Quarryplan

Keegan Quarries Ltd.

Tromman Quarry, Rathmolyon

Environmental Impact Assessment Report Non-Technical Summary

to accompany a S.37L Planning Application for further development of the 21.64Ha quarry site to include extraction of limestone from 14.3Ha and mobile processing to a depth of 13mAOD. The continued use of structures referenced under application SU17.319397 and the restoration of the whole quarry site.

February 2024

CONTENTS

INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been prepared to accompany a planning application made under s.37L of the Planning and Development Act 2000 (as amended) ('the Act'), submitted to An Bord Pleanála (the Board) for consideration.

s.37L(8) of the Act (as amended by the Planning, Development and Maritime Valuation Act 2022) provides that upon receipt of an application it shall consider the same in conjunction with the submitted substitute consent ('SC') application.

The Application being submitted to the Board is for the continuation of quarrying activities over an area of 14.3ha within the existing quarry site, which sits within the wider 21.64ha wider Tromman Quarry Site.The development also proposes the continued use of structures referenced under application PL17.305049 and the restoration of the whole quarry site with delivery of the maximum reserve within the site providing a resource life of 35 years.

The proposed development has been so designed to maximise the resources at depths previously assessed. Although the application is concerned with further quarrying, the collective operation of the larger site is considered cumulatively, as it is the effects of the activities that combine to form the "project" in this instance. Therefore, all on-site activities and emissions from the totality of the site that flow from the extraction of the limestone deposit are assessed as part of the EIAR.

Given that the Board can only grant SC in terms of the extant operations on-site and applied for at the time of submission[1], this precludes the opportunity

[1] The Board's interpretation of S/C provided by Assistant Director Philip Jones on 25 October 2012

to grant future development. S.37L of the Act remedies this legislative anomaly and provides for the potential for further quarrying into the future.

The requirement for the application is to provide authorisation for the continuity of supply for Keegan Quarries of this high purity limestone resource for the various established manufacturing processes and dry aggregate market.

SPECIALIST CONTRIBUTORS

The coordination of the competent experts and the production of this EIAR has been managed by Chris Tinsley BA (Hons), DipTP, MRTPI of Quarryplan Limited, who has a proven track record of delivering planning and environmental projects, development plan representations and planning appeals. All external consultants have been appointed and project managed by Quarryplan. The competent contributors to the EIAR include:

Section	Heading	Specialist Contributor
1	Introduction	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
2	Scope of the Environmental Impact Assessment	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
3	Project Description	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
4	Planning Policy Framework	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI

5	Geological Assessment	Mike Williams, Quarry Design MGeol(Hons), MSc, MCSM, CGeol, Eur.Geol, FGS, MIQ Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
6	Water Environment	Henry Lister, BCL Hydrogeologists Limited B.Sc. (Hons.) M.Sc.
7	Noise, Vibration and Blasting	Mervyn Keegan, AONA B.Sc., M.Sc.
8	Biodiversity	James O'Connor, Woodrow APEM Group, BSc MSc PhD
9	Landscape	Pete Mullin, Mullin Design Associates BA (Hons) CMLI
10	Air Quality and Dust	Mervyn Keegan, AONA B.Sc., M.Sc.
11	Traffic Impacts	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
12	Cultural Heritage	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
13	Waste Management	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI Mike Williams, Quarry Design MGeol(Hons), MSc, MCSM, CGeol, Eur.Geol, FGS, MIQ
14	Soil and Natural Resources	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
15	Socio-Economic Impacts	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
16	Climate Change, Accidents and Disasters	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
17	Human Health	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
18	Intra and Inter Cumulative Impacts	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI

SITE LOCATION AND PROJECT DESCRIPTION

The overall planning application site extends to some 21.64ha in extent and is located completely within the Townland of Tromman, near Rathmolyon. The application boundary incorporates the totality of the Applicant's operations.

Quarrying has been ongoing at the site since the first approval in December 1998. It is the intention to continue sourcing high purity calcium carbonate mineral from Tromman quarry, at a rate of up to 250,000 tonnes per annum as prescribed in previous authorisations. The proposed phasing of the quarry design incorporates this continued consumption rate, with the relocation of the overburden landform and operating to depths previously considered acceptable will provide a reserve life in the order of 35 years.

The existing operations (stone, powders and fill; Precast and concrete block manufacture) at Tromman provide direct employment for some 140 staff and a further 40 full-time sub-contractors. All activities of the Keegan business are reliant upon the continuation of the high quality resource.

The quarry and its ancillary processes would continue to operate to industry standard hours of 07.00 to 19.00 Monday to Friday and from 07.00-14.00 on Saturdays. The quarry does not operate on Sundays or Bank Holidays.

The proposed phased development has been devised to maximise the resource within the confines of the existing site footprint and in doing so remove the overburden landform from the skyline and upon cessation of the proposed extraction development remove completely the external visual impacts of the operation.

Phase 1

During Phase 1, extraction of the quarry is focussed primarily in the southern margin of the site, progressing 3 faces to their ultimate limit.

Tromman Quarry – Phase 1

A new access ramps will be constructed into the sinking along the eastern boundary to facilitate access to all levels on the eastern margin of the quarry.

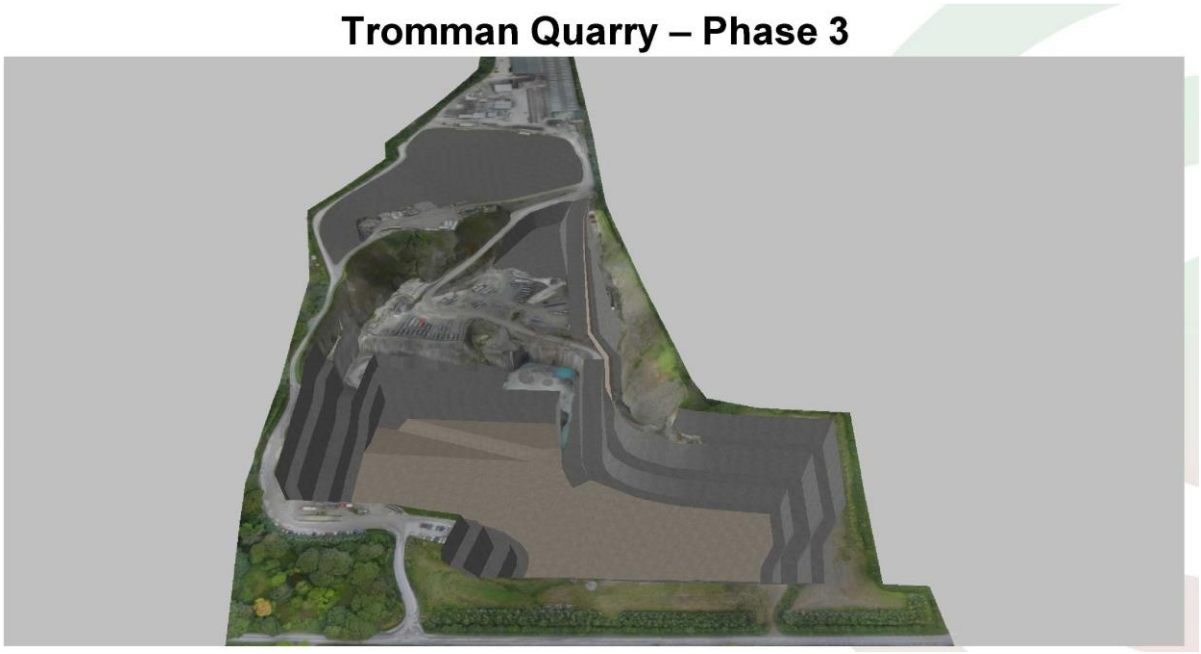
Phase 2

Phase 2 continues the development of the quarry in the southern working zone, increasing the depth of the quarry a further bench to the maximum depth proposed, some 13mAOD, which was previously approved over 80% of the quarry floor.

Tromman Quarry – Phase 2

Phase 3

Over the course of the development of Phase 3, the northern overburden landform is systematically removed and placed into the recently excavated void, as shown below. It is estimated that most of the recently excavated lower level will be backfilled during this process.



Simultaneously to the removal of the overburden into its final resting place in the floor the 3 upper benches will be developed in a northerly direction, to achieve the maximum extents of the designed footprint of the quarry, as illustrated overleaf.

Tromman Quarry – Phase 3

Phase 4

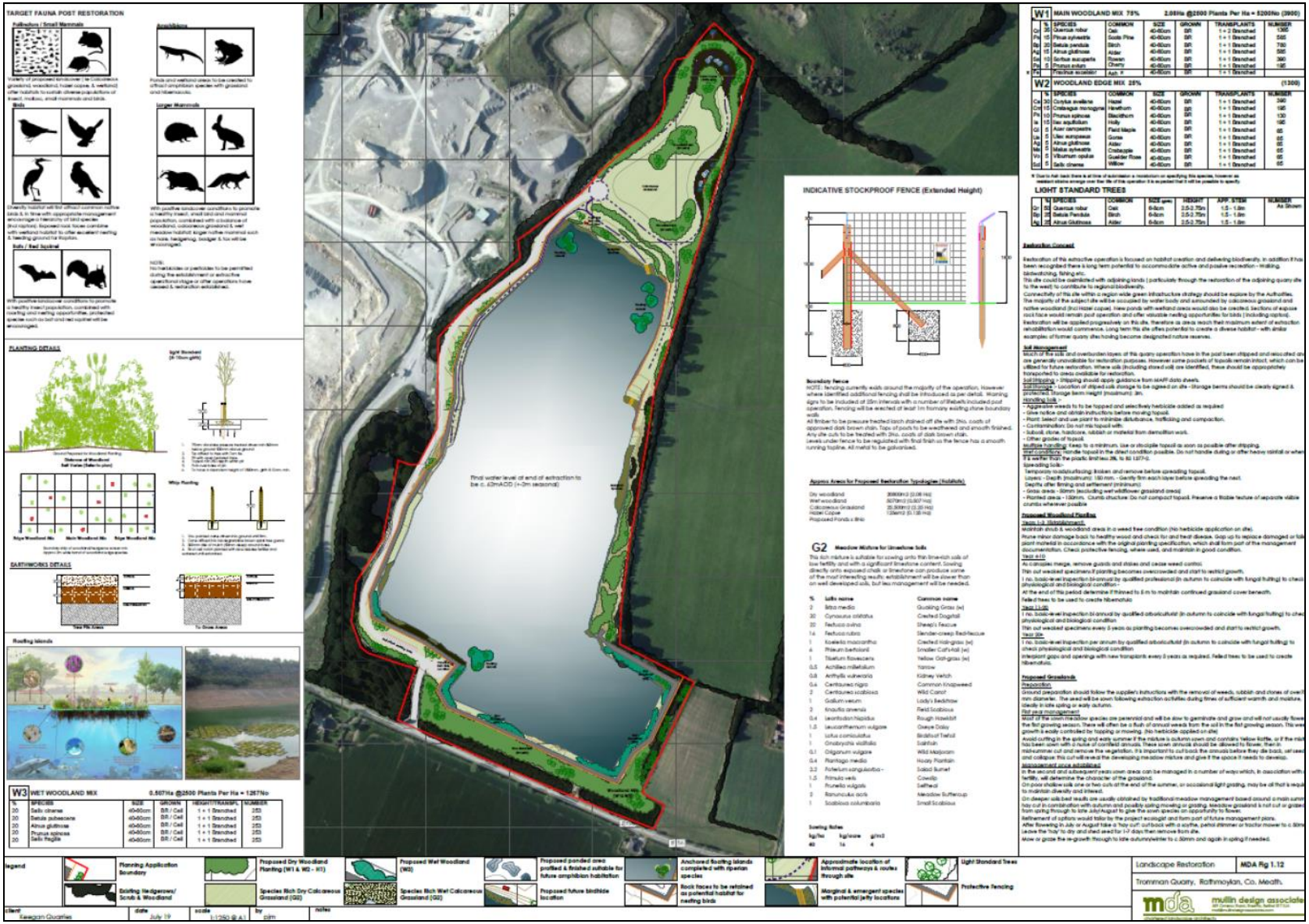
The final extraction phase continues the progression of the lower benches of the quarry in a northerly direction, top complete the extraction.

Tromman Quarry – Phase 4

Decommissioning – Remediation – Restoration

In the first instance, dealing with the manufacturing area, the structures can be decommissioned, with the buildings and structures being of a steel frame specification with cladding being fixed to or into a concrete base. The structures and plant and machinery can be dismantled, and the remediation completed by the removal of the concrete yard, this would involve rock breaking the yard and removal from site.

It is proposed that the overburden materials will have been moved into their final resting places over Phase 3 and 4, as described above and that the proposed restoration concept allowing for bench and margin treatment and planting, with placement of some overburden resources around the quarry and then for the quarry void to be allowed to flood but still comfortably within the quarry void, with a concept that has been so design to drive in increased biodiversity. See figure overleaf for concept.


TARGET FAUNA POST RESTORATION
INDICATIVE STOCKPROOF FENCE (Extended Height)
W1 MAIN WOODLAND MIX 75%
W2 WOODLAND EDGE MIX 25%
LIGHT STANDARD TREES
W3 WET WOODLAND MIX
G2 Meadow Mixture for Limestone Soils
Final water level at end of extraction to be c. 63mAOD (+/-2m seasonal)
Landscape Restoration
MDA Rg 1.12
Tromman Quarry, Rathmoylan, Co. Meath.
mda
mullin design associates

Drilling and Blasting

As with most hard rock quarries the process employed to produce blast rock for the purposes of processing utilises a fully mobile air drill rig, with drilling being undertaken at Tromman quarry on average two days every month. The measured impacts of blasting for the preceding years activity demonstrate complete compliance with guidelines.

Processing of Quarry Material

The processing of material within the site will continue to be undertaken, as with the past decade within the quarry void, with the blast pile being fed into the existing mobile primary jaw crusher, using a loading shovel. This enables the blast material to be reduced to the optimum size for introduction into associated secondary and tertiary mobile screening facilities.

The benefits of mobile plant are numerous, all the loose plant and machinery is track or wheel mounted and follows the active face therefore have no permanent footprint or location.

The Manufacturing Area of the Site

The added value manufacturing area of the site is fully paved with the northern extent of the site's appearance reflecting the manufacturing nature of the activities. The activities occur within a focussed footprint and comprise the production of ready mixed concrete, concrete blocks, specialist pre-cast concrete and limestone powders.

It is intended that all the manufacturing activities will continue at the site and operations levels will remain within existing tolerances.

Vehicle Movements

It is proposed that the site will continue to operate with vehicle movements at a level below the 55 two-way trips per day evaluated during successive applications, which equates to a maximum annual mineral extraction in the region of 250,000 tonnes. With transport being made up of a combination of articulated vehicles, both flatbed lorries, tippers, standard eight-wheel rigid lorries and concrete mixer trucks.

Discharge and Fuel Storage

It is proposed that the site will continue to operate in an identical fashion to that which has consistently achieved compliance with the prescribed water quality standards. The site is subject to a Discharge Consent Licence and the discharge water will continue to pass through the settlement infrastructure in the north east corner of the Site.

SCOPE OF THE ENVIRONMENTAL IMPACT ASSESSMENT

Separate reports have been prepared for each of the significant elements by experts, whilst analysis of the monitoring report results have been undertaken by the EIAR author and presented against the standards provided for within the appropriate Guidelines for quarrying development.

Each report considers the following:

- baseline study;
- identifying potential impacts past and future
- predicting and evaluating the magnitude and significance of those impacts;
- proposing mitigation measures, where necessary.

The remit of an EIAR is to consider all environmental aspects, which could experience impact from the proposed development, from which the identification of mitigation measures can be undertaken. The purpose of the mitigation measures is to ensure that the development could be undertaken without creating any significant or unacceptable adverse impacts on the environment or amenity of the area going forward.

Given the extant planning status of the quarry, it is considered that the baseline may evolve such that 2 scenarios are likely to occur in the future. The first is that mineral extraction will cease, all associated buildings and structures will be removed, and the quarry will be restored. The second scenario is quarrying operations and associated manufacturing will continue at the site, as proposed via this s.37L planning application. The proposed development is assessed against both scenarios within the EIAR.

ALTERNATIVES

Legislation requires that the author of the EIAR provides a description of the **reasonable alternatives** studied by the person or persons who prepared the EIAR, **which are relevant** to the proposed development.

The aspect of relevance is particularly pertinent when preparing an application that is legislatively linked to the recommencement of a specific site as this arguably makes the ability to considered alternative redundant.

Furthermore, given that the proposed development is for further quarrying of a site that has already been assessed under the Impact Assessment Directive, it is not surprising that the previous designs that have been adhered to historically have mitigated out potential significant impacts.

Nevertheless, alternatives designs have been considered to facilitate the relocation of the overburden and to provide an improved vehicle management system. These are considered in detail within EIAR.

PLANNING POLICY FRAMEWORK

The full-length planning policy assessment for the development is included in the EIAR. The EIAR considers the development in the context of the following contemporary planning policy sources:

- Meath County Development Plan (2021-2027);
- Sustainable Development- A Strategy for Ireland (1997);
- National Planning Framework (2018); and
- Regional Spatial and Economic Strategy (2019).

The level of compliance with the policies and objectives outlined in these documents indicates the suitability of the development from a planning and sustainable development perspective.

The planning policy section of the EIAR details how the proposed development will allow for the continuation of the significant economic and social benefits generated by the site in terms of employment, investment and prosperity to be sustained without posing an unacceptable impact upon the environment. The proposed development would complement the role of local towns, supporting Trim as an urban strengthening opportunity.

The products manufactured at the site and aggregates produced will allow for the continued economic growth across the Dublin and mid-east region. The proposed development has been demonstrated to accord with the relevant local and national planning policy provisions. The proposed development will maximise the potential of the finite natural resource found

at the site without posing an unacceptable impact upon the environment and as such, the proposed development is considered to accord with the three dimensions of sustainable development and therefore is in accordance with the proper planning and sustainable development of the area.

GEOLOGICAL ASSESSMENT

A number of geological and geotechnical assessments have been previously undertaken at the Site including for the rEIAR for the application for SC in 2019 (ABP Ref 305049-19), the EIAR for the s.37L application which was returned in 2018.

Those assessments were previously undertaken by Mike Williams of Quarrydesign Ltd (see further information below). Geology does not alter in the intervening timeframe since the previous assessments as referenced above. Accordingly, it is considered unnecessary to revisit and update the previously accepted report. As such, the assessment is repeated in the following section. The assessment has been reviewed by Quarryplan to ensure continued compliance with legislation and best practice guidance.

The area around Tromman Quarry has been mapped by the Geological Survey of Ireland at a scale of 1:100,000. The mapping indicates that the site is split across two formations the Lucan and Waulsortian Limestone formations with the quarry activities having operated almost exclusively within the more recent Lucan Formation, which were deposited during the Carboniferous period.

Based on field observations, the active quarry, including the proposed extension area, is considered to be underlain by the Waulsortian Limestones and not the Lucan Formation as published.

The EIAR concludes that the proposed quarry excavations are geotechnically competent and will not give rise to the potential for failure and impacts beyond the Company's landholding.

Quarry development plans have been prepared in accordance with relevant legislation. The designs have been prepared following a geotechnical investigation of the site and are supported by specific site investigation data. The quarry will be subject to a bi-annual Geo-Technical Assessment as required by the Safety, Health and Welfare at Work (Quarries) Regulations 2008 to monitor geotechnical aspects of the quarry and ensure compliance with the regulations and continued best practice.

Given the above, the proposed development is not considered likely to result in any significant geological Waulsortian Limestone or geotechnical effects upon the environment as a whole.

WATER ENVIRONMENT

An assessment was undertaken to establish the potential impacts upon the water environment, both hydrogeological and hydrological, of the development, with a baseline start date of post 2013.

The assessment was undertaken by BCL Hydrogeologists Limited and managed by Henry Lister who holds a Batchelor of Science Honours Degree [Geology] conferred by Plymouth University, 1992; and a Master of Science Degree [Groundwater Engineering] conferred by the University of Newcastle upon Tyne, 1994.

The water environment impact assessment includes examination of the lowering of groundwater levels, potential impact upon surface water features, risk of derogation of water supplies and water quality.

The assessment has used data collation and interpretation (meteorological, geological, hydrological and hydrogeological); Conceptualisation of hydrogeological systems; impact prediction and modelling.

Water samples have been collected from the discharge point on a regular basis and submitted for laboratory analysis in order to demonstrate compliance with the limits specified in the discharge consent (Trade Effluent Discharge Licence Ref. 04/2).

The best estimate of the predicted radius of influence at the proposed maximum development is likely to be in the region of 550m, which is about 150 m greater than that observed in the current quarry setting. Mitigation measures have been proposed to address any potential impacts at local receptor wells.

At the time of restoration, quarry dewatering operations would be end and the quarry void would be allowed to fill with water to form a lake, with a lake level of some 65 maOD +/-2m (subject to seasonal variation) would be established within the abandoned workings.

Precautionary procedures have been implemented for the protection of groundwater quality; by minimising the likelihood of occurrence in the first instance, and specification of reactive measures for the management of accidental spillage and / or long-term leakage of fuel, lubricating or hydraulic oils should this occur.

On the basis of baseline study and subsequent impact assessment, there are considered to be no over-riding hydrological or hydrogeological related reasons why the Proposed Development should not proceed in the manner described by the Application.

NOISE, VIBRATION AND BLASTING

A Noise Impact Assessment report has been prepared by Mervyn Keegan. Mervyn Keegan is a Director of the environmental consultancy, AONA Environmental Consulting Ltd.

The Noise & Vibration Impact Assessment has considered the totality of the operational site to include further quarrying activities proposed and the operation of the associated manufacturing facilities.

On 7th February 2019, a site noise survey was undertaken with source specific noise level readings taken in close proximity to the main noise sources existing at Tromman Quarry site. This allowed for the generation of accurate sound power levels for all main existing noise sources on the site.

A computer aided Noise Prediction Model has been produced to verify the noise readings taken on the existing Tromman Quarry site and confirms that the model is representative of the current on-site operations and provides an accurate verifiable prediction at all noise sensitive receptors in the vicinity of the existing Tromman Quarry site. Thus, the noise prediction model provides an appropriate level of confidence when assessing specific noise impact from the proposed phased development of the Tromman Quarry site.

The quarterly noise monitoring surveys that have been undertaken since 2013 by Byrne Environmental at the Tromman Quarry site typically report that '*Quarry noise is faintly audible'* or '*Quarry noise not audible*'. The periodic noise monitoring surveys that have been undertaken since November 2014 at Kilsaran Quarry directly adjacent to the Tromman Quarry site indicate the cumulative noise from the operation of the two adjacent quarries is not having a significant noise impact at the nearest residential properties to the

sites. Therefore, the existing operations at the Tromman Quarry site, as predicted in Noise Impact Assessments accompanying previously submitted Environmental Impact Statements, is not having a significant noise impact at the nearest residential properties to the site.

Noise levels have been predicted during periods of extraction when the excavation, crushing and screening and the drill rig operations are on-going in Phases 1 – 4 of the quarry development. The predicted noise levels are indicative of worst-case continuous on-site activity. The impacts that can reasonably expected to occur have been modelled and assessed and do not give rise to any significant environmental impact, ongoing monitoring has confirmed the position that operations consistently have cumulatively operated below the guideline figure provided for in the DoEHLG 2004 recommended levels.

With reference to the existing vibration target levels as provided for in the DoEHLG Guidance, the site has operated in full compliance for the past 5 years, and all the indications are that the site will continue to do so, if the development is permitted. If the site is required to be restored and the structures removed there is no opportunity for significant impact as a result of blasting. This outcome has been previously assessed and remains valid.

BIODIVERSITY

Woodrow APEM Group (Woodrow) was appointed to compile the Ecological Impact Assessment (EcIA). A standalone Natura Impact Statement (NIS) is also provided as part of the planning application package.

The methodology for the assessment included identifying and evaluating ecological features within the zone of influence and assessing the significant,

residual and cumulative impacts upon them. The assessment was supplemented by field surveys.

Based on the collation of the above information, it is considered that the phased further development will have a low adverse ecological impact via permanent habitat removal, which will then be negated by the proposed landscaping as part of site restoration works.

None of the habitats on this site are particularly rare or of significant ecological importance on a national or European scale. The site holds habitats that are likely to be locally important for foraging and commuting species in the wider area such as birds and mammals (including bats).

Given the existing habitats, and the permitted post-operational remedial landscaping and planting works – it is considered that the development shall result in a short to medium term adverse ecological impact during operation, which shall be managed by implementing best practice mitigations measure at the site. Post-operation the site will be managed for wildlife and recreation.

A NIS has been compiled. This includes the information required to undertake an appropriate assessment with respect to Article 6 of the Habitats Directive. This takes account of mitigation measures and environmental controls already undertaken at the site. The NIS identifies the River Boyne and River Blackwater SAC and SPA as being the only European Sites within the Zone of Influence for the Development. The NIS concludes that:

"Taking into account the best available scientific knowledge, applying the precautionary principle, and considering the conservation objectives of the relevant European Sites, it is concluded that the continuation of operations at Tromman Quarry, whether on its own or in conjunction with other plans or

projects, does not pose an adverse impact on the integrity of any European Site".

LANDSCAPE AND VISUAL

The Landscape and Visual Impact Assessment has been prepared by Mullin Design Associates, Chartered Landscape Architects and has been drafted and overseen by Pete Mullin, BA (Hons) CMLI, Chartered Landscape Architect and principal of Mullin Design Associates.

The landscape and visual assessment incorporates both desk and field studies and has been compiled and interpreted by an experienced landscape professional. A matrix is used to combine landscape sensitivity with predicted magnitude of change, so that a predicted impact / effect is reached.

The most open significant views of the site are limited to areas within close proximity of the site. This will impact a very low number of properties and public roads. Distance views are restricted by the presence of mature trees in hedgerows and copses which are common to the area.

The proposed removal of the large overburden store from the subject site will have a net positive impact and reduce the overall cumulative impacts currently associated with the operations.

The proposed landscape restoration scheme offers a positive opportunity to restore the ecological diversity of this site through habitat creation on final slopes around the periphery of the proposed site. The Restoration Scheme will provide opportunities for the development of species rich grasses and native woodland.

On a localised level the Landscape sensitivity is considered to be Medium-Low. The Assessment concludes that the overall landscape impact/effects which have will occur are collectively considered Negligible.

In terms of visual impact, Visual sensitivity is considered to range from Medium to Low. Predicted visual effects arising from the proposals at the selected visual receptors are considered to be negligible.

AIR QUALITY

An Air Quality & Climate Impact Assessment report has been prepared by Mervyn Keegan. Mervyn Keegan is a Director of the environmental consultancy, AONA Environmental Consulting Ltd.

The Air Quality Impact Assessment has considered all the stages of development as outlined in the Introduction section above. Cumulatively, the Air Quality & Climate Impact Assessment has included the proposed further quarrying and associated operational activities.

Tromman Quarry has been undertaking continuous dust deposition monitoring in accordance with the requirements of previous planning consents.

Dust deposition monitoring locations in proximity to the Tromman Quarry have been installed in consideration of requirements relating to location of the gauges relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. Dust deposition monitoring is continuously undertaken using Bergerhoff glass deposition gauges at four Meath County Council approved monitoring locations.

The results of the quarterly dust deposition surveys, assess the dust deposition impact from the northern area of the Tromman Quarry site, including the cumulative impact from the adjoining Kilsaran Quarry. The average dust deposition rate is well below the assessment limit for ambient dust impact of 350 mg/m^2/day.

It is reasonable to suggest that there would be no change anticipated from the further quarrying and associated manufacturing operations on the site, i.e. existing dust deposition rates will remain the same.

The impacts have been assessed and do not give rise to any significant environmental impact, given that ongoing monitoring has confirmed operations consistently have cumulatively operated below the guideline figure provided for in the Department of Environment Heritage and Local Government – Quarries and Ancillary Activities (Guidelines for Planning Authorities) DoEHLG 2004 recommended levels.

Overall, the proposed extraction area is considered to have the potential to cause a 'Slight Adverse Effect' at the residential receptors in the surrounding area and, the overall effect of the proposed development below existing extraction levels is considered to be 'not significant' and will result in a 'Negligible Effect' at the nearest residential properties.

Any residual dust deposition impacts resulting from the future de-commissioning and restoration of the quarry will be short lived and all potential dust impacts from the Tromman Quarry site are considered to be reversible i.e. the risk of impact will cease on completion of quarrying and restoration of the site.

TRAFFIC

A full traffic impact assessment has been carried out by Roughan & O'Donovan Consulting Engineers (RDCE) as recently as November 2009. The consecutive assessments covering a number of applications at the site have analysed the prevailing traffic movements in the context of the existing road infrastructure, with junction analysis, vehicle number counts and haul route analysis.

Sales figures have been provided by Keegan Quarries Limited in consecutive Environmental Impact Statements from the year 2000 up until the most recent application in December 2016 and repeatedly the activity levels with an upper limit of 250,000tpa of aggregates have been assessed as a worst-case scenario. It follows that any vehicle movement activity at levels less than those associated with 250,000tpa are causing less of an impact and no form of intensification / additional impact can be forthcoming.

Development of the range of products being sold from the quarry, linked directly to the manufacturing element of the site has resulted in the number of vehicles being utilised for delivery having dropped to a figure in the region of 67% of the number originally assessed in 2004 whilst the extraction volumes are operating at levels of c.84%.

It is acknowledged that the move away from standard dry aggregate sales results in incoming deliveries associated with the manufacturing element, however, this forms a very small percentage of the vehicle movements and therefore the impacts associated with the transfer of aggregate production in to value added products, rather than direct dry aggregate sales, along with a change in the HGV fleet can be said to be have a seen a significant reduction of vehicle movements on the public highway and therefore a positive impact.

Given that the quarry has operated at levels previously assessed, it follows that any vehicle movement activity at levels less than those assessed with 250,000tpa, some 55 two way movements (110 trips), will cause less of an impact and no form of intensification / additional impact than that previously deemed acceptable for the local road network. As such, it is considered that the proposed development would not result in any significant effects upon the environment in terms of highways impacts.

CULTURAL HERITAGE

An archaeological evaluation of the application site was most recently prepared by Arch- Tech Limited for the 2009 Environmental Impact Statement, covering the southern half of the quarry development.

Archaeology, like geology in this instance does not alter in the timeframe considered, as provided for within this EIAR and accordingly there it is considered unnecessary to revisit and update the previously accepted report.

It is concluded that there is no potential for there to be any impacts upon cultural heritage during further operations until the point at which former ground levels below the existing overburden landform, during phases 3 to 4.

Whilst it is unclear whether any archaeological remains have the potential to exist, it is considered appropriate to employ an appropriate mitigation measure at the point at which the interface is reached in order to establish the same.

WASTE MANAGEMENT

The activities relating to quarrying are not considered to give rise to any specialist requirements and they can be managed by a series of Good Housekeeping measures as part of an overall waste management strategy outlined above from the Environmental Management System (EMS).

The effectiveness of these systems is illustrated by the general appearance of the quarry, the quarry waste products being limited to overburden storage and the quality of the monitored water, discharged from the site.

The continued implementation of an EMS, updated 2023 containing waste management measure and the compliance with the Extractive Waste Regulations 2009 will continue to ensure that the proposed development will not result in a significant impact throughout the stages of development.

SOILS AND NATURAL RESOURCES

A requirement exists that due regard to the likely significant direct and indirect consequences that a development proposal would have on the environment which might result from the use of natural resources.

Aggregate, limestone powders and the variety of precast and ready mixed concrete products are all derived from naturally occurring, finite resources.

The type of limestone operated in Trammon quarry is a high purity calcium carbonate limestone permitting the broadest range of end uses as illustrated by the wide range of manufacturing facilities at the site.

The impact on the geological resource that could occur as part of the proposed development is permanent but minimal in the extent to which the

volume affects the Waulsortian Formation and therefore is not considered significant.

There is no further soil stripping for the development proposed, the impact upon soils is considered to be complete and as the land has been permanently removed from agriculture, it is a permanent loss.

There is no further impact on Soil resources proposed as part of this development and the main body of the site is proposed to revert to a water body with treatment utilising some soils and overburdens at the margins and in the floor.

SOCIO-ECONOMIC IMPACTS

The quantifiable socio-economic contribution of the Tromman operation is known and the importance at a local, regional and on a national level through export business is established.

The high purity limestone resource at Tromman Quarry underpins the added value manufacturing elements of the Keegan Group's business, the loss of this resource would have serious ramifications upon the business with wholesale contraction of the business and the associated employment levels. The socio-economic impacts of such action are considered to be significant.

The existing operations (stone, powders and fill; Precast and concrete block manufacture) at Tromman provide direct employment for some 140 staff and a further 40 full-time sub-contractors with a direct wage bill and associated contractors wage bill of c.€12 million.

The quantifiable socio-economic contribution of the Tromman operation is known and the importance at a local, regional and on a national level through export business is established.

The high purity limestone resource at Tromman Quarry underpins the added value manufacturing elements of the Keegan Groups business, the loss of this resource would have serious ramifications upon the business with wholesale contraction of the business and the associated employment levels. The socio-economic impacts of such action are considered to be significant.

It is considered that the significance of the continued prosperity resultant from operations at Tromman Quarry should not be understated and the potential for continued socio-economic contributions from the delivery of continuation of supply acknowledged.

CLIMATE CHANGE, ACCIDENTS AND DISASTERS

The only potential for direct and indirect climate change impacts from the proposed development is considered to have been via the emissions resultant from the burning of hydrocarbons as fuel both on site and in the transportation of materials to and from the quarry.

To date, there have been limited technological advances with respect to emissions in the delivery method/ transportation of aggregates, with improvements focusing on enhanced performance and rating of the diesel engines in the HGV's.

Given the nature of the processes on-site and the experience of the applicant in extraction, transporting and handling minerals and in operating quarry plant and machinery, the potential for accidents and disasters relating to the processes are considered to be limited.

Extreme weather events such as the 1 in 100 year storm event have been modelled within the EIAR. The assessment demonstrates that during such events, surface waters can be wholly managed within the site, with no risk to neighbouring land.

Given the temperate climate of the island of Ireland, it is considered that even with the increasing volatility of the weather events that are predicted in the future, it is not anticipated that these events would have the potential to give rise to a natural disaster at the site.

HUMAN HEALTH

The consideration of human health is a prerequisite of the relevant guidance and legislation governing target levels with respect to:

- Water Quality Standards (Section 6 of the EIAR);
- Noise Emissions (Section 7 of the EIAR); and
- Air Quality (Section 10 of the EIAR).

Each of the above sections of the EIAR explicitly references the appropriate guidance when establishing whether the proposed development is acceptable in human health terms and indeed in the case of noise and air quality, considers wider guidance from the World Health Organisation.

All of these sections identify relevant guidance and legislation which has been implemented to protect human health and demonstrates how monitoring results from the quarry demonstrate how these practices and working methods have achieved compliance over the assessment period and therefore have been appropriate and adequate for protecting human health. The proposed development will see a continuation of the best

practices already observed at the quarry which will accord with the relevant standards.

INTRA AND INTER CUMULATIVE IMPACTS

Intra cumulative impacts can occur where a single receptor is affected by more than one source of effect arising from different aspects of the project. This has been assessed at relevant sections of the EIAR. For example at Section 7, the NIA considers the worst case scenario assuming that haul road movements, excavator and mobile plant would all be operating concurrently.

The potential cumulative effects have been identified in the individual environmental assessments contained within the EIAR, where applicable and, given that the recorded levels of impact accord and compliance with the limits as prescribed in the various guidance and legislation, it is concluded that no one of the potential receptors are subjected to all of the effects of the development at once. As such, the proposed development is not considered likely to result in any unacceptable intra cumulative impacts.

In order for there to be inter cumulative impacts, it is a practical necessity for there to be an overlap (accumulation) of impacts with other developments / projects creating similar effects.

There is a rock hard quarry operated by Kilsaran located directly adjacent to the Application Site to the west. The impacts arising from this quarry are considered to have been adequately encompassed and accounted for within the assessment of baseline conditions and impact assessment sections of the various technical assessments which form part of the EIAR.

No significant cumulative impacts have been identified or predicted in any of the assessments and therefore it is considered that the development, in combination with the existing quarry to the west of the Site and other development projects in the surrounding area, is unlikely to result in any significant cumulative effects upon the environment.