juveniles were recorded, ruling out the possibility of a significant maternity roost within W1.
- 4.24 Lesser status roosts of common species are expected to be present. Therefore, prior to any works on the trees with bat potential within W1 a Natural England derogation licence will be required to legitimise removal.
- 4.25 Mitigation in respect of methods for tree removals within W1 will be the same for all trees with bat roosting potential, so this risk of harm will be alleviated as far as possible. When the trees are subject to removal in ten years' time, bespoke methods tailored to each tree will be employed. These methods will be subject to the licence, but are likely to comprise a combination of the following;
- Removal of ivy from heavily clad trees by hand and using hand tools/chainsaws;
 - Sectional removal of trees with PRFs using soft-felling techniques, under the supervision of an experienced ecologist;
 - Pre-commencement dawn surveys.
- 4.26 Mitigation for potential loss of smaller or lesser status roosts will already be provided by the provision of alternative roosting sites, in the form of a bat tower within the newly created woodland habitat within the western restored landfill and/or a variety of bat boxes on retained trees along Crab Tree Lane.

Quarry faces

- 4.27 Phase 1 of works will commence in the south of the proposed extension area, and will be worked westwards, resulting in the loss of quarry sections 1-7. Sections 1 and 3 have Low-Moderate and Moderate bat roosting potential, respectively.
- 4.28 Phase 2 of works and will commence in 6-7 years with the direction of work turning northwards, resulting in the loss quarry face sections 8-15 over the 8-9 years of works. Currently sections

12 and 13 have Low-Moderate bat roosting potential with section 14 having Moderate bat roosting potential.

- 4.29 Given that many of the potential impacts to roosts will not occur for a number of years following baseline surveys, the following elements will be required during the bat survey season prior to the commencement of works:
- An update quarry face assessment survey;
 - Nocturnal surveys, in the period May to August, of quarry face sections to be impacted that year; and
 - Advanced provision of alternative roosting opportunities as required.
- 4.30 In all cases, confirmed roosts would be excluded under licence at appropriate times and using measures appropriate to the individual circumstances.

Breeding birds

- 4.31 All wild bird species are protected while nesting by the Wildlife and Countryside Act 1981 (as amended). This legislation protects wild birds and their eggs from intentional harm, and makes it illegal to intentionally take, damage, or destroy a wild bird nest while it is in use or being built.
- 4.32 Where removal of woody vegetation is required, particularly the removal of the butterfly-bush scrub, the loss of removal W2 during Phase 1 of proposals and the loss of W2 during Phase 2; it is recommended that this is undertaken outside of the nesting season (March – August inclusive) as all birds are protected whilst on the nest. If removal outside the nesting season is not feasible, all vegetation to be removed should be checked by an experienced ecologist for the presence of active nests. The check and advice provided will be valid for a maximum of 48 hours during which period the trees and vegetation should be removed.
- 4.33 If nesting birds are identified during the initial check then a minimum of a 5m buffer/ exclusion zone will be applied around the nest site. It will be necessary to undertake follow-up site visits to check the status of the nests, (usually within two to three weeks of the initial visit). Dependant on findings and circumstances of vegetation removal it may be necessary to undertake multiple follow-up visits. This exclusion zone will be maintained until the nests have fledged. If nesting birds are found then detailed advice would be provided to the Site Manager by the supervising ecologist.

Badgers

- 4.34 No evidence of the presence of badger has been recorded within the site and it is unlikely that setts would be affected by works. However, as badgers were noted within the wider area, pre-commencement badger surveys will be undertaken prior to each phase of the operation to ensure the continued absence of setts in proximity to the working area.
- 4.35 In the event that an active badger sett is identified during a pre-commencement check, the ECoW will advise of how to proceed to ensure compliance with the relevant legislation. This may entail the use of buffer zones, badger fencing or undertaking a sett closure under an appropriate Natural England Licence. Works under a badger licence that directly affect a sett or disturb badgers occupying a sett may only be undertaken between July and November, inclusive.

- 4.36 In the event of a badger sett being discovered during the working phase, all works within the immediate area must stop and advice should be sought from the project ECoW immediately for further advice.

Environmental Considerations

Light Spill

- 4.37 Light spill from operation lighting could disrupt the normal crepuscular or nocturnal patterns of protected species such as roosting or foraging bats. Creating dark corridors along retained features will be important to maintaining value for bats as sources for invertebrate prey and commuting and dispersal routes through the landscape.
- 4.38 It is anticipated that the majority of impacts related to light spill on adjacent retained habitats will be mitigated by the sites agreed working hours of 07:00 - 18:00. Meaning that the periods where the operational hours fall after dark are largely during the typical hibernation period for bats.
- 4.39 Nevertheless, during operations, all light used on site will be directed into the site to avoid any light spill to surrounding areas.
- 4.1 All external lighting out of operational hours is to be used for safety and security reasons only. It is recommended that directional lighting should be implemented for any security lighting adjacent to the areas of retained habitats, particularly the quarry faces and the adjacent retained and created woodland, to reduce impacts from artificial lighting. Further considerations include:
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability; &
 - A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.

Noise

- 4.2 Disturbance to populations in proximity to the site during the active phase arising from blasting, traffic, plant or any other quarrying activities will be mitigated as follows:
- All activities with the potential to cause noise will be limited to the “core hours”: Monday – Friday 07:00 – 18:00 and Saturday 07:00 – 13:00;
 - No blasting shall be carried out on any part of the site except between the hours of 09:00 - 16:00 Monday - Friday and no blasting shall take place on weekends or Bank or Public Holidays;
 - Where there is a requirement to undertake works on a Sunday or Bank holiday; written approval shall be sought from the Local Planning Authority in advance of the works;
 - During the day time (07:00-19:00) the noise limits will not exceed the following at any noise sensitive property: background noise level (LA90,1hour) by more than 10dB and should not exceed 55dB LAeq,1hour (free field);
 - If noise levels exceed those specified above, those operations at the site causing the excessive noise shall cease immediately and steps be taken to attenuate the noise level;

- A temporary daytime noise limit of up to 70 dB LAeq,1 hour (free-field) at the nearest noise-sensitive properties will apply for up to 8 weeks in a calendar year for the construction and removal of screening bunds and acoustic fencing; and
- General induction training for site operatives and specific training for staff having responsibility for particular aspects of controlling noise from the site shall be delivered.

Plant movements and operation:

- All plant, machinery and vehicles used on any part of the site shall be fitted with effective noise attenuating equipment which shall be regularly maintained. Where mobile plant is operating in proximity to residential property, non-audible reverse warning alarm systems shall be deployed so as not to cause disturbance;
- Intermittently operating plant will be shut down in the intervening periods between operations (including during breaks and down time of more than 30 minutes);
- Any compressors brought on to site will be silenced or sound reduced models fitted with acoustic enclosures;
- Where possible, noisy plant shall not be used simultaneously and/or in close proximity to each other, to avoid cumulative noise impacts; and
- Site inspections shall be undertaken and will include checks to ensure that plant is being operated with any specified acoustic covers in place. Excessively noisy plant shall be removed from site for repair or maintenance.

Vibration

- 4.3 Disturbance to populations within hearing range during the construction phase due to vibration;
- Vibration monitors will be used in occurrences of excessive periods of work causing vibration;
 - Local residents will be notified prior to any works which may cause abnormal amounts of vibration; and
 - Blasting operations shall be designed and executed such that the resultant ground vibration levels shall not exceed a peak particle velocity of 6mm per second at any inhabited building. All blast results shall be made available within 10 working days of a written request to do so by the County Planning Authority.

Pollution Spillage

- 4.4 In the absence of mitigation, there is a risk for site construction activities to poison trees and other flora within and adjacent to the site.
- 4.5 Any facilities for the storage of oils, fuels or chemicals will be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound shall be at least equivalent to the capacity of the tank plus 10%.

- 4.6 If there is multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank or the combined capacity of the interconnected tanks plus 10%.
- 4.7 All filling points, vents and gauges and site glasses must be located within the bund. The drainage system of the bund shall be sealed with no discharge to any water course, land or underground strata. Associated pipework shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.
- 4.8 There shall be no quarrying or other excavation within a vertical distance of 2 metres of the maximum recorded groundwater levels across the site.

Material Storage:

- 4.9 Sub-soils generated during the operations will be stored onsite for re-use within the site as required by the restoration. Any surplus material will be removed on completion of the restoration.
- 4.10 No sub-soils will be stored in contaminated zones until the eradication of Himalayan balsam is confirmed by an experienced ecologist.

Dust

- 4.11 Disruption to habitats / populations within receiving range of dust could arise from works. The general operation and management of the site and the proposed extension can affect the likelihood of significant dust emissions. These include:
- Use of clean water for dust suppression, to avoid re-circulating fine material;
 - High standards of house-keeping to minimise track-out and wind-blown dust;
 - A preventative maintenance programme, including readily available spares, to ensure the efficient operation of plant and equipment; and
 - Effective staff training in respect of the causes and prevention of dust.

Weather Conditions

- 4.12 As an overriding requirement, during dry or windy weather, if any operations are identified as causing or likely to cause visible emissions across the site boundary, or if abnormal emissions are observed within the site, then the Site Manager will immediately modify, reduce or suspend those operations until either effective remedial actions can be taken or the weather conditions giving rise to the emissions have moderated.
- 4.13 At all times during the carrying out of operations water bowsers will be used at such times as is necessary to minimise the emission of dust from the proposed extension.

Drilling and Blasting

- 4.14 Drilling and blasting will continue to be carried out in a manner which minimises impacts to the environment, including dust emissions.
- 4.15 The cyclone and filter system on the drilling rig will be used to collect the drill cuttings and dust at all times during drilling. The rig will be operated at all times in accordance with the manufacturer's instructions.

- 4.16 The blast holes will be stemmed with 20 mm chippings to minimise the ejection of material into the atmosphere upon a blast event.

Loading and Tipping

- 4.17 Loading and tipping operations will take place where possible within the sheltered confines of the quarry to minimise entrainment of dust into the atmosphere.
- 4.18 Loading and tipping heights will be minimised as far as possible at all locations.

Site Haulage

- 4.19 The main haul routes between the extraction faces and the processing area will be located within the quarry void.
- 4.20 All haul routes will be inspected daily and will be maintained to provide a firm and well-drained running surface. Spillages and loose or muddy deposits will be regularly cleared to prevent subsequent comminution and entrainment into the atmosphere.
- 4.21 The site speed limit of ten miles per hour will be adhered to minimise the possible entrainment of dust into the atmosphere.
- 4.22 All site vehicles and plant will be fitted with upward exhausts and radiator cowls to minimise surface disturbance.
- 4.23 Site transport will be evenly loaded to avoid spillages of loose material on to the running surface.
- 4.24 During dry conditions, water will be applied by the on-site bowser to the surfaces of the principal haul routes.
- 4.25 Haulage will be restricted to designated haul routes to avoid any disturbance to unprepared surfaces.

Crushing and Screening

- 4.26 The crushing and screening operations will continue to be carried out in strict accordance with the LAPPC/Environmental Permit conditions for the process.
- 4.27 The cladding to the crusher and screen units will be maintained in a good condition.
- 4.28 Any water sprays to the crushers and any stockpiling conveyors will be maintained and used as necessary to minimise dust emissions.

Conveyors

- 4.29 Although this is mainly related to the main plant site, it is confirmed that all conveyors carrying material from which fines have not been screened will be covered to reduce wind-whipping. The feeds, transfer points and the discharges will be shrouded. Any missing panels will be replaced.
- 4.30 Drop heights from conveyors will be minimised to reduce the entrainment of fine particles into the atmosphere.
- 4.31 The return belts will be fitted with scrapers and the arising will be collected for disposal.

- 4.32 All conveyors will be inspected for alignment, wear or other damage to minimise spillages.
- 4.33 Significant accumulations of spilled materials on or underneath the conveyor structures will be removed promptly, and the cause investigated.

Road Transport

- 4.34 All departing road transport will pass through the wheel bath and along the site haul road. The vehicles will be checked for cleanliness before leaving the site.
- 4.35 All vehicles carrying aggregates will be sheeted before leaving the site.
- 4.36 The surface of the yard between the weighbridge and the site entrance will be maintained in good condition.
- 4.37 The site entrance and the public highway will continue to be cleaned by road sweeper as required to remove mud and other materials from the surface.
- 4.38 During dry conditions water will be sprayed on to the surface of the loading area at regular intervals to maintain a damp surface.
- 4.39 Drivers of road transport will be instructed to observe the site speed limit to minimise the re-suspension of any dust.
- 4.40 Appropriate measures will be taken as necessary at the site entrance to minimise silty run-off.

Restoration

- 4.41 Appropriate soils handling will form a key element of the scheme, as soils are commonly handled in a dry friable condition. The small area of soils stripping will mitigate the scope of impact in this regard.
- 4.42 The soils will be grass seeded on establishment to bind the surface and minimise the scope for wind blow.
- 4.43 Partially or fully restored surfaces will be watered as necessary to counter the generation of windblown dust.
- 4.44 Haulage across the surface of restored areas will be restricted to defined routes to minimise the entrainment of loose fine material into the atmosphere.

Wind Blow

- 4.45 Stockpiles and soil bunds will be shaped to present a smooth profile. Any spillages around the bases of the stockpiles will be re-incorporated within the stockpiles or re-processed as appropriate.
- 4.46 Additional watering will be carried out as necessary to avoid the formation of dry dust on the surfaces of stockpiles.

Fumes

- 4.47 Air quality within the vicinity of the site and along haulage routes will potentially be impacted by fumes arising from construction traffic and site plant emissions. Fumes from vehicles will be minimised by the following measures:

- Engines of all vehicles and plant on site will not be left running unnecessarily;
- Low carbon vehicles and plant fitted with catalysts will be used where possible;
- Ultra-low sulphur diesel fuel will be used in plant and vehicles;
- Ensuring that plant and vehicles are well maintained and hold a valid MOT; and
- All commercial road vehicles and construction plant, including stationary plant must comply with any legislative requirements including the European Emission Standards. It is good practice for contractors to aim to meet the highest Euro standards for emissions for all HGVs and LGVs accessing the site.

4.48 No unauthorised burning of any material will be carried out anywhere on site.

Silt

4.49 In order to prevent silt run off from entering highway ditches, surface water flows into ditches will be monitored. A series of options will also be considered to prevent silt runoff into the mains sewer and the surrounding environment, including:

- Leaving grassy areas as catchment or settlement areas;
- Protection of drains;
- Use of grips and straw bales;
- Silt fencing; and
- Dewatering.

5.0 GENERAL MEASURES

Appointed Persons

Site Manager	(To be confirmed prior to site setup)
Ecological Clerk of Works (ECoW)	(To be confirmed prior to site setup) FPCR Environment and Design Ltd 01904 406112

Environmental Monitoring

5.1 Appropriate monitoring of the environmental effects of operations enables the effectiveness of environmental mitigation to be evaluated. The Site Manager will carry out appropriate environmental inspections and monitoring of environmental performance of the site and contact the ECoW for further advice where any issues or incidents arise.

Environmental Incidents

- 5.2 All environmental incidents and near misses shall be reported and investigated by the Site Manager without undue delay.
- 5.3 Where relevant, the appropriate statutory authority (e.g. Environment Agency or the Environmental Health Department at Selby District Council) shall be informed immediately. For Environmental Incidents the Contractor will prevent the continuation of the incident, where safe and possible to so. Copies of incident investigation reports shall be kept by the Site Manager and action taken to prevent recurrence.

Complaint Procedure

- 5.4 Any concerns the public or local community wish to raise can be brought to the attention of the Site Manager. Any complaints received by other site operatives shall be immediately reported to the Site Manager. Site operatives will be informed about the process to deal with complaints from members of the public; should they be approached whilst working on site, through Toolbox Talks.
- 5.5 When a complaint is reported the following information shall be recorded:
- Details of the issue leading to the complaint;
 - Details of the complainant;
 - Name;
 - Address;
 - Contact number;
 - Preferred contact method; and
 - If a complaint has been previously made, any details of the previous incident.
- 5.6 On receipt of a complaint, the Contractor shall:
- Acknowledge all complaints within 2 working days; and
 - Either reply fully within 7 working days of receipt, or reply within 7 working days to advise you of the steps we are taking and to give a date by which we will be able to reply fully.