

Keegan Quarries Ltd Tromman Quarry, Rathmolyon



NON TECHNICAL SUMMARY of ENVIRONMENTAL IMPACT ASSESSMENT REPORT
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 PL17.305049 and the restoration of the whole quarry site.

PART I – NON-TECHNICAL SUMMARY

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INTRODUCTION

An Environmental Impact Assessment Report (EIAR) has been prepared alongside a planning application, for submission within the six-week period following the submission of an Application for substitute consent (27 July 2019) in accordance with the requirements of legislation (the Application).

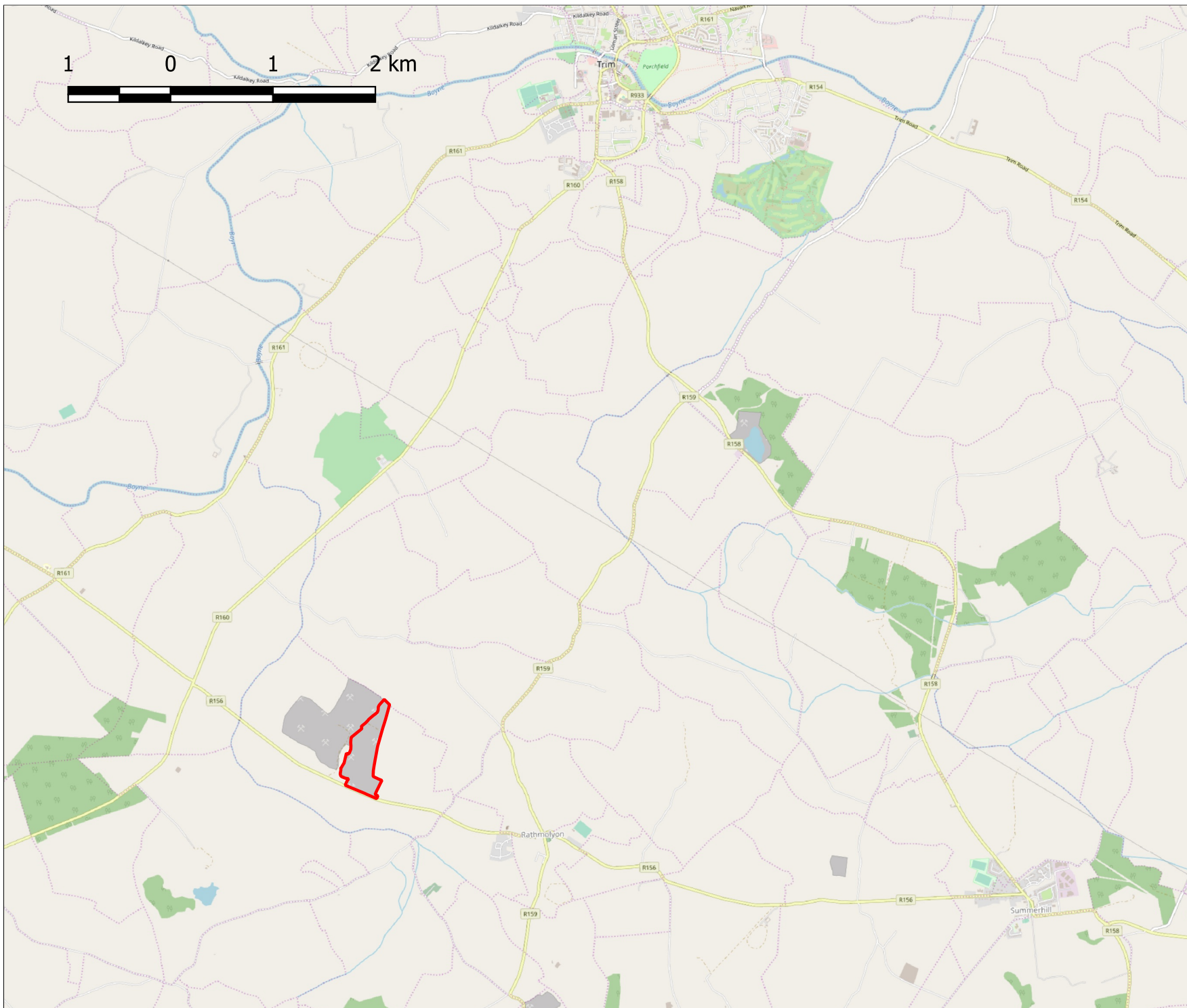
The Application being submitted to the An Bord Pleanála (the Board), the Planning Authority in this instance, is for the totality of the operational site to include the existing quarrying operations in the Townland of Tromman, seeking further extraction within the existing site and the continued use of the existing buildings and infrastructure. extent previously permitted under and extended to the 5th August 2018. The site is located in the Townland of Tromman some 2.2 kilometres northwest of Rathmolyon Village and some 6.4km south of the town of Trim, see overleaf.

The application seeks the 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 PL17.305049 and the restoration of the whole quarry site with delivery of the maximum reserve within the site providing a resource life of 37 years.

It is understood that the Board are obliged to consider the application in conjunction with the previously submitted and contemporary substitute consent application.

The totality of the operational site has a well-established planning history dating back to the original consent for a quarry and associated works in 1998. Full details of the site's planning history are provided in the accompanying EIAR.

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.



Notes:

Legend
Keegan

 Application Boundary



Contains OpenStreetMap Data

Title: Tromman Quarry Location Map

Scale: 1:50,000 @A4

Figure 1.1

Drawn By: APS	Date: 28/06/2019
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SPECIALIST CONTRIBUTORS

The production of this EIAR has been project managed by Andrew Scurfield BSc MRICS – Chartered Mineral Surveyor of Quarryplan, several sub consultants have been appointed by Quarryplan to consider the potential impacts associated with the further operation of the totality of the quarry site. Each of the contributors are considered experts in their chosen fields.

Section	Heading	Specialist Contributor
1	Preamble	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
2	Reasonable Alternative and Project Scoping	Andrew Scurfield BSc MRICS, Quarryplan
3	Project Description	Andrew Scurfield BSc MRICS, Quarryplan
4	Planning Policy Framework	Andrew Scurfield BSc MRICS, Quarryplan
5	Geological Setting	Mike Williams EurGeol, QuarryDesign
6	Water Environment	Henry Lister BSc MSc – Hydrogeologist BCL Hydrogeologists Limited
7	Air Quality & Climate	Mervyn Keegan BSc MSc AONA Environmental Consulting Ltd
8	Noise and Vibration	Mervyn Keegan BSc MSc AONA Environmental Consulting Ltd
9	Landscape	Pete Mullin -Chartered Landscape Architect Mullin Design Associates
10	Waste Management	Andrew Scurfield BSc MRICS, Quarryplan Mike Williams EurGeol, QuarryDesign
11	Ecology	Will Woodrow, MSc. MCIEEM, CEcol Woodrow Sustainable Solutions
12	Traffic	Andrew Scurfield BSc MRICS, Quarryplan
13	Natural Resources	Andrew Scurfield BSc MRICS, Quarryplan
14	Socio-Economic Impacts	Andrew Scurfield BSc MRICS, Quarryplan
15	Cultural Heritage	Andrew Scurfield BSc MRICS, Quarryplan Reports considered by Arch-Tech Ltd (2009) & Archaeological Services Limited (2004)
16	Interactions	Andrew Scurfield BSc MRICS, Quarryplan

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 in Figure 1.2 below

It is considered that the image illustrates the organised nature of the operational site, which reflects the good management practices. The image illustrates the existing sub-divisions within the site and can be described in a north-south progression as follows:

1. concrete product manufacturing activities in the northern extent of the site,
2. historical overburden storage immediately to the south of this area,
3. before the extraction area (quarry void) in the lands between the overburden storage and the cordon sanitaire between extraction activities and the public highway which;
4. contains the head office carparking and tree planted landscaping.



Figure 1.2: Site Layout

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 37 years.

The quarry directly employs 8 employees, directly in the production process, but all activities of the Keegan business are reliant upon the continuation of the high quality resource therefore it is realistic to state that the entirety of the Company workforce now numbering 130 direct employees and the 30 indirect sub-contractors.

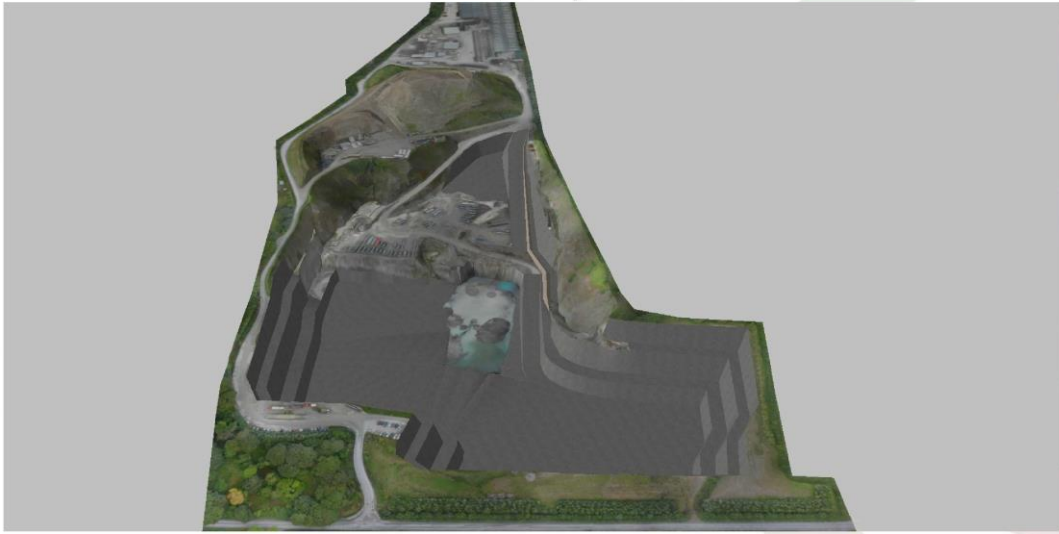
The quarry and its ancillary processes would continue to operate to industry standard hours of 07.00 to 19.00 Monday to Friday and from 07.00-14.00 on Saturdays. The quarry does not operate on Sundays or Bank Holidays.

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



2,554,000 saleable Tonnes of Limestone to 28m AOD

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 13m AOD, which was previously approved over 80% of the quarry floor.

Tromman Quarry – Phase 2



1,182,000 saleable Tonnes of Limestone to 13m AOD

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.

Tromman Quarry – Phase 3



338,000m³ of Tip removed and placed in Phase 1 & 2 Void

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

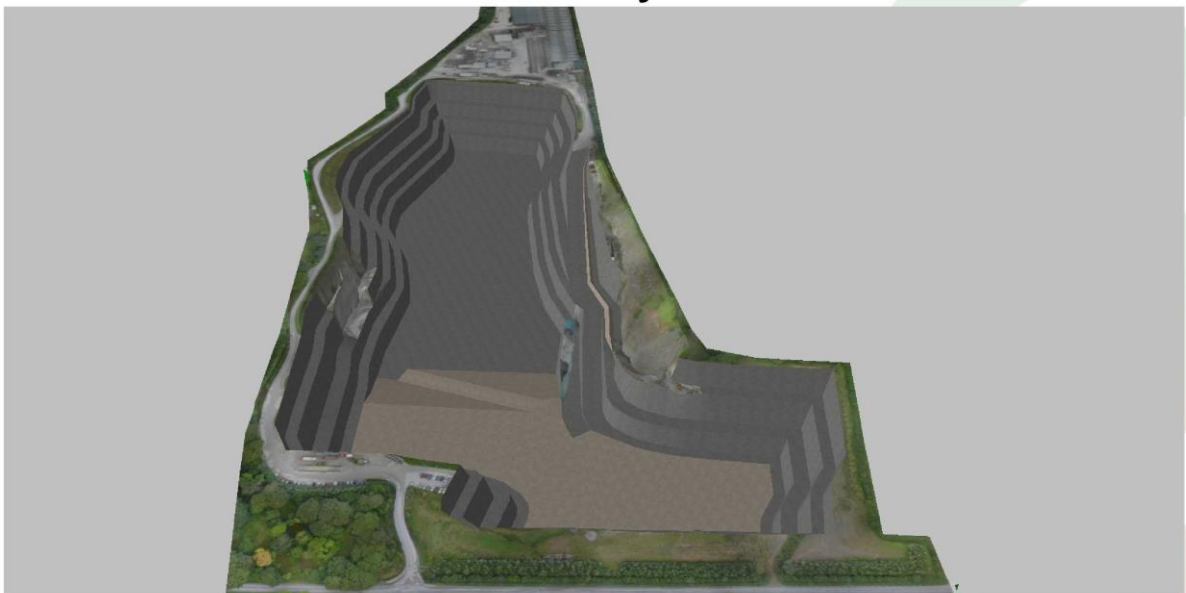


2,940,400 saleable Tonnes of Limestone to 40mAOD

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

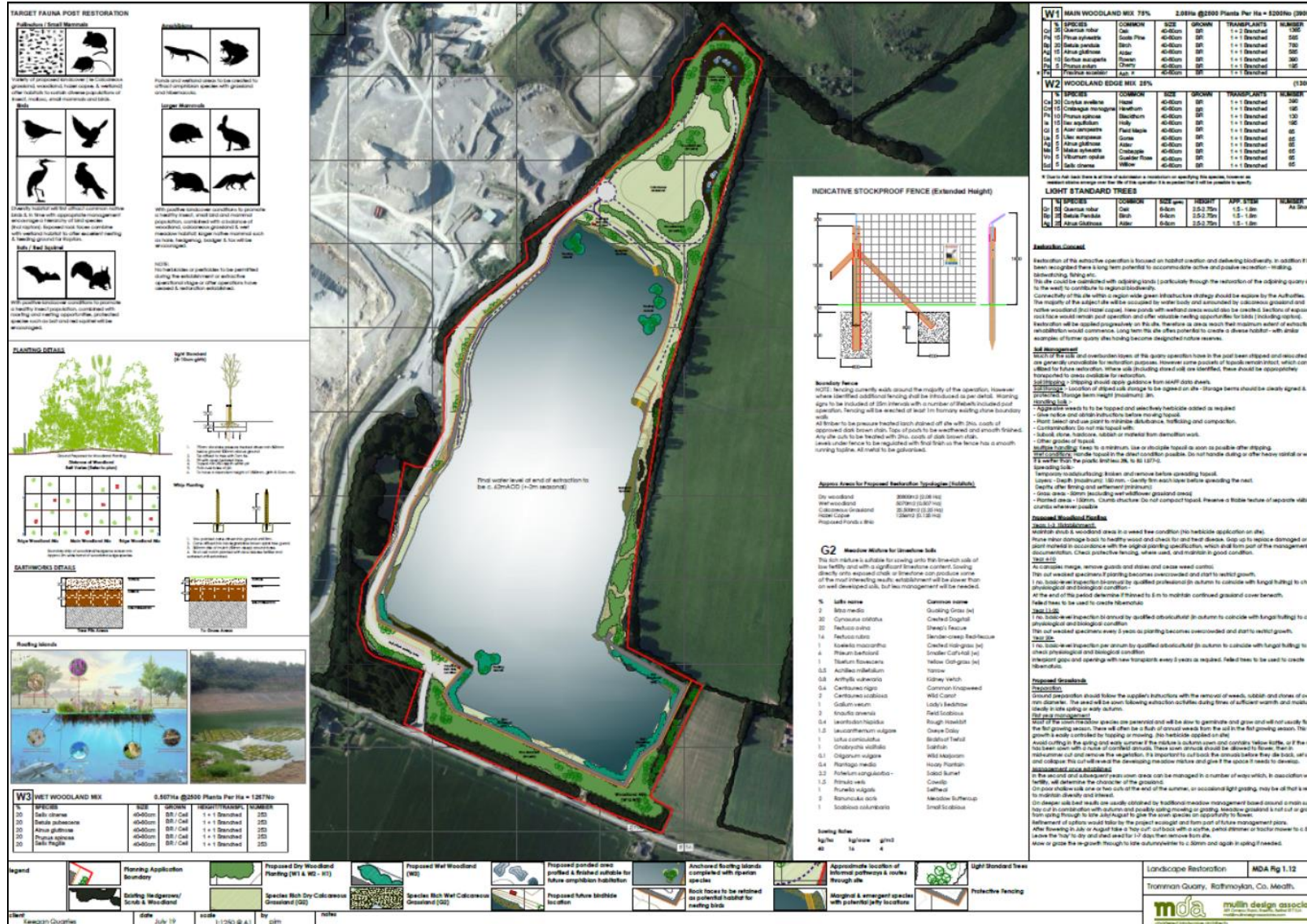


2,753,000 saleable Tonnes of Limestone to 13mAOD

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

Small Mammals

Priority of protection for small mammals is to ensure that the habitat is restored to a state that is suitable for the species. This includes the provision of cover, food, and shelter.

Large Mammals

Priority of protection for large mammals is to ensure that the habitat is restored to a state that is suitable for the species. This includes the provision of cover, food, and shelter.

Birds

Priority of protection for birds is to ensure that the habitat is restored to a state that is suitable for the species. This includes the provision of cover, food, and shelter.

Other Species

Priority of protection for other species is to ensure that the habitat is restored to a state that is suitable for the species. This includes the provision of cover, food, and shelter.

PLANTING DETAILS

Light Standard Trees

Light Standard Trees should be planted in a grid pattern around the site. The trees should be of a minimum height of 1.5m and a maximum height of 3.0m.

Stockproof Fence

The stockproof fence should be constructed from a minimum of 1.8m high concrete posts and 1.8m high wire mesh. The fence should be topped with a 1.8m high concrete cap.

Wet Woodland

The wet woodland should be planted with a mix of native species, including Sphagnum, Carex, and Juncus.

SAPLING DETAILS

Planting Details

Planting details for saplings should include the species, size, and spacing. The saplings should be planted in a grid pattern around the site.

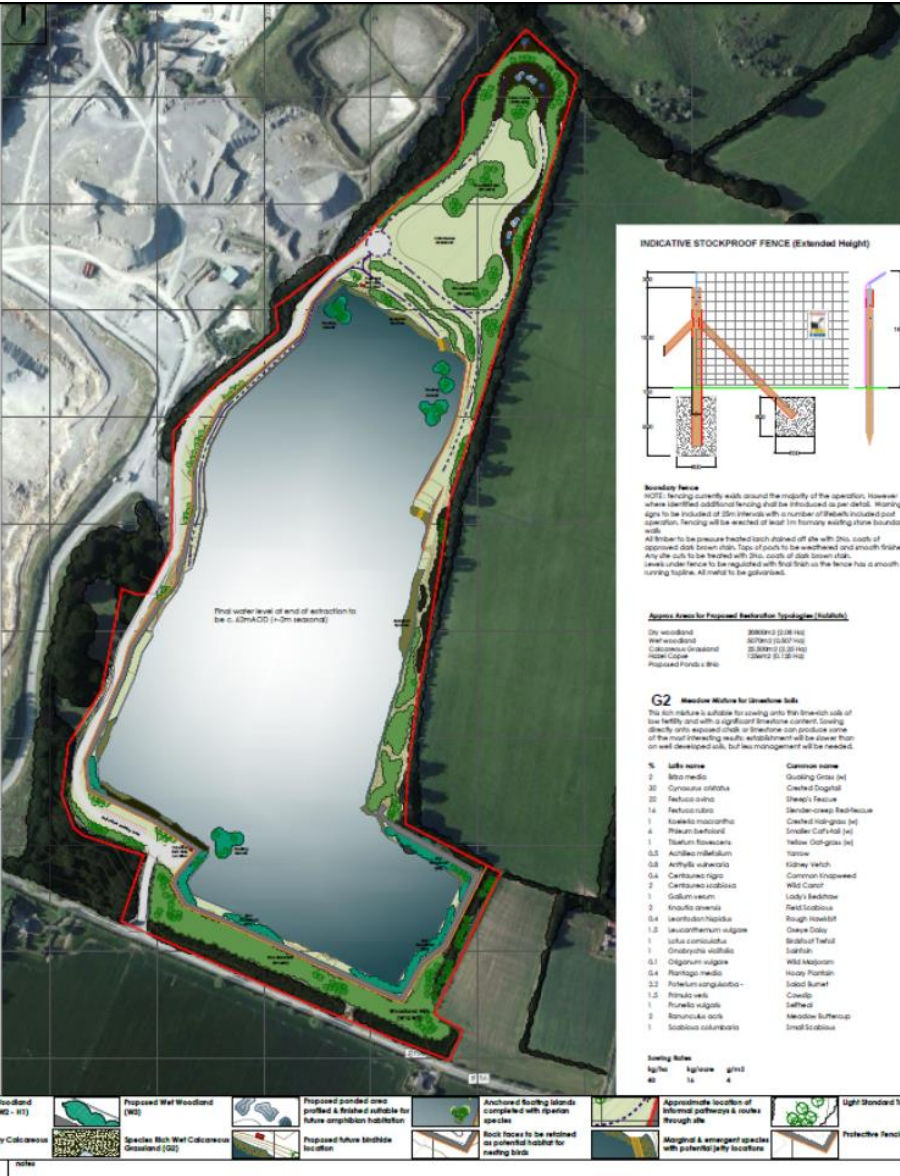
Planting Details

Planting details for saplings should include the species, size, and spacing. The saplings should be planted in a grid pattern around the site.

W3 WET WOODLAND MIX

2,507ha @2500 Plants Per Ha = 1287ha

%	SPECIES	SIZE	COMMON	HEIGHT	TRANSPLANTS	NUMBER
30	Salis glabra	4000mm	SR / CA4	1 + 1	Decanted	250
30	Taxus baccata	4000mm	SR / CA4	1 + 1	Decanted	250
30	Alnus glutinosa	4000mm	SR / CA4	1 + 1	Decanted	250
30	Populus nigra	4000mm	SR / CA4	1 + 1	Decanted	250



W1 MAIN WOODLAND MIX 75%

2,896ha @2500 Plants Per Ha = 4200ha (3940)

%	SPECIES	COMMON	SIZE	COMMON	TRANSPLANTS	NUMBER	
30	Quercus robur	CA4	4000mm	SR	1 + 1	Decanted	1300
30	Pinus sylvestris	CA4	4000mm	SR	1 + 1	Decanted	250
30	Salix purpurea	CA4	4000mm	SR	1 + 1	Decanted	750
30	Alnus glutinosa	CA4	4000mm	SR	1 + 1	Decanted	250
30	Populus nigra	CA4	4000mm	SR	1 + 1	Decanted	250
30	Prunus spinosa	CA4	4000mm	SR	1 + 1	Decanted	150

W2 WOODLAND EDGE MIX 25%

1340ha

%	SPECIES	COMMON	SIZE	COMMON	TRANSPLANTS	NUMBER	
30	Corylus avellana	CA4	4000mm	SR	1 + 1	Decanted	250
30	Castanea sativa	CA4	4000mm	SR	1 + 1	Decanted	150
30	Pinus sylvestris	CA4	4000mm	SR	1 + 1	Decanted	150
30	Alnus glutinosa	CA4	4000mm	SR	1 + 1	Decanted	250
30	Populus nigra	CA4	4000mm	SR	1 + 1	Decanted	250
30	Prunus spinosa	CA4	4000mm	SR	1 + 1	Decanted	150

LIGHT STANDARD TREES

%	SPECIES	COMMON	SIZE	COMMON	HEIGHT	APPR. STEM	NUMBER
30	Quercus robur	CA4	600mm	SR	2.5-3.0m	1.5-1.8m	At Sites
30	Salix purpurea	CA4	600mm	SR	2.5-3.0m	1.5-1.8m	At Sites
30	Alnus glutinosa	CA4	600mm	SR	2.5-3.0m	1.5-1.8m	At Sites

Restoration Context

Restoration of the extractive operation is based on habitat creation and delivering biodiversity. In addition this has been recognised there is a long term potential to accommodate active and passive recreation - walking, birdwatching, fishing etc.

Restoration Objectives

The site will be restored to a state that is suitable for the species. This includes the provision of cover, food, and shelter.

Stockproof Fence

The stockproof fence should be constructed from a minimum of 1.8m high concrete posts and 1.8m high wire mesh. The fence should be topped with a 1.8m high concrete cap.

Light Standard Trees

Light Standard Trees should be planted in a grid pattern around the site. The trees should be of a minimum height of 1.5m and a maximum height of 3.0m.

W3 WET WOODLAND MIX

2,507ha @2500 Plants Per Ha = 1287ha

%	SPECIES	COMMON	SIZE	COMMON	TRANSPLANTS	NUMBER	
30	Salis glabra	CA4	4000mm	SR	1 + 1	Decanted	250
30	Taxus baccata	CA4	4000mm	SR	1 + 1	Decanted	250
30	Alnus glutinosa	CA4	4000mm	SR	1 + 1	Decanted	250
30	Populus nigra	CA4	4000mm	SR	1 + 1	Decanted	250

Legend

- Planning Application Boundary
- Existing Hedgerows/Scrub & Woodland
- Proposed Dry Woodland Planting (W1 & W2 - 10)
- Proposed Wet Woodland (W3)
- Proposed planted area profiled & fenced suitable for future amphibian habitat
- Proposed active wildlife location
- Anchored floating islands completed with riparian species
- Rock faces to be retained or potential habitat for nesting birds
- Approximate location of internal pathways & routes through site
- Marginal & emergent species with potential jelly locations
- Light Standard Trees
- Protective Fencing

Project Information

Client: Keegan Quarries | Date: July 19 | Scale: 1:1250 @ A1 | Site: 25m | Title: [Redacted]

Landscape Restoration | MDA Fig 1.12

Trammon Quarry, Rothlymington, Co. Meath.

mda multi 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 approved 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.

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 subject site is within the Meath County administrative area. The Meath County Development Plan (2013-2019) is the current statutory Development Plan for the area. The policy assessment demonstrates that the development is considered to accord with the policies of the County Development Plan.

The EIAR also considers the other relevant contemporary planning policy sources:

- The National Spatial Strategy (2002-2020);
- Sustainable Development- A Strategy for Ireland (1997);
- National Planning Framework (2018); and
- Regional Planning Guidelines for the Greater Dublin Area 2010-2022.

The planning policy section of the EIAR details how the development has allowed for 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 development has complemented the role of local towns, supporting Trim as an urban strengthening opportunity.

The products manufactured at the site and aggregates produced have supported economic growth across the Dublin and mid-east region.

The development has been demonstrated to accord with the relevant local and national planning policy provisions. The development has maximised the potential of the finite natural resource found at the site without posing an unacceptable impact upon the environment and as such, the 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.

ENVIRONMENTAL ASSESSMENT

SITE GEOLOGY

The geological review section and the production of the quarry designs has been prepared by Mike Williams BSc, MSc, FGS, MIQ, C. Geol, EurGeol, of Quarrydesign Ltd.

The area around Keegan's 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 geotechnically competent and will not give rise to the potential for failure and impacts beyond the Company's landholding. In accordance with previous assessments of the extraction.

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 Bachelor 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 550 m, 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.

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.

AIR QUALITY AND CLIMATE

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 & Climate 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. No dust deposition results have been recorded that exceed the guidance level, in or adjacent to the Site in the last 5 years.

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.

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.

NOISE AND VIBRATION

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 until 2019 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.

LANDSCAPE

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 Assessment concludes that the overall landscape impact/effects which have will occur are collectively considered Minor would result.

In terms of visual impact, predicted visual effects arising from the proposals at the selected visual receptors range from Negligible to Minor.

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.

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 Environmental Management System, updated 2019 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.

ECOLOGY

Woodrow Sustainable Solutions Ltd (Woodrow) was appointed to compile an Ecological Impact Assessment (EclA) report on behalf of Quarryplan and their client Keegan Quarries Ltd. The assessment was overseen by Will Woodrow MSc, MSc (Arch), CEcol, MCIEEM – Company Director, a Chartered Ecologist (CEcol) and full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

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.

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.

However, in this particular instance it is considered appropriate to consider the impact of the continuation of the associated vehicle movements, albeit within the upper limits of the extraction levels previously assessed to be acceptable.

The findings of traffic count data confirms that heavy goods vehicles make up approximately 10% of all vehicle movements on the surrounding network and that the existing access at Trammon Quarry has been operating at levels that are "well within capacity with no queuing or delay under the anticipated traffic flows".

Development of the range of products being sold from the quarry, linked directly to the manufacturing element of the site has resulted, in combination with the vehicle pay loads increasing, in the number of vehicles being utilised for delivery having dropped to a figure in the region of 60% of the number assessed in 2009/10 and whilst the extraction volumes are operating at levels of 70-75%.

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.

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 proposed alternative is the continuation of the business model as currently experienced, with the anticipated growth of the value-added element of the business and the associated prosperity and the continued delivery of the €8.1M wage bill and associated support of 130 families in the Meath County Council area.

It is considered that the significance of the continued prosperity in the Meath Council area should not be understated and the potential, for continued socio-economic contributions from the delivery of continuation of supply, acknowledged.

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. As outlined under the Material Assets Chapter

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.

INTER-RELATIONSHIP OF THE FORE-GOING

It is considered that all of the significant areas have been reviewed in detail and any likely impacts have been recorded and mitigation measures proposed where applicable.

All interactions have been discussed in the relevant Sections and where appropriate in greater detail within the individual Specialist Reports held as Appendices.