Keegan Quarries Ltd
Tromman Quarry, Rathmolyon

REMEDIAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT
NON-TECHNICAL SUMMARY

to accompany a Substitute Consent Planning Application for the erection and operation of unauthorised structures and the continued extraction and use of ancillary buildings and structures post 5th August 2018 at Tromman Quarry

JULY 2019

PART I – NON-TECHNICAL SUMMARY

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INTRODUCTION

A Remedial Environmental Impact Assessment Report (REIAR) has been prepared in accordance with the direction of An Bord Pleanála (the Board) dated the 9 May 2019 to accompany an application for Substitute Consent (the Application).

The Application being submitted to the Board for Substitute Consent (SC), 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, 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.

The application seeks the regularisation of associated structures that Meath County Council consider to be unauthorised, the extraction operations and the continued use of those ancillary structures erected under consents, that post-date the planning consent end date of 5th of August 2018.

It is understood that the Board will only consider an application covering and can only grant substitute consent in terms of the extant operations on site and applied for at the time of submission, therefore precluding future development.

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 REIAR.

The requirement for this SC application is twofold and covers the construction of unauthorised structures in the concrete manufacturing area of the site, with the relevant commencement date of the construction being 2013, in addition the continued operation of the extraction activities and the use of the associated structures which are also tied in to the 5th August 2018 end date.

It is considered by the Applicant and as agreed by the Board, by the grant for leave to apply for SC, that they are satisfied that the erection of the structures in the manufacturing area, in combination with continued quarrying activities and use of ancillary structures as a single project would have triggered a requirement for environmental impact assessment.

SPECIALIST CONTRIBUTORS

The production of this REIAR 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 past and present impacts associated with the quarry complex, each of the contributors are considered experts in their chosen fields.

The competent contributors include:

Section	Heading	Specialist Contributor
1	Preamble	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
2	Alternative Location and Project Scoping	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
3	Project Description Restoration/Landscaping Planting Proposals	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan Mike Williams EurGeol, QuarryDesign Pete Mullin – Chartered Landscape Architect Mullin Design Associates
4	Geological Setting	Mike Williams EurGeol, QuarryDesign
5	Water Environment	Henry Lister BSc MSc – Hydrogeologist BCL Hydrogeologists Limited
6	Air Quality & Climate	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
7	Noise Vibration	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
8	Vibration as a Result of Blasting	Irish Industrial Explosives Limited Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
9	Landscape	Pete Mullin Mullin Design Associates
10	Waste Management	Andrew Scurfield BSc MRICS (Chartered

		Mineral Surveyor), Quarryplan Mike Williams EurGeol, QuarryDesign
11	Ecology	Will Woodrow, MSc. MCIEEM, CEcol Woodrow Sustainable Solutions
12	Traffic Impacts	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
13	Natural Resources (Soil Survey)	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
14	Socio-Economic Impacts	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan
15	Cultural Heritage	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan Reports considered by Arch-Tech Ltd (2009) & Archaeological Services Limited (2004)
16	Interactions	Andrew Scurfield BSc MRICS (Chartered Mineral Surveyor), Quarryplan

SITE LOCATION AND DECSRIPTION

The overall substitute 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 and provides for the combined approach to development control previously sought by the Board when considering historical applications. The application site is outlined in red and shown at Figure 1 (overleaf).

As shown in Figure 1, the northern extent of the site's appearance reflects the manufacturing nature of the activities and has the appearance of an industrial estate, albeit within a rural setting, whilst the southern part of the site comprises the area where quarrying operations have occurred.

The main manufacturing elements within the northern part of the site include:

- Concrete Batching Plant
- Limestone Powder Plant
- Pre-Cast Concrete Production Facilities
- Concrete block manufacturing yard

Figure 1: Site Location

Full details of the processes involved with these manufacturing facilities are provided with the REAIR.

Quarrying has occurred on the site in accordance with environmentally assessed development control protocols since the first approval in December 1998. Full details of the quarrying operations are provided within the REIAR.

SCOPE OF REMEDIAL ENVIRONMENTAL IMPACT ASSESSMENT

The REIAR accompanies the planning application submitted to the Board for SC, the Board having granted leave to apply for SC and the baseline and format of the report has been detailed.

The author is aware that the general content of a REIAR must adhere to the legislative requirements as outlined in Schedule 6 of Planning and Development Regulations 2001 (as amended) and also it is appropriate to reflect the European Guidelines and the EPA Guidelines, published on the subject of Environmental Impact Assessment.

Unfortunately, there is no specific guidance in relation to the preparation of a REIAR, however, the Planning and Development Regulations 2001 outline that such a document shall contain:

a) a statement of the significant effects, if any, on the environment, which **have occurred** or which are occurring or which can **reasonably be expected to occur** because the development, the subject of the substitute consent was carried out;
b) details of—
    a. any appropriate remedial measures undertaken or proposed to be undertaken by the applicant for substitute consent to remedy any significant adverse effects on the environment;
    b. the period of time within which any proposed remedial measures shall be carried out by or on behalf of the applicant;

Furthermore, the Board's evaluation of REIAR will reflect the general requirement under the same legislation that states that:

'The Board shall consider whether a remedial environmental impact assessment report submitted identifies and describes adequately the **direct and indirect significant effects** on the environment of the development.'

The commencement of the construction of structures provides the effective commencement of the baseline against which the environmental impact assessment reporting has been assessed, with the Board directing that a date of 2013 is appropriate.

Post 2013 forms the baseline commencement date upon which the significant effects, if any, on the environment;

- which have occurred;
- or which are occurring;
- or which can reasonably be expected to occur because the development the subject of the substitute consent was carried out;

are assessed within the REIAR.

In addition, it is also considered appropriate to consider the continued environmental impact of the remainder of the site from the 5th August 2018 onwards, the point at which the continuation of site activities became unauthorised.

Details of the unauthorised development Chronology are provided within the REIAR.

ALTERNATIVES

The remedial nature of the REIAR and the parameters of the SC process removes the potential to consider either design or locational alternatives, as you can only consider development that has already occurred.

The extended pre-cast factory and associated ancillary development design, is as is constructed, whereas the extraction element post 5th August 2018 has adhered to the previously approved and environmentally assessed development, to ensure that the only alteration is the breach of the extraction deadline that was introduced by the development control system.

PLANNING POLICY FRAMEWORK

The full-length planning policy assessment for the development is included in the REIAR.

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 REIAR 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 REIAR 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 REIAR concludes that at Tromman Quarry, the impact of previous quarrying, quarrying that is occurring and the potential future activities that can reasonably be expected to occur have had an insignificant impact on the geological environment of the Waulsortian Limestone Formation as a whole.

Furthermore, consideration of the quarry excavations post the 5th of August have been limited in extent and are considered to be 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 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.

The REIAR describes how Surface type and gradient is unchanged by erection of the unauthorised structures. Therefore, these new structures do not impact upon the principal factors influencing rainfall runoff; and the drainage characteristics of the yard in July 2013 are consistent with what would “have occurred” previously.

All ingress waters (groundwater and rainfall runoff) at the Applicant’s landholding are discharged into a ditch upon the northern margin of the concrete products yard. This ditch gently descends to the northwest to its confluence with the Rathmolyon Stream, which is 200 m downstream from the quarry discharge point.

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).

Following a review of historic and recent groundwater monitoring data, the REIAR describes how there has been no demonstrable change in groundwater level in this section of aquifer during the REIAR time period.

This is consistent with the conclusions that can be drawn from a qualitative assessment of site dewatering operations. There has been no change in the pumping regime since 5th August 2018. This means that there will have been no increase in dewatering drawdown in the quarry void since that date. The risk of dewatering-related impact at local water supplies and hydrological features will be unchanged.

The removal of additional structures and continued operations for 1 year that had already been assessed, will have no additional impact, over that, previously deemed acceptable. The potential for hydrological and hydrogeological impacts will not be increased for this outcome.

In terms of protecting the water environment, a comprehensive programme of hydrometric monitoring is recommended.

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 remainder of the structures and 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 continuation of the associated manufacturing operations on the site, i.e. existing dust deposition rates will remain the same.

The impacts that have occurred, are occurring and can reasonably expected to occur 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. This outcome has been previously assessed and remains valid within the extant restoration concept.

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 both permitted and unauthorised structures and the existing quarrying operations previously permitted and extended to the 5th August 2018.

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 on the existing 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 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.

The addition of the unauthorised structures in the period post 2013 have not noticeably altered the monitored noise levels at the surrounding noise monitoring locations and predicted noise levels due to the cumulative noise from the operation of the quarry void and the associated manufacturing operations in the northern area of the Tromman Quarry site indicate that the current operations have not and are not having a significant noise impact at the nearest residential properties.

The impacts that have occurred, are occurring and can reasonably expected to occur 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 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 in all likelihood will continue to do so. 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 within the extant restoration concept.

However, if the reasonable alternative is that the site is permitted at least to remove the previously assessed resources then the previous predictions and the subsequent blast vibration monitoring undertaken, has illustrated that the quarrying activities have operated within these target levels and therefore it can be expected to continue to do so, if permitted under a separate consent.

LANDSCAPE

This Remedial Landscape and Visual Impact Assessment has been prepared by Mullin Design Associates, Chartered Landscape Architects. This study 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 occurred (2013 to 4th Aug 2018) are collectively considered Minor. The overall landscape impact/effect which are occurring (5th Aug 2018 to Present) are collectively considered Minor. In a scenario of remediation of the unauthorised development a landscape impact of Minor (Beneficial) would result. In a scenario of continuation with mitigation subject to s.37L approval a landscape impact of Minor (Neutral) would result.

In terms of visual impact, overall the visual impacts/significance which have occurred (2013 to 4th Aug 2018) are collectively considered Negligible to Minor. Overall the visual impacts/significance which are occurring (5th Aug 2018 to Present) are collectively considered Negligible to Minor. In a scenario of remediation of the unauthorised development visual impacts would range from Minor to Negligible (Beneficial). In a scenario of continuation with mitigation subject to s.37L approval visual impacts would range from Minor to Negligible (Neutral).

WASTE MANAGEMENT

Given that the SC is considering two distinct operational types and periods it is considered that there are two distinct waste streams, the first covering the waste arising from the manufacturing stream and secondly those relating to the extraction activities that principally revolve around plant and machinery wastes associated with routine maintenance and repairs and potential accidental fuel and oil spillages and the extractive waste that is an inevitable consequence of quarrying that is covered by the Extractive Waste Regulations.

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 REIAR describes how implementation of an Environmental Management System in 2010 containing waste management measure and the compliance with the Extractive Waste Regulations 2009 has ensured that the unauthorised development has not resulted in a significant impact in any of the three stages of development required to be considered.

ECOLOGY

Woodrow Sustainable Solutions Ltd (Woodrow) was appointed to compile the remedial Ecological Impact Assessment (rEcIA) 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 Remedial Natura Impact Statement (rNIS) 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 development across the three phases assessed will have a low adverse ecological

impact via permanent habitat removal, which will then be negated by the proposed landscaping as part of site remediation 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 agriculture.

Overall, the three phases of the development are considered to have a neutral impact on the ecology and biodiversity of the site and have not, are not and will not pose significant adverse impacts upon the ecology of the wider area.

A rNIS has been compiled. This includes the information required to undertake an appropriate assessment with respect to Article 6 of the Habitats Directive in respect to those impacts which are considered to have occurred and those that are considered likely to occur due to the operations that have been undertaken on the site (and the restoration phase). This takes account of mitigation measures and environmental controls already undertaken at the site.

Having taken account of such mitigation, there is considered to be no potential for an adverse impact on integrity of Natura 2000 due to impacts that have either occurred or are likely to occur as a result of operations at Tromman Quarry. This conclusion relates both to the quarry at Tromman on its own and also in combination with any other projects. This has been concluded for the following reasons:

- Limited connectivity to any Natura 2000 Site (a linear hydrological connection of 10 km to the River Boyne and Blackwater SAC and River Boyne and

Blackwater SPA via a drain that largely only takes dewatering arisings from the quarry);

- The contained nature of quarrying and manufacturing operations with the site;
- Environmental controls employed, including an on-site Environmental Management System.

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 upon vehicle movements that occurred or are occurring from the introduction of the unauthorised structures to the north of the site and the resulting change in the makeup of product types sold and the cumulative effects of this shift and the continuation of extraction beyond the appropriate date of the extraction consents, 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 new structures in the manufacturing element of the site has resulted, in combination with the vehicle pay loads increasing, in the number of delivery vehicles dropping to a figure in the region of 30% of the number originally assessed in 2004, whilst the raw aggregate extraction volumes are operating at levels of 70-75% of previously assessed levels.

Whilst it is acknowledged that there are associated deliveries with the manufacturing element 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 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.

It is considered that the proposed project will not to give rise to a significant reduction in the volume of limestone resource in Meath or even specifically as previously outlined with Waulsortian Formation.

The operator intends to continue conserving the natural resources by maximising the resource potential by way of ensuring that the end use is maximised, thus achieving the most prudent and efficient use of this high-quality non-renewable resources.

The impact on the geological resource that has occurred since August 2018 is permanent but minimal in the extent to which the volume affects the Waulsortian Formation.

All soils had been removed within the northern manufacturing area and the extraction at the relevant dates in 2013 and 2018 for the two types of development

and in combination activity, resulting in there being no opportunity for impact on soil resource. Therefore, the impact upon the 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

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. Full details of the socio-economic contribution are detailed in the REIAR. However, the headline figures are that the Group provides employment for 130 direct employees and 30 sub-contractors, which equates to an annual salary contribution in the Meath Council area of €8,100,000.

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.

The 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.

It is considered that the significance of the continued prosperity in the Meath Council area should not be understated and the potential, for continued socioeconomic 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 REIAR and accordingly there it is considered unnecessary to revisit and update the previously accepted report. As outlined under the Material Assets Chapter

All soils had been removed within the northern manufacturing area and the extraction at the relevant dates in 2013 and 2018 for the two types of development and in combination activity, resulting in there being no opportunity for impact on Cultural Heritage Assets during the timeframe to be considered.

It is concluded that there was no potential for there to have been any impacts upon cultural heritage during the timeframe to be considered, as there was no removal of in-situ virgin material during this period.

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.