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FIGURES

EXISTING SITE

2.1 The planning application site extends to c. 51.6 hectares (and c. 51.7 hectares with the inclusion of the off-site road improvement works[1]) and comprises the existing sand and gravel pit and hard rock quarry areas as well as an area within the western portion of the site where site access improvements are proposed. The existing site layout is shown on **Figure 2-1**.

Quarry Area

2.2 The existing hard rock quarry area is located directly to the east of the ancillary / manufacturing area within the townland of Kilrainy and is accessed through the sand and gravel site.

2.3 The quarry site is located within a locally high hill when compared with the generally lower lying surrounding topography. The quarry was previously worked in a southerly direction into the existing hill, using the hill itself to screen the working area thereby by minimising the visual impact of the development on the closest resident properties located mainly to the east, south and west of the quarry.

2.4 While planning permission **99/2042** (ABP Ref. **PL09.2123207**) did not specify a defined datum to limit the extraction depth, Condition 9(1) stated that no quarrying operation shall take place at a level below 1m above ground water level. The Inspectors report on the appeal documentation references a final quarry floor level at 75m – 80m AOD from the documentation submitted with the planning application. Levels across the existing rock quarry extraction area are at c.75-76m AOD. The quarry floor is currently dry above the water table. Planning permission 99/2042 also permitted an extraction rate of up to a maximum of 110,000 tonnes per annum.

Sand and Gravel Area

2.5 The existing sand and gravel pit and the site entrance are located within the townland of Kilrathmurry.

2.6 Within the existing sand and gravel area, the main site ancillary and employee facilities are located, which include the site office and weighbridge, parking area, workshop with concrete lab and fuel storage, readymix plant and aggregate processing plant. Also located to the southern side of sand and gravel site area are the closed system silt settlement ponds associated with the existing washing plant, along with stockpiles of processed aggregates awaiting haulage off-site or for use in the on-site concrete plant.

2.7 The existing planning permission 03/2754 (ABP Ref. PL09.209480), at Condition 5, restricts extraction taking place below a maximum depth of 68m AOD. Levels across the existing sand and gravel extraction area located to the north of the ancillary / processing area vary between c. 68m and c. 80m AOD. The existing permission also permits extraction up to a rate of 250,000 tonnes per annum.

2.8 There is an area (c. 5.2 hectares) of the former extraction area which was restored in c. 2020 to an agricultural use and is located between the existing sand and gravel extraction area and the public road. Planning permission 03/2754 is due to expire in January 2024.

[1] Refer to SLR Planning Drawing 17 for location details of the 3 no. off-site road improvement work areas

PROPOSED DEVELOPMENT

Development Overview

2.9 The development being applied for in this planning application consists of the following:

- Quarry development and associated processing previously permitted under P. Reg. Ref. No. 99/2042 and ABP Ref. PL09.123207) to include drilling, blasting, crushing and screening of rock; and lateral extension to same, with an overall extraction area of c. 6.2 hectares with no vertical deepening below the existing quarry floor. The appropriate period of planning register reference 99/2042 was extended by order dated 03/02/2017 by P. Reg. Ref. No. 16/1246;
- Importation of up to 35,000 tonnes per annum of processed fine aggregate, principally sand for use in readymix concrete production on site;
- Use of buildings and structures associated with the sand and gravel pit previously granted planning permission under P. Reg. Ref. No. 03/2754 comprising of the crushing, washing and screening plant with associated silt disposal lagoons; readymix concrete batching plant including powerhouse; prefabricated office; weighbridge; workshop building with concrete laboratory and bunded fuel tanks; aggregate storage bays; and one liquid effluent treatment system unit;
- Closure of the existing site entrance with provision of a new site entrance located to the north of the existing entrance; realignment of the main internal site access road from the new site entrance to the central processing area with provision of a new wheelwash system; acoustic fence screening (c.2m in height x 170m in length); and a new screening berm along the western site boundary;
- Restoration of the site lands will be to a combination of beneficial agricultural and ecological after-uses;
- All associated site works within an overall application area of c. 51.7 hectares. The proposed operational period is for 10 years plus 2 years to complete restoration (total duration sought 12 years); and
- Provision is also made for 3 no. sections of road improvements (widening) along the haul route between the site entrance and the R148 regional road. The proposals at the identified locations include for works in the public road and verge that aim to achieve a consistent carriageway width of 6.0m along with provision of verge widening on the inside of the three bends to improve forward visibility and intervisibility for all opposed traffic including traffic generated by the proposed development.

Construction Phase (Entrance & Access Road Relocation, Ancillary Works and Screening Berm Construction)

2.10 Due to the site being long established, there is no requirement for any new site facilities or infrastructure as part of the on-site welfare or aggregate processing operations. All the existing infrastructure such as offices, workshop, weighbridge, processing plant and concrete plant are already in-situ and will be utilised for the duration of the proposed development.

2.11 The only construction phase works that would be carried out at on the onset would be the construction of the proposed new site entrance and internal access road with associated new wheelwash, internal security barrier and acoustic screen fencing (c. 170m). A new perimeter

screening berm is proposed along the western boundary adjacent to residence R3 where the existing wheelwash is currently located.

2.12 The new entrance is proposed to be located c. 230m north along the L5002 from the existing site entrance. It will consist of a splayed entrance with the necessary visibility sightlines of 160m in both directions from a set-back distance of 3m from the carriageway edge.

2.13 The new entrance will be hard surfaced to tie into the existing road carriageway and will be constructed with a gradient fall back into the site away from the public road to prevent any surface water being allowed to enter the public road. Further details are provided in Kilsaran Planning **Drawing KC2E** and EIAR Chapter 14 – Traffic.

2.14 Full details of the proposed road improvements at 3 no. sections of road improvement along the haul route are included in SLR Planning **Drawing 17**. Subject to agreement with Kildare County Council and subject to the appropriate licences the proposals at the identified locations include for works in the public road and verge that aim to achieve a consistent carriageway width of 6.0m whilst also implementing verge widening on the inside of the three bends to improve forward visibility and intervisibility for all opposed traffic including traffic generated by the proposed development. Each of the road widening and improvement locations requires the set-back of the existing public road boundaries on the inside of the existing bends. Where hedgerows and existing boundaries will require removal, the former will be replaced with indigenous species and the latter will be replaced with fencing to Kildare County Council specification.

2.15 In addition to the widening or passing area improvements a comprehensive road improvement scheme will be required to also incorporate road strengthening and overlay. The road widening at the improved areas will incorporate full depth construction to the standard specification of Kildare County Council and will be subject to final overlay across the full road width of the improved/widened section thus resulting in a consistent and uniform road surface. Road markings will accord with the requirements of the Traffic Signs Manual.

2.16 The final detail and detailed specifications of the road improvement and strengthening works including boundary treatments will be subject to agreement with Kildare County Council. It is understood that the overall scheme of road improvement will incorporate appropriate advance warning and advisory signing both at the development site access and at local constrictions.

2.17 From the new site entrance, the new internal access road will run in a southerly direction directly to the existing central processing / manufacturing area and terminate at the existing weighbridge. The new internal road will be hard surface paved at the entrance area and for its full length.

2.18 The new (replacement) wheelwash will be installed on the outbound carriageway of the road and will be set back c. 100m from the site entrance. Adjacent to the wheelwash and set back c. 80m from the site entrance, an automatic barrier will be installed, should there be a requirement for HGV trucks to queue while awaiting access to the site and where there will be no HGV's stopped or waiting on the public road.

2.19 It is further proposed to install an acoustic fence, set back c. 3m to the northern side of the new access road for a distance of c. 170m from the site entrance into the site to provide acoustic screening for residence R4 of HGV traffic entering and exiting the site along the new access. The acoustic timber fencing will be c. 2m in height and will be constructed with high quality boards in such a way that eliminates gaps that sound can easily travel through. Further details of the proposed fencing are provided in **Appendix 2-A**.

2.20 Following completion of construction of the new entrance and access road, the existing site entrance and access road will be closed and the existing wheelwash removed and replaced with a new system adjacent to the new entrance as noted above. The existing entrance pillars and metal

fencing will be removed and a new hedgerow will be installed to secure the site boundary at the former entrance location and which will tie in with the existing hedgerows either side of the existing entrance. The former hard surface entrance area and access track will be removed and replaced with soil to assist in vegetation growth in restoring this corner of the site. This along with the new hedgerow will prevent any site surface water from leaving the site at this location onto the public roadside verge and subsequently the Annagh stream.

2.21 Closure of the existing entrance and relocation of the existing internal access road to the north east will have the benefit of moving the HGV traffic away from the closest residence to the west of the site. This residence is referenced as (R3) in **Figure 2-2** and in other chapter figures of the EIAR. The current road configuration sees HGV traffic come within 30m of this residence. The revised road configuration will increase the distance between the house and the access road to more than 300m. A new screening berm (c. 100m in length) will be placed along the western boundary in the location of the existing internal access road and wheelwash. This will further provide screening of the site with residence R3. The closest residence to the proposed new entrance will be R4, being located c. 210m northeast. The proposed new acoustic fence will be located between the new entrance access road and R4.

2.22 It is anticipated that the construction stage works as outlined above would be carried out within a 6-month period. It should be noted that rock extraction, importation of processed fine aggregate, principally sand and production operations would be ongoing in tandem with the above-mentioned development works.

Operational Phase (Rock Extraction, Sand Importation, Aggregate Processing & Concrete Production)

Proposed Rock Extraction

2.23 The proposed operational phase will see rock extraction carried out within an overall extraction area of c. 6.2 hectares as shown on **Figure 2-2**, which represents a slight increase (of c. 0.7 hectares) in the footprint of the quarry from that permitted by P. Ref. 99/2042. The additional quarry footprint area is along the northern section of the 99/2042 footprint and within the existing quarry site previously disturbed by site operations.

2.24 The existing quarry was previously permitted to extract to a depth of c. 75.1m AOD[2] and most of the current floor is at or around this level. It is proposed that there will be no vertical deepening below the level of 75.1m AOD, as part of this planning application with the quarry to be worked laterally until the final extraction footprint of 6.2 hectares is achieved.

2.25 The existing quarry working area is currently dry above the water table with no requirement to de-water the quarry void to maintain dry operations. Maintaining extraction at the current level of c. 75.1m AOD will ensure that dry-working extraction operations continue for the duration of the proposed development.

2.26 The proposed operational period for extraction is for 10 years, with a proposal to increase the extraction rate from that previously permitted by P. Ref. 99/2042 of 110,000 tonnes per annum to a maximum of 250,000 tonnes per annum.

2.27 Extraction will be carried out in the same format as previously practiced, by way of blasting, crushing and screening of the rock.

[2] Lowest permitted depth as shown on Drawing "Site Layout Plan (Revised)" dated July 2000 and submitted to Planning Authority in as part of the planning application documents for P. Ref. 99/2042.

2.28 It should be noted that further assessment of the rock at depth beneath the existing quarry floor is ongoing. Any future proposal to extract this rock would be subject a separate planning application.

Proposed Fine Aggregate (Sand) Importation

2.29 Sand and gravel deposits within the existing planning permission area 03/2754 (ABP Ref. PL09.209480) are almost exhausted and this planning permission is due to expire in January 2024.

2.30 In order to be able to continue the crucial supply of concrete from the existing batching plant and with no on-site supply of sand and gravel currently available, it is proposed to import fine aggregate, principally sand from external sources for use in the concrete batching plant.

2.31 The existing permitted extraction rate of sand and gravel from the site is 250,000 tonnes per annum. If importation of the fine aggregate is permitted, it is proposed that the rate would be up to 35,000 tonnes per annum.

2.32 When combined with the processed aggregates from quarry extraction, the overall maximum aggregate handling rate will be 285,000 tonnes per annum, reduced from 360,000 tonnes when both rock and sand & gravel were being extracted and processed at the site.

Restoration Phase (Reinstatement to areas of ecological and agricultural after-uses)

2.33 Upon the cessation of extraction operations, it is proposed to return the site to a combination of beneficial agricultural and habitat after-uses.

2.34 The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site at the quarry extension area or those which were previously stripped and stockpiled within the existing operational site area.

2.35 **Please note** it is not proposed to import material onto the site for restoration purposes. All the topsoil previously stripped from the existing quarry / sand and gravel pit areas has been retained on site for use used in restoration works.

Hardrock Quarry Area

2.36 Most of the restoration works within the quarry area will be carried out on permanent completion of extraction works. As most of the site will be used for extraction and processing purposes it is not feasible to restore any significant parts of the quarry void at an earlier stage. However, it is proposed that all existing grass and scrub areas which have established along the site boundaries will be protected and retained, as much as possible.

2.37 Upon the cessation of rock extraction operations, it is proposed that the ultimate restoration of this area will be to a natural habitat area with cliff faces and ledges retained and allowed to naturally colonise with plant species and providing suitable habitat for nesting birds.

Existing Sand and Gravel / Processing & Manufacturing Area

2.38 Where feasible, restoration of exhausted and redundant areas will be carried out at the earliest opportunity. This is achievable in the existing sand and gravel pit areas where extraction operations have ceased.

2.39 Within the existing sand and gravel site, an area of c. 5.2 hectares has previously been reinstated to agricultural lands with the works completed in 2020. The restored area is shown on **Figure 2-1** and is located between the public road site boundary and the central processing and manufacturing area.

2.40 It is further anticipated that an additional area of restoration to agricultural lands (c. 2.5 hectares) can be carried out to the west of the existing restored area as shown on **Figure 2-2** when the existing entrance and access road is extinguished. It is expected these works would be completed by Year 2.

2.41 As most of the remainder of this element of the site will be used for processing, manufacturing, storage and ancillary purposes it is not feasible to restore any additional areas until operations cease fully within this area.

Aggregate Reserve Assessment

2.42 A detailed topographical survey of the site has been undertaken by Kilsaran (refer to **Figure 2-1**). The survey data was used to produce a 3D digital terrain model using a quarry design software package called LSS. In preparing the design, standard criteria were adopted with regard to face heights and bench widths, stand-offs to the site boundaries etc. for the quarry extraction area (refer to **Figures 2-2** and **2-3**).

Hardrock Quarry Area

2.43 The total recoverable reserve of rock from within the proposed final extraction area is in the region of c. 2.5 million tonnes. This is based on a final extraction design to the previously permitted depth of c. 75.1m AOD and within the proposed extraction footprint of c. 6.2 hectares.

Fine Aggregate (Sand) Importation

2.44 As outlined earlier, no further sand and gravel extraction is proposed at the site as part of this planning application. Instead, it is proposed to import up to 350,000 tonnes of fine aggregate over the proposed 10-year life of the development.

Duration of Extraction

2.45 The existing site consists of an existing sand and gravel pit development and an existing hard rock quarry development. The 99/2042 hard rock quarry permission has expired, but when operational, the combined processing volume from the quarry and sand/gravel pit totalled 360,000 tonnes per annum (110,000 tonnes per annum at the quarry and 250,000 tonnes at the sand and gravel pit).

2.46 This planning application seeks to lower the overall volume to 285,000 tonnes per annum, and to split the output, with 250,000 tonnes per annum extracted from the onsite hard rock quarry, and up to 35,000 tonnes per annum of imported fine aggregate to the site.

2.47 Based upon the annual output from the onsite quarry development above, gives an overall extraction life of 10 years. It is proposed that importation of the fine aggregate would be concurrent with the proposed rock extraction duration of 10 years.

2.48 An additional 2 years will be required to carry out final restoration and associated after-care works and combined with the proposed extraction life of 10 years, gives a proposed development life of 12 years.

2.49 It is considered that planning permission for the proposed overall development should be commensurate with the life of the reserves. This will ensure the applicant has security for this investment and that the operation is carried out in accordance with proper planning and development guidelines. An adequate quarry life is required to secure an acceptable return on investment, when the costs of continued investment in the site development, mobile crushing / screening plant and the on-going operational costs are considered.

Site Screening

2.50 The existing site is generally well screened from the surrounding roads by existing mature hedgerows along all site boundaries and in the vicinity of the site.

2.51 Due to the history of extraction workings at the site, there are existing screening berms along the perimeters of the site which are well established with mature vegetation.

2.52 It is proposed to construct a new screening berm (c. 100m), to be placed along the western boundary in the location of the existing internal access road and wheelwash. This will further provide screening of the site with the nearest local residences (R1 – R3) to the west.

Removal of Topsoil and Overburden Soils

2.53 The area covered by the final quarry extraction footprint has been mostly stripped of topsoil and overburden materials previously except for small sections of in-situ and stockpiled materials to the south and east of the quarry extraction area. These materials will be relocated within the site before any lateral increase in the footprint takes place.

2.54 All soils and overburden materials previously stripped at the site are still present within the site for use in final restoration works. There is no requirement for any soil materials to be removed from the site.

Site Drainage

2.55 An existing surface water stream (the Annagh stream) flows along part of the western landholding boundary in the vicinity of the existing site entrance and wheelwash area. There is no surface water drainage infrastructure within the site. Rain falling across the existing site percolates down through the existing ground surface as recharge to groundwater.

2.56 The existing quarry area was previously worked dry above the underlying groundwater table. There is no proposed deepening of the quarry as part of this planning application and all rock extraction operations will remain above the water table for the duration of the development.

2.57 A hydrological / hydrogeological assessment has been carried out to determine what the requirements are for the proposed development, regarding a water regime. It addresses mitigation measures to eliminate and/or minimise the potential impacts, if any, on surface water and groundwater. These measures will be incorporated into the quarry design and operation, (refer to **EIAR Chapter 7** – Water).

Method of Aggregate Extraction from Hardrock Quarry Area

2.58 It is proposed that extraction within the quarry area will be implemented in the same fashion as previously carried out at the site as follows:

- soils / overburden where required, will be stripped in advance of rock blasting in accordance with the quarry development plan;
- rock material will be extracted using conventional blasting techniques. Prior to drilling, the quarry face will be surveyed to ensure a safe and efficient blasting. Drilling will be carried out in accordance with the blast design. Finally, the holes will be filled with bulk emulsion explosives and the blast carried out. All blasting is and will be carried out in accordance with the health & safety regulations, and environmental guidelines for the sector;

- the fragmented rock will initially be processed using mobile crushing and screening plant located at the blasted quarry face within the quarry void area;
- The aggregate products will be stored in stockpiles located within the quarry for direct sale to the market or transferred to the central processing area within the existing sand and gravel pit site for further processing and use in the concrete batching facility on site.

2.59 The proposed extraction plan sees the quarry area being developed over a duration of 10 years (based on an annual extraction rate of c. 250,000 tonnes per annum). **Figures 2-2** and **2-3** show the proposed quarry development layout in plan and section respectively.

2.60 The proposed extraction scheme will see the existing quarry faces pushed further to the south and east, that being the quarry extraction limit as previously permitted under the P. Ref. 99/2042 permission. A proposed minor extension to the 99/2042 permission area over an area of c. 0.7 hectares is proposed to the northern side of the quarry void within an area previously disturbed by quarry operations. The total quarry footprint area proposed is c. 6.2 hectares and to a final depth of c. 75.1m AOD.

Blasting

2.61 Industry standard blasting techniques have been used previously to fragment the stone prior to primary processing (crushing and screening) within the existing quarry site. This technique will be utilised at the site for any future blasts. On average, 35,000 – 45,000 tonnes of fragmented rock are produced per blast at the quarry.

2.62 Based on the previously permitted output of 110,000 tonnes of rock per annum equated to 2-3 blasts per year. Based on the proposed annual extraction rate of 250,000 tonnes per annum, blasting will be carried out on average 5-7 times per year.

2.63 It is proposed to increase the frequency of blast occasions at the site only and not increase the intensity of individual blasts, thereby keeping the existing blast procedures and methodology in place, consisting of:

- The drilling pattern is typically 110mm diameter vertical holes drilled at c. 4m burden and spacing to full face height;
- Bulk emission explosives are used to charge the holes;
- Delivery and placement of explosives is carried out by Irish Industrial Explosives under supervision of a blast engineer;
- There is no proposed change in the blast design and blast methods employed in further developing the quarry beyond the existing footprint.

2.64 All previous blasts at the quarry were previously monitoring with blast monitoring results for the period 2018 up to February 2022 (when P. Ref. 22/83 expired) provided in EIAR Chapter 10. It is proposed that the existing scheme of blast monitoring be continued should permission be granted for the further development of the quarry.

2.65 The previous quarry planning permission (P. Ref. 99/2042) Condition 8 regulated blasting at the site with the requirement to:

- provide advanced notice to the Planning Authority and local residences within 500m of the blast location;
- provide advanced warning signals prior to any blast being carried out;

- carry out monitoring to ensure no blast exceeds a peak particle velocity of 12 millimetres per second and an air overpressure value of 125dB at a frequency of 2 hertz or over.

2.66 It is expected that any future grant of planning permission would contain a similar condition in respect to control of blasting at the quarry site area.

Processing Methods

Extracted Rock Processing Method

2.67 The processing methods previously used at the hard rock quarry constituted size reduction through crushing and sizing by screening using mobile plant.

2.68 Excavators and mechanical shovels were used to recover blasted rock from the quarry face and transport it to a primary mobile crusher on the quarry floor / bench or the rock was transferred to the main processing plant. The mobile processing plant is relocated within the extraction working area during the life of the quarry development as operational requirements dictate.

2.69 Secondary processing plant is located at the sand and gravel site located adjacent to the concrete batching plant and consists of washing, crushing and screening; using modern processing plant to produce a range of aggregates.

2.70 It is proposed that the same processing methods will be used should permission be granted for the further development of the quarry. There is no requirement for any additional processing plant than that previously used on site as part of this planning application.

Sand and Gravel Processing Method

2.71 The existing sand and gravel processing methods implemented at the existing site consist of crushing, washing and screening, using the existing processing plant on site, to produce a range of aggregates for use by the company for concrete product manufacturing. The modern plant operates in a closed circuit with the silt disposal lagoons to minimise the need for excessive take of groundwater and to eliminate the need to discharge process water.

2.72 Once washed and screened, the aggregates are stockpiled on the pit floor to await transportation to the storage bins at the concrete batching plant on site. A summary description of the production plant is provided below.

2.73 It is not proposed to process any sand and gravel under this development proposal. The existing processing plant will be used to process rock from the quarry area only. There is no requirement for any additional processing plant as part of this planning application.

Readymix Concrete Production

2.74 The concrete is produced using the following components:

- **Sand & Stone Aggregates**: Sand and gravel materials were previously sourced from the existing site, fine aggregate principally sand will now be imported to site. Rock extracted from the hard rock quarry will continue to be processed at the site to produce a crushed stone aggregate;
- **Water**: water is recycled through the closed water management system and is currently backed up from an existing on-site groundwater supply;.
- **Cement & Admixtures**: These materials are transported to the site as demand requires.

2.75 The concrete manufacturing process is as follows:

- the aggregates and sand of various grades are fed via the 30-tonne tip-in ground hopper to the inclined transfer conveyor which in turn fills the aggregate storage bins;
- as required aggregates and sand are fed via the variable speed belt feeders, collecting conveyor, inclined feed conveyor to the batching house containing the mechanised concrete pan mixer;
- cement is added via a weigh hopper and auger system fed from one of the two bulk cement silo;
- water and admixtures are also added to the pan mixer in accordance with the mix specifications;
- after sufficient mixing to ensure mix consistency, the mix is discharged via a rubber flexible chute directly into the mounted bottle mixer on the concrete trucks, for delivery to the customer.

2.76 The weight of water, admixture, cement and the batching cycles are controlled by computer. Admixtures are compounds which are added to concrete in small amounts to change the properties of the concrete. A typical admixture is added at a rate of 1 litre per cubic metre of concrete. All admixtures are stored in suitably bunded tanks adjacent to the plant.

2.77 Water is stored in a water tank adjacent to the plant and is topped up from the water supply within the site as required.

2.78 Cement is delivered to the site in bulk tankers and stored in sealed silos. A dust control system is established to control any fugitive emissions from the cement silos. The batching unit is also clad to further eliminate fugitive dust.

2.79 The construction industry has an early start time and requires that products such as readymix concrete are delivered into jobs first thing in the morning. It is not possible to deliver such products the day before and store on site overnight because the concrete will set.

2.80 Also, once a designated pour commences, say for a large construction project like a bridge deck, it cannot finish until all the concrete has been supplied; with large pours an early start is essential to allow sufficient time for the whole operation.

Working Hours

2.81 It is proposed the development would be carried out in line with operational hours previously associated with the quarry site and those currently permitted at the sand and gravel / batching plant site as outlined below. There is no requirement to make any amendments to these operational hours as part of this planning application.

Hardrock Quarry Area

2.82 Condition 6 of P. Ref. **99/2042** stated operational hours for quarrying were 08.00 hours to 18.00 hours Monday to Friday and 08.00 hours to 14.00 hours Saturday, with no operations on Sundays or Public Holidays. Only loading operations for haulage off-site could take place from 07.00 hours.

Aggregate Processing Area (including the Readymix Concrete Plant)

2.83 Condition 4 of P. Ref. **03/2754** states on-site operations associated with the proposed development shall be carried out only between 07.00 hours to 18.00 hours Monday to Friday and 07.00 hours to 14.00 hours Saturday, with no operations on Sundays or Public Holidays. The condition notes that extraction of sand and gravel is limited to 08.00 hours to 18.00 hours Monday to Friday and 08.00 hours to 14.00 hours Saturday.

Employment

2.84 The concrete batching plant is a key piece of infrastructure which provides a critical supply of concrete to the development sites within the north Kildare and wider mid-East region.

2.85 The future development of proven aggregate reserves at the site is considered essential to ensure Kilsaran meets the demands of the market(s) which have built up over the past 20 years in the region, including supply, to the local construction industry and infrastructure projects and Local Authorities.

2.86 Development of the site is consistent with the policies set out in the National Planning Guidelines for the sector; the National Planning Framework, EMRA Regional Spatial and Economic Strategy and the Kildare County Development plan which recognise the requirement for:

- a secure supply of construction aggregates and related products is necessary for the continued development of the region;
- proven aggregate reserves need to be safeguarded for future extraction;
- 'Best environmental management practice' to be implemented within quarry developments.

2.87 The proposed development will secure the continued employment of 11 people directly on-site, with 5 full-time Kilsaran truck drivers and up to 5 truck owner-drivers/hackers associated with the aggregate haulage aspect of the development.

2.88 The readymix concrete batching operation will continue to provide employment for the 2 people at the plant with a total of 8 company mixer truck drivers and 1 owner-driver.

2.89 Therefore, the proposal will secure the continued employment of 32 people for the duration of the extraction / processing development i.e., 10 years. Some additional employment (albeit at a much reduced number) would be required for the follow on 2-year restoration period.

SITE INFRASTRUCTURE

Site Access

Existing Entrance

2.90 The existing site entrance is located on the L5002[3] local road to the west of the application site and has good, splayed visibility in both directions. The existing site is accessed over a purpose-built access road running for a distance of c. 600m from the site entrance to the weighbridge and site office area. The existing site entrance serves the Kilsaran facility only and provides access to both the sand and gravel pit and the quarry.

2.91 Condition 10 of the previous quarry planning permission (**99/2042**) specified that the traffic route for quarry traffic was between the site entrance and the former N4, now the R148. No such restriction applies to the development of the readymix, or sand and gravel operations permitted under P. Ref. **03/2754**.

2.92 The existing entrance consists of large metal lockable gates bound on either side by large recessed and splayed fencing to allow for adequate sightlines in both directions for traffic exiting the site.

[3] As shown on EPA mapping: https://gis.epa.ie/EPAMaps/

2.93 The L5002/L5001 local roads from the existing site entrance to the R148 regional road were previously widened by the applicant at their expense, from an average carriage width of c. 3.7 m to c. 6.2m to facilitate the safe passing of HGV vehicles along this designated section of the haulage route.

Proposed New Entrance

2.94 As noted previously it is proposed to close the existing site entrance and provide a new site entrance located to the north of the existing entrance.

2.95 The new entrance is proposed to be located c. 230m north along the L5002 from the existing site entrance. It will consist of a splayed entrance with the necessary visibility sightlines of 160m in both directions from a set-back distance of 3m back from the carriageway edge. The entrance will be sufficiently wide to allow for safe passing of two HGV's.

2.96 The new entrance will be hard surfaced to tie into the existing road carriageway and will be constructed with a gradient fall back into the site away from the public road to prevent any surface water being allowed to enter the public road. Further details are provided in Kilsaran Planning **Drawing KC2E** / EIAR Chapter 14 – Traffic.

2.97 From the new site entrance, a new internal access road will run in a southerly direction directly to the existing central processing / manufacturing area and terminate at the existing weighbridge. The new internal road will generally be c. 6m in width and will be hard surface paved at the entrance area and for its full length into the site.

2.98 The new (replacement) wheelwash will be installed on the outbound carriageway of the road and will be set back c. 100m from the site entrance. Adjacent to the wheelwash and set back c. 80m from the site entrance, an automatic barrier will be installed, should there be a requirement for HGV trucks to queue while awaiting access to the site and where there will be no HGV's stopped or waiting on the public road.

2.99 It is further proposed to install an acoustic fence, set back c. 3m to the northern side of the new access road for a distance of c. 170m from the site entrance into the site to provide acoustic screening for residence R4 of HGV traffic entering and exiting the site along the new access. The acoustic timber fencing will be c. 2m in height and will be constructed with high quality boards in such a way that eliminates gaps that sound can easily travel through. Further details of the proposed fencing are provided in **Appendix 2-A**.

Site Security

2.100 The existing boundaries of the site are securely fenced with a combination of stock-proof fencing and mature hedgerows. The site boundaries will continue to be inspected on a regular basis and maintained as required under the Mines and Quarries Legislation.

2.101 Previously stripped soil will be used to create a physical barrier along a section of the western application boundary near the existing wheelwash adjacent to residence R3. Appropriate warning signs will be displayed at visible locations along the boundary at appropriate intervals.

2.102 Likewise, the existing wash water lagoons are appropriately fenced, signed and buoyancy aids provided.

2.103 The new site entrance to the site will have lockable gates to prevent unauthorised access outside of the working hours.

2.104 Following completion of construction of the new entrance and access road, the existing site entrance and access road will be closed and the existing wheelwash removed and replaced with a new system

adjacent to the new entrance as noted above. The existing entrance pillars and fencing will be removed and a new hedgerow will be installed to secure the site boundary at the former entrance location and which will tie in with the existing hedgerows either side of the existing entrance. The former hard surface access track will be removed and replaced with soil to assist in vegetation growth in restoring this corner of the site. This along with the new hedgerow will prevent any site surface water from leaving the site at this location onto the public roadside verge and subsequently the Annagh stream.

Site Roads, Parking and Hardstanding Areas

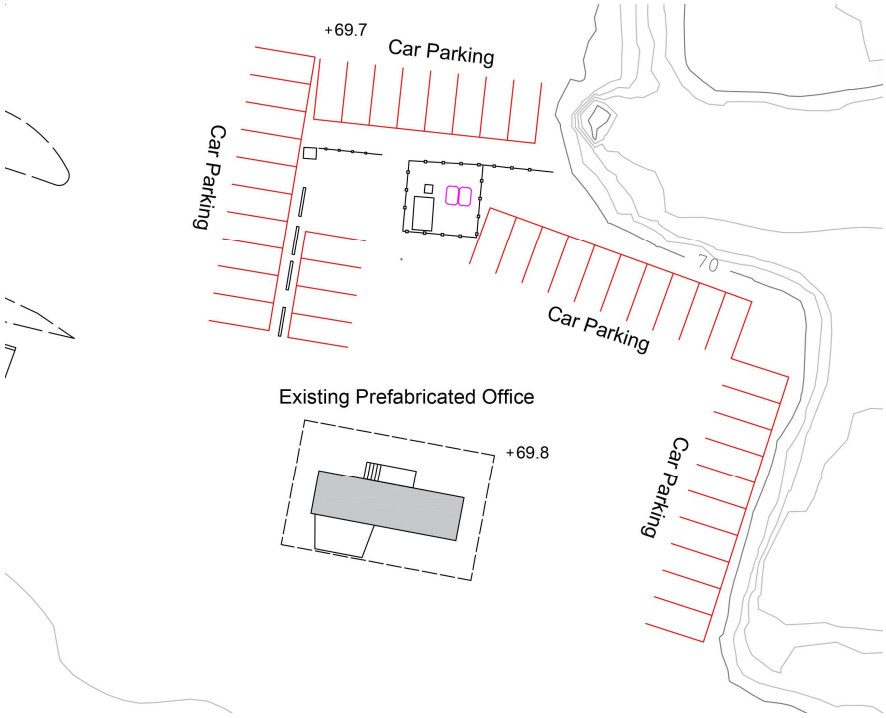
2.105 Internal access roads are provided within the existing site, running from the site entrance to the weighbridge office facility and onto the concrete and processing plants and the sand and gravel and quarry extraction voids.

2.106 There is an existing designated car parking area already available for employees and visitors adjacent to the site offices. The car park is segregated from the rest of the site and is of sufficient size to accommodate c. 42 cars, as detailed in **Plate 2-1** below and on Kilsaran Planning **Drawing KC2B**.

2.107 To the north of the carparking area is the dedicated HGV truck parking area.

2.108 A hardstanding area is provided at the existing concrete batching plant and workshop area.

Plate 2-1
Carparking in vicinity of Site Office



Wheelwash

2.109 There is currently a wheelwash present at the site, refer to **Figure 2-1** for the existing location. The distance from the site entrance to the wheelwash is c. 160m along a paved and hardcore internal site road.

2.110 As part of the proposed new site entrance and access road outlined above, a new wheelwash will be installed on the outbound carriageway of the access road and will be set back c. 100m from the new site entrance.

2.111 The applicant proposes to install a powered wheelwash with a water-bearing wash unit with splash guard walls, recycling tank and pump control system. Typical details of the type of system proposed are provided in **Appendix 2-D**.

2.112 A new sprinkler system will be installed along the new internal access road and will be operated by manual switch. The new entrance is located away from adjacent residents and can in the unlikely event of a breakdown of the sprinkler system be wetted using the onsite mobile loading shovels.

2.113 Periodic sweeping of the internal paved areas and along the public road at the proposed new entrance will be carried out by a contract road sweeper and this arrangement will be continued for the duration of operations on site.

2.114 In the event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner as soon as they notice or are notified that a spillage has arisen.

Weighbridge

2.115 To track and record the amount of material entering and leaving the site, all aggregate haulage HGV traffic will be directed across the existing weighbridge located adjacent to the site office as shown on **Figure 2-1**.

Offices and Ancillary Facilities

2.116 Ancillary to the sand and gravel pit operations (P. Ref. 03/2754) on site are facilities including a prefabricated office, weighbridge, wheelwash, employee and visitor car park, a waste water treatment unit, a workshop building including laboratory for the use in quality testing of the readymix concrete manufactured on site and bunded fuel storage tanks.

2.117 The existing facilities are proposed to be utilised for the duration of the development. No additional offices are planned as part of this planning application.

2.118 There is no requirement for any additional buildings, structures or ancillary facilities as part of this planning application.

Utilities and Services

2.119 The site is served by an existing on-site well which supplies water to the site for washing and serving toilets. Drinking water will continue to be sourced from bottled water brought to site.

2.120 The site is served by mains electricity from the ESB's national grid to power the processing plants and site office, workshop, weighbridge etc.

2.121 Effluent from toilet facilities is treated using an existing septic tank and propriety effluent treatment system.

2.122 There is no proposed change to the existing services supplying and servicing the site as part of this planning application.

Night-time Lighting

2.123 The existing site requires some lighting to allow operations to continue for short durations of darkness during permitted operating hours during the winter-time. The lighting is for the most part concentrated in and around the main ancillary and processing area where the existing site facilities are located. Other than that, lighting is only required at the mobile processing plant within the quarry void located to the east of the main yard area.

2.124 All lights at the site are attached to either buildings or plant structures and are directed down towards the ground at a 22-30 degree angle to illuminate the working area below. No lighting is directing towards the external boundaries of the site. There is no lighting in the vicinity of the site entrance or along the internal access road.

2.125 All buildings and fixed processing plant at the site are located centrally within the site and set back at least 100m from the site boundaries and well in excess of 300m from the adjacent public roads and nearest residential properties. The lighting is directed downwards and well away from the site boundaries, public roads and residential properties.

2.126 Lighting from the site does not negatively impact on any public road or residence surrounding the site nor is there considered to be any impact on local wildlife in the area.

2.127 There is no requirement to provide any additional lighting as part of this planning application over and above what is already provided at the site.

Fuel and Oil Storage

2.128 Diesel fuel is currently stored in fuel tanks within mass-concrete bunds inside the existing workshop. There is an NS10 Enviroceptor Forecourt Separator at the diesel filling point to deal with any drips/spills associated with the filling operation. Details of the fuel interceptor are provided in **Appendix 2-E**.

2.129 Spill kits are provided on site and periodic spill kit training is carried out for staff.

WASTE MANAGEMENT

General Waste Management

2.130 Kilsaran Concrete Unlimited Company as a member of the Irish Concrete Federation commits themselves to the principles of the Federations Environmental Code. The code states:-

"*ICF members will minimise production of waste and where appropriate consider its beneficial use including recycling. They will deal with all waste in accordance with the relevant legislation and other controls in place, including using waste contractors with valid Waste Collection Permits*"

2.131 Potential waste produced and the measures used to control it are described as follows:-

- **Scrap metal** – these materials are chiefly produced from the maintenance of the possessing plants and can cause a nuisance if allowed to build up in an uncontrolled manner. There is a designated scrap metal area located to the north of the quarry void. The build-up of scrap will be controlled by the regular removal by licensed scrap metal dealers.
- **Used Oil and Oil Filters** – any waste oil/oil filters that may arise from servicing of plant will be removed from the site by a licensed waste contractor.

- **Used Batteries** – similarly, all used batteries will be removed from site for collection and recycling by a licensed waste contractor in accordance with the Waste Management Regulations.
- **Domestic Style Waste** (Canteen Waste) – domestic waste generated at the offices and employee's facility will be collected by a licensed waste collection contractor.
- **Note**: overburden stripped from above the extraction area and silt produced during the washing process are not considered waste. They are an essential component of the restoration programme. These materials are required for the reshaping and landscaping.

Extractive Waste Management Plan

2.132 Almost all products and by-products arising from the aggregate processing will have commercial value. Any waste materials from the site will be stored, collected, recycled and/or disposed of in accordance with any requirements of Kildare County Council.

2.133 In Ireland, the management of extractive waste is regulated by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (SI No. 566 of 2009). Under these Regulations, quarry operators are required to prepare an Extractive Waste Management Plan (EWMP) which outline the plans and procedures for minimisation, treatment, recovery and disposal of extractive wastes, having regard to the principle of sustainable development.

2.134 The Extractive Waste Management Plan for the Clonard site is provided in **Appendix 2-B** and a summary provided below.

Description of the Waste Generating Operation

2.135 There is no intention on behalf of Kilsaran to discard, where possible, any material extracted from the site. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations.

2.136 Extracted Material will fall into the following categories:

Soil and Sub-soil (Overburden) Stripping

2.137 This material is excavated to expose the underlying bedrock.

2.138 ***Topsoil*** – any topsoil stripped will either be used to construct perimeter visual/noise screening mounds or be place directly back into previously extracted areas as part of the restoration scheme.

2.139 ***Sub-soil (Overburden)*** – this material will be dealt with in a similar manner to the Topsoil listed above.

Rock Extraction Material

2.140 Rock is extracted from the quarry face using commercial explosives, the blasted rock pile is processed through size reduction (crushing) and size classification (screening) to produce a suit of saleable aggregate products. Aggregates awaiting haulage off-site are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

Sand and Gravel Material

2.141 Currently, the material is processed through size reduction (crushing), washing to remove silt and size classification (screening) to produce a suit of saleable aggregate products. With the exception of the fine silt material all the sand and gravel on site is processed to produce various aggregate and

sand products, which are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

2.142 ***Washing Fines*** – The fixed aggregates processing plant operates a closed circuit washing cycle where silt fines are washed out of the aggregates being processed and are allowed to settle out of the wash water in a series of constructed lagoons. Once settled the clear water is recycled back to the washing plant.

2.143 The settlement ponds are cleaned out on a regular basis to ensure adequate capacity within the ponds to allow sufficient retention time to ensure adequate settlement of fines. All material removed from the settlement ponds is temporarily stored to allow natural outflow of retained moisture. Following this short storage period the material is put to a variety of operational or restoration uses within the site, namely:

- Construction of visual screening or noise attenuation berms, and/or construction safety berms alongside haul roads or under quarry faces.
- Washing fines are also placed directly back into previously extracted areas as part of the progressive restoration scheme prior to the replacement of sub and topsoil.

PROPOSED ENVIRONMENTAL CONTROLS

General

2.144 Extraction, processing and ultimately restoration activities at the application site require several environmental controls to eliminate or minimise the potential nuisance to the public arising from the extraction and processing operations. The environmental control measures to be implemented at the site are outlined in the following sections.

2.145 Any additional control measures, over and above those outlined below, which may be instructed on foot of the proposed planning application, will also be implemented.

Bird Control

2.146 As the process of rock extraction is free of putrescible (food / kitchen) waste, site activities are unlikely to attract scavenging birds such as gulls and crows for the duration of works. Accordingly, it is not intended to implement any specific bird control measures at the site.

Dust Control

2.147 In dry, windy weather conditions, site activities may give rise to dust blows across and beyond the planned development site areas. To control dust emissions, the following measures will be implemented:-

- water will be sprayed from a tractor drawn bowser on dry exposed surfaces and stockpiles (paved roads, unsealed haul roads and hardstand areas);
- areas of bare or exposed soils will, insofar as practicable, be kept to a minimum through ongoing and future phased restoration;
- any newly constructed screening berms / soil storage areas will be grassed at the earliest opportunity;

- emission of fugitive dust from machinery such as the crushing plant has, and will continue to be minimised by utilising dust suppression and by locating the primary mobile crushing plant within the quarry extraction area;
- all HGV's exiting the site will be routed through the wheelwash. This will minimise the transport of fines by HGVs over the access / egress road and the public road network;

2.148 The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of internal paved site roads and surrounding public roads as required.

Noise Control

2.149 Potential noise generating sources could arise from operations within the quarry and from the crushing and screening plants, mobile plant such as the loading shovels and from the haulage fleet both within and outside the site.

2.150 The potential for noise generation from the application area is significantly reduced by the existing perimeter screening mounds, vegetation and within the quarry area by working within the hill and utilising the hill itself for natural screening; refer to **Figure 2-1**.

2.151 Further noise mitigation through the provision of an acoustic screening fence along the northern side of the new internal access road for a distance of 170m will also be provided.

2.152 Kilsaran has and will continue to implement / evaluate a full range of noise mitigation measures at the quarry in accordance with the DoEHLG (2004) Quarries and Ancillary Activities: Guidelines for Planning Authorities, and the EPA (2006) Environmental Management Guidelines for Environmental Management in the Extractive Industry, refer to EIAR Chapter 10 – Noise & Vibration.

Traffic Control

2.153 The existing site entrance onto the L5002 road has historically been shown to function satisfactorily at its present location.

2.154 Notwithstanding this, it is proposed to close the existing entrance and relocate it further to the north along with provision of a new internal access road. This will have the benefit of moving the HGV traffic away from the closest residence to the west of the site. This residence is referenced as (R3) in **Figure 2-2** and in other chapter figures of the EIAR.

2.155 A similar restriction regarding the quarry truck haulage route that applied under the previous quarry permission 99/2042 could be imposed if deemed appropriate by the Planning Authority. Local access for delivery of readymix concrete south of the site entrance (i.e., left out of the new entrance) is essential to facilitate supply of concrete to the local market.

2.156 The proposed new entrance detail is provided in Planning **Drawing KC2A** and **KC2E**. Sightlines of 160m will be achievable in both directions at the new entrance for vehicles exiting the site. Revised advance warning signing on the public road will be erected on the approaches to the site access taking account of the new location.

2.157 Kilsaran utilises a fleet management platform from MotionMetrics, an Irish owned company that provides the latest bespoke technologies in fleet management tools to improve efficiencies across Kilsaran's vehicle fleet.

2.158 MotionMetrics brings together critical information, from fleet telematics, vehicle CCTV, vehicle checks, maintenance and tachograph management through to route planning to assist in the day-to-day management of its entire fleet of trucks.

2.159 Kilsaran is currently using the FleetMetrics, VisionMetrics, TachoMetrics and CheckMetrics products which allows our managers real-time visibility of all our vehicles.

2.160 The system improves driver behaviour, promotes eco-driving and enforces route restrictions.

2.161 In the event of an incident, it can be ascertained instantly where liability lies, which facilitates a speedy resolution across all parties, including the insurance companies. Meanwhile the drivers feel better protected by having evidence available.

Litter Control

2.162 As the proposed development will be largely free of litter, the daily operational activities are unlikely to give rise to problems with windblown litter. Accordingly, there is no requirement to implement any specific litter control measures at the site.

2.163 In the unlikely event that any litter waste is identified, it will be immediately removed off-site to an authorised waste disposal or recovery site.

Odour Control

2.164 As the rock extraction and processing activities at the site will not include biodegradable materials, they will not therefore emit odorous gases, hence site activities will not give rise to odour nuisance. Accordingly, it is not intended to implement any specific odour control measures at the site.

Vermin Control

2.165 As the proposed development will be free of putrescible (food / kitchen) waste, on-site activities will not attract vermin (rats) for the duration of the extraction or subsequent restoration operations. Accordingly, no specific vermin control measures will be implemented at the site.

Fire Control

2.166 As the proposed development will be free of flammable and biodegradable materials which could create a fire or explosion risk, on-site extraction and processing activities will not present a fire risk for the duration of operations. Accordingly, there is no requirement to implement specific fire control measures at the site.

2.167 In the unlikely event that a fire does occur, the local fire station in Edenderry (c. 7km to the south) will be contacted and emergency response procedures will be implemented. Fire extinguishers (water and foam) will be provided at the welfare facility to deal with any small outbreaks which may occur.

PROPOSED ENVIRONMENTAL MONITORING

General

2.168 As part of the environmental management system (EMS), Kilsaran has implemented a comprehensive environmental monitoring programme at Clonard in compliance with the various planning permissions granted previously by Kildare County Council and An Bord Pleanála on the operation of both the quarry and the sand and gravel operations.

2.169 Environmental noise, ground/surface water, blast, and dust monitoring are carried out on a regular basis and have demonstrated that the quarry, pit and ancillary facilities have not had any significant

adverse effects on the surrounding environment. A copy of the EMS manual is provided in **Appendix 2-C**.

2.170 Limit values for environmental emissions arising from the site activities are identified by the existing/expired consents from the Planning Authority. Environmental sampling, monitoring and testing is generally undertaken by external consultants as and when required. Records of environmental monitoring and testing are held on-site and forwarded to the Local Authority as required.

Dust Monitoring

2.171 Dust monitoring is already carried out at the overall site under the requirements of Condition 10 of P. Ref. **03/2754** (PL09.209480) and previously by Condition 5 of P. Ref. 99/2042 (PL09.123207).

2.172 Monitoring is regularly carried out at five locations around the permitted site (**D1** – **D5**). The results have shown compliance with the requirement of the planning permissions, details of which are provided for the period 2019-2023 (April) in **Chapter 8** of the EIAR.

2.173 The dust monitoring gauges are located close to sensitive receptors located beyond the site boundary. It is proposed that the existing dust monitoring stations will remain in place for the duration of extraction and processing operations at the site, as shown in **Figure 2-7**.

2.174 The provision of additional monitoring locations if deemed necessary by the Planning Authority should planning permission be granted can be provided as necessary.

Noise Monitoring

2.175 Noise monitoring is already carried out at the overall site under the requirements of Condition 9 of P. Ref. 03/2754 (PL09.209480) and previously by Condition 7 of P. Ref. 99/2042 (PL09.123207).

2.176 Monitoring is regularly carried out at five locations around the permitted site (**N1** – **N5**). The results have shown compliance with the requirement of the planning permissions, details of which are provided for the period 2019-2023 (April) in **Chapter 10** of the EIAR.

2.177 The noise monitoring locations are located close to sensitive receptors located beyond the site boundary. It is proposed that the existing noise monitoring stations will remain in place for the duration of extraction and processing operations at the site, as shown in **Figure 2-7**.

2.178 Baseline monitoring and experience from similar types of development indicate that, subject to implementation of appropriate mitigation measures (as described in **Chapter 10** of the EIAR), the development can comply with the noise threshold limit of 55 dB(A) recommended in the EPA (2006) environmental management guidelines for the sector. The mitigation measures are in accordance with the 'best practice / mitigation' measures described in Section 3.2 of the DoEHLG (2004) guidelines.

Blasting / Vibration

2.179 All future blasts carried out at the quarry will be monitored to confirm vibration and air overpressure is within the acceptable range for extractive activities and comply with any planning conditions imposed on the development. The vibration monitoring will continue to be undertaken at the three designated locations around the quarry footprint (B1 – B3) used for monitoring under the previous grant of planning permission 99/2042, as indicated in **Figure 2-7**. The applicant has included an additional blast monitoring location (**B4**) adjacent to residences R15/R16 to the southwest of the quarry area as shown on **Figure 2-7**. Additional monitoring stations can also be established periodically off-site at adjoining residential properties at the request of their owners.

2.180 Ground-borne vibration and air overpressure will be measured utilising portable seismographs, located at nearby residences (subject to the owner's agreement). Air overpressure will be measured utilising a calibrated microphone, incorporated into the seismograph. Each seismograph shall be calibrated in accordance with the manufacture's requirements.

2.181 Vibration monitoring locations shall be reviewed and revised where and as / when necessary. The results of the vibration monitoring shall be submitted to Kildare County Council on a regular basis for review and record purposes.

Ecological Monitoring

2.182 Given the history of extractive activities at the site and the absence of any rare or protected species across the application site, it is envisaged that there will be no requirement for ecological monitoring or reporting for extraction or restoration operations.

Groundwater and Surface Water Monitoring

2.183 The following monitoring activities will be carried out to demonstrate that the development is not having an adverse impact on the surrounding environment.

- Groundwater levels in all boreholes (21-CL-01 to 21-CL-06, W3 and W4) will be monitored on a monthly basis for the duration of the proposed development;
- Regular groundwater quality monitoring (quarterly) of nearby private wells (provided consent is given) to demonstrate the development is not having any adverse impacts on private water supplies;
- The water quality in the adjacent stream will be monitored on a quarterly basis for the duration of the proposed development (with suggested parameters set out in Chapter 7 of this EIAR); and
- The groundwater quality in all on-site boreholes and one off-site borehole (if permission is granted by owner) will be monitored on a quarterly basis for the duration of the proposed development (with suggested parameters set out in Chapter 7 of this EIAR).

Odour Monitoring

2.184 As the materials to be extracted / processed at the site are not organic or biodegradable and will not therefore emit odorous gases, the on-site activities will not give rise to odour nuisance. Accordingly, no provision has been made for odour monitoring at the site.

PROPOSED LANDSCAPE DETAIL

Proposed Operational Landscape Scheme

2.185 A number of landscape works will be carried out in conjunction with the commencement of the quarry extension as shown on the Landscape Plan in **Figure 2-4**.

2.186 **Figure 2-4** also indicates the tree/shrub/hedgerow vegetation, which will require removal to facilitate the new access road. Should planning permission be received, the affected trees are deemed to be exempt from requiring a felling licence in line with the Forestry Act 2014.

Hedgerows/Treelines/Grassland (Phased Removal / Reinstatement)

2.187 It is proposed to remove 310m of internal hedgerows and tree lines, as well as some individual or small groups of shrubs, within the site to facilitate the proposed development works at the new site entrance and to facilitate the quarry extraction expansion.

2.188 To facilitate the required sightlines at the proposed new entrance a total length of 215m of existing hedgerow will be removed and a new replacement hedgerow of the same length will be planted at the earliest opportunity behind the new boundary line. The new hedgerow will include feathered trees at 200-250cm height, for some immediate impact and will be planted at 5m centres. In addition, some blocks of native trees will be planted along the access road, in the vicinity of the site entrance to provide additional screening and further compensate for the existing trees / hedgerows to be removed. The area of scrub and native tree planting to be provided is greater than twice the area than that which is to be lost, with 7,280m^2 being planted to replace 3,200m^2.

2.189 For clarity, details of hedgerow and vegetation removal are provided in **Table 2-1**[4] below and details of hedgerow and vegetation replacement are provided in **Table 2-2**.

Table 2-1
Details of Hedgerows / Vegetation to be Removed

	Location	Length (m)	Area (m²)	Details
	Within Quarry Area			
1	Hedgerow to east of quarry void	80m		Consisting of mix of hawthorn and ash
2	Scrub area to south and east of existing quarry void		3,200m^2	Consisting of individual / small groups of hawthorn and scrub
	To Facilitate New Site Entrance			
3	Hedgerow along public road	215m		Consisting mostly low/maintained hawthorn, ash and hazel including c.15 tall / mature ash trees in poor condition
4	Internal hedgerow to facilitate new internal access road	15m		Consisting of one elder or hawthorn
	Total	310m	3,200m²	

Table 2-2
Details of Proposed Planting / Vegetation Reinstatement

	Type of Planting	Length (m)	Area (m²)	Details
	Landscape Phase (on commencement of the proposed development)			
1	Hedgerow	215m		Replacement of the existing hedgerow along the public road behind the required sightlines, with a diverse native hedge mix
2	Native tree planting		3,750m²	3 blocks of a native tree mix to be planted in the vicinity of the new entrance and access

[4] Details as provided in response to Item 5(A) of the request for further information on planning application 22/83

	Type of Planting	Length (m)	Area (m²)	Details
				road to provide for additional screening to residence R4
3	Native tree planting		300 m²	1 block of a native tree mix to be planted to close off the existing site entrance
4	Native tree planting		900 m²	1 block of a native tree mix to be planted on new screening berm along western boundary in vicinity of residence R3
5	Willow/Alder/Reed planting		650m²	To be planted along the edge of the settlement lagoons to augment their natural colonisation
6	Scrub Planting		1,680m²	Native scrub mix to be planted in between the existing scrub to the south of the quarry.
	Total	**215m**	**7,280²**	
7	Grassland		25,000	In addition, 2.5 hectare area for restoration to agricultural grassland within 1 year following closure of existing entrance

2.190 All hedges planted as part of the proposed landscape planting plan will be comprised of native and typically occurring species present in the local vegetation and/or hedgerows in Co. Kildare. All of the hedgerow/tree/shrub planting would be carried out on commencement of the proposed development.

2.191 The proposed planting consists of diverse native hedgerow and tree/shrub mixes, which will be of interest to pollinators and birds and will increase the habitat linkages within the site and with surrounding hedgerows and woodland areas.

Native Hedge Planting

2.192 A native hedge will be planted approximately 5m behind the sightlines required at the new site entrance. This hedge will replace the existing hedgerow, which will have to be removed to facilitate same. The proposed hedge mix includes Feathered Trees at a height of 200-250m for some immediate impact and to compensate the loss of approximately 15 mature ash to some extent.

Native Tree Planting

2.193 Blocks of native trees will be planted in a number of locations, i.e. at the new site entrance, to close off the existing site entrance, along the hedge which is crossed by the new access road and on the proposed screening berm. The planting will augment the screening of the existing boundary vegetation and will soften the appearance of the proposed berms. It will also provide cover for mammals and birds, thereby also contributing to the ecological enhancement of the site.

Grassland Restoration Area

2.194 Within one year of the access road being moved to its proposed new location, the area covering and surrounding the existing access road will be broken up, levelled, covered with topsoil (from storage on site) and restored to agricultural land. The same techniques, which have been previously employed in the restoration of the area to the north-west of the processing area, will be used.

Lagoon Restoration

2.195 Parts of the existing silt lagoons are beginning to dry out and will be left to be recolonised by locally occurring scrub species. In order to kick-start this natural recolonisation it is proposed to plant a mix of willow, alder and reed along the driest sections of the lagoons, all of which are able to cope with the initially wet ground conditions. This planting will be carried out within one year of commencement of the proposed development.

PROPOSED FINAL RESTORATION DETAIL

Proposed Restoration Scheme

2.196 The proposed site will be restored to a combination of agricultural land and natural habitat, both of which are beneficial after uses, in line with the 2006 EPA Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals). The final restoration scheme and detail is shown on the restoration plan and cross sections in **Figures 2-5** and **2-6**. A two-year period following completion of all extraction works is being requested to carry out final restoration of the site.

Restoration Phasing

2.197 Restoration Phase 1 will be carried out as soon as the area along the existing access road, which is to be closed off, is restored to agricultural land. Restoration Phase 2 will be carried out on completion of all extraction works.

Restoration Elements

Agricultural Land

2.198 The pit floor areas and majority of the processing area will be restored to agricultural land. Any pit faces below 1m in height will be smoothed out to tie into the adjoining land and also restored to agriculture. The respective areas will be cleared, levelled, covered with subsoil and topsoil and restored to agricultural land, using the same techniques, previously employed in the restoration of other areas throughout the site. Pit faces above 1m in height will be re-graded to slopes less than 27° (i.e. 2:1, H:V).

Hedge Planting

2.199 Native hedges will be planted in a number of locations crossing the large grassland restoration areas, in order to compensate the loss of previously removed hedgerows, and further increase the connectivity of habitats within the site, also contributing to the ecological enhancement of the site.

Natural Regeneration

2.200 The settlement lagoons will be left to fully dry out naturally and to be colonised with scrub species. This will be aided by the willow-alder-reed mix planted in parts of the lagoons during the landscape phase. The quarry void will be cleared and also left to natural regeneration.

2.201 Natural regeneration is a viable restoration tool, as can be seen in the south-western corner of the application area, where a settlement lagoon was previously located and which is now completely covered over with grass and scrub species. An area surrounding the settlement ponds will also be left for natural regeneration, as a buffer to the adjoining restored agricultural land.

Hardrock Quarry Area Restoration

2.202 The ultimate restoration of the quarry site is to a natural habitat area, which is a beneficial after use listed in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006). A section of the northern end of the site, outside of the quarry void area and adjacent to the sand and gravel area will be returned to an agricultural pasture area.

2.203 Most restoration works within the quarry area will be carried out on permanent completion of extraction works. As most of the site will be used for extraction and processing purposes it is not feasible to restore any parts of the quarry void at an earlier stage.

2.204 The restoration works will be carried out in accordance with the EPA Guidelines (2006). Further ecological advice will also be incorporated into the restoration process based on up to date best practice and conditions at the site to facilitate optimal habitat value in the area for biodiversity.

Geological Survey of Ireland (GSI)

2.205 Access will be allowed to quarry faces by appropriate scientists (upon request and with due regards to Health and Safety requirements) during quarrying to check for interesting new stratigraphies / relationships as they might become exposed and to establish if the quarry is worthy of recognition post extraction and through aftercare / restoration planning. The upper faces of the quarry will be left exposed on cessation of the extraction works.

General Restoration Works

2.206 The proposed final restoration scheme will be achieved by the following measures:

- all stockpiles and processing plant to be removed from site;
- all hard standing areas (except for the access road) to be broken up/deep ripped and re-graded;
- all overburden stored within the site to be spread on the areas to be restored to pastureland and covered with any available topsoil;
- the areas to be restored to grassland will be seeded with a suitable grass and wildflower mix in the first available season following the completion of the re-grading works and placing of topsoil. Soil cultivation and sowing specifications to be as per manufacturer's instructions;
- native hedgerows to be planted within the site to provide linkage and increase the biodiversity potential of the site;
- all existing boundary fences and hedgerows will be retained to ensure that the site is secure.

Site Management and Supervision

2.207 The applicant will clearly define the management responsibility for the site restoration work and will ensure that this person has the necessary information (from the planning application) and authority to manage the whole restoration process. Relevant staff will be briefed on the scheme and will be adequately supervised / controlled. A system of record keeping for the key restoration activities will be put in place.

2.208 As the applicant is a long-established mineral extraction operator, it has ample experience and expertise in implementing mineral restoration programmes.

Long Term Safety and Security of Quarry

2.209 All components of the barrier system of the site consisting of existing mature boundary hedgerows, fences and walls will remain in place after extractive/ processing operations have ceased.

2.210 As the quarry void will be restored to natural habitat use containing quarry faces, secure fencing will be provided around the perimeter of the extraction area. Existing hedges surrounding the development will be gapped up and thickened where required. These combined with the secure and locked entrance gates to the development will prevent unauthorised third-party access.

Long Term Surface Water and Groundwater

2.211 The surface water will percolate to ground. There will be no requirement for any active long-term surface water or groundwater management at the site. Natural percolation to ground either through the bedrock of the quarry or through the restored areas of the site will occur.

Decommissioning of Plant and Machinery

2.212 Redundant structures, plant equipment and stockpiles will be removed from site on permanent cessation of extraction activity. Machinery and buildings will either be utilised by Kilsaran on other sites or be sold as working machinery or scrap.

2.213 All fuels or oils stored on site will be removed by a licenced contractor and there will be no potential for fuel or oil to cause long-term water pollution following completion of extraction activities.

2.214 The waste water treatment unit within the existing site will be decommissioned, emptied by a licenced waste contractor and removed from the site to eliminate any risk of groundwater contamination by sewage.

Aftercare and Monitoring

2.215 There will be no on-going requirement for monitoring noise or dust after extraction, processing and manufacturing operations have ceased.

2.216 Establishment maintenance for the hedge planting will continue for two years following the completion of the planting works (minimum 3 maintenance visits per year; i.e., spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of tree ties and spiral guards.

APPENDICES

Appendix 2-A
Detail of Acoustic Fencing (typical detail) to be installed

Appendix 2-B
Extractive Waste Management Plan

Appendix 2-C
Existing Environmental Management System (EMS)

Appendix 2-D
Proposed New Wheelwash Details

Appendix 2-E
Existing Hydrocarbon Interceptor Details

Appendix 2-A

Detail of Acoustic Fencing (typical detail) to be installed

JAKOUSTIC®

Jacksons Fencing

The Jakoustic® reflective barrier reflects the noise away using heavy section planed timber boards with a special profile that has been carefully developed. Boards are constructed in such a way that eliminates gaps that sound can easily travel through. Up to 28 dB* in noise reduction.

- Unique tuning fork design posts
- Attractive timber structure with a planed finish throughout
- Anti climb design and scale design
- High privacy barrier
- Special fixings clamp the acoustic boards between posts
- Can accommodate changes in level or profile
- Complete with capping and counter rail
- Up to 28 dB in noise*
- Category B3 rating
- 34mm thick "V" boards
- Matching pedestrian, swing and tracked sliding gates
- **25-year Jakcure® guarantee**

*Jakoustic® barrier certified laboratory results:

Rating according to BS EN 1793-2:1998
Category = B3
Laboratory sound reduction 28 dB
Superficial mass 25kg/m²

- Heights available with timber tuning fork posts, for general applications away from hills and coasts.
- For barrier heights 2.1m - 4.0m the timber posts are reinforced with a steel spur post, coated black.

HEIGHT (MM)	POST CENTRES (MM)	SPUR POST (MM)	POST LENGTH (MM)
2000	2410	N/A	2900
2500	2410	2000	3400
3000	2410	2500	3900
3500	2410	2700	4400
4000	2410	3300	4900

Steel posts are also available - size subject to site conditions - See "Jakoustic® Commercial & Highway" section

APPLICATIONS

✓ Commercial properties

✓ Construction sites

✓ Sports venues

✓ Residential properties

POST OPTIONS

- Timber tuning fork posts overlength set in concrete as standard

GATES

Matching gates available

FINISHES

- Jakcure® treated timber as standard

Appendix 2-B
Extractive Waste Management Plan

Extractive Waste Management Plan

CLONARD DEPOT

Waste Management (Management of Extractive Waste From the Extractive Industries) Regs 2009
[S.I. No. 566 of 2009]

Table of Content

1. The Operator[1]

Kilsaran Concrete Unlimited Company
Piercetown
Dunboyne
County Meath

Tel 01 8026300
Email info@kilsaran.ie

2. The Competent Authority[2]

Kildare County Council
Aras Chill Dara
Devoy Park
Naas
County Kildare W91 X77F

Tel 045 980200
Email customerservice@kildarecoco.ie

3. The Objective of the Extractive Waste Management Plan:

In Ireland, the management of extractive waste is regulated by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (SI No. 566 of 2009). Under these Regulations, quarry operators are required to prepare an Extractive Waste Management Plan (EWMP) which outline the plans and procedures for minimisation, treatment, recovery and disposal of extractive wastes, having regard to the principle of sustainable development.

Section 5(2) of the 2009 Regulations states that the objectives of the extractive waste management plan shall be to:

(a) prevent or reduce waste production and its harmfulness, in particular by considering:

(i) waste management in the design phase and in the choice of method used for mineral extraction and treatment,

(ii) the change that the extractive waste may undergo in relation to an increase in surface area and exposure to conditions above ground,

(iii) placing extractive waste back into the excavation void after extraction of the mineral, as far as is technically and economically feasible and environmentally sound in accordance with the existing environmental standards at Community level and with the requirements of Directive 2006/21/EC where relevant,

(iv) putting topsoil back in place after the closure of the waste facility or, if this is not practically feasible, reusing topsoil elsewhere,

(v) using less dangerous substances for the treatment of mineral resources.

(b) encourage the recovery of extractive waste by means of recycling, reusing or reclaiming such waste, where this is environmentally sound in accordance with existing environmental standards at Community level and with the requirements of Directive 2006/21/EC where relevant,

(c) ensure short and long-term safe disposal of the extractive waste, in particular by considering, during the design phase, management during the operation and after-closure of a waste facility and by choosing a design which:

(i) requires minimal and, if possible, ultimately no monitoring, control and management of the closed facility,

(ii) prevents or at least minimises any long-term negative effects, for example attributable to migration of airbourne or aquatic pollutants from the waste facility, and

3. …Continued

(iii) ensures the long-term geotechnical stability of any dams or heaps rising above the pre-exiting ground surface.

4. Extractive Site Location and Description

Postal Address

Kilsaran Concrete Unlimited Company
Kilrathmurray, Clonard, Co. Kildare, A83 DW28

National Grid Reference

ITM 665460E 740910N

Description

Limestone quarry and associated processing previously permitted under P. Reg. Ref. No. 99/2042 and ABP Ref. PL09.123207) which includes drilling, blasting, crushing and screening of rock. The appropriate period of planning register reference 99/2042 was extended by order dated 03/02/2017 by P. Reg. Ref. No. 16/1246;

Sand and gravel extraction area (P. Reg. Ref. No. 03/2754 / ABP Ref. PL09.209480 and P. Reg. Ref. No. 97/1731) with processing that includes crushing, washing and screening; and provision of perimeter screening berms.

Buildings and structures associated with the sand and gravel pit previously granted planning permission under P. Reg. Ref. No. 03/2754 comprising of the crushing, washing and screening plant with associated silt disposal lagoons; readymix concrete batching plant including powerhouse; prefabricated office; weighbridge; workshop building with concrete laboratory and bunded fuel tanks; aggregate storage bays; and one liquid effluent treatment system unit.

Restoration of the site lands will be to a combination of beneficial agricultural and ecological after-uses. The existing site extends to 51.99 hectare (128.5 acres).

Planning Status

P. Reg. Ref. No. 97/1731 – lodged 05/06/1998
P. Reg. Ref. No. 03/2754 / ABP Ref. PL09.209480 – lodged 23/12/2003
P. Reg. Ref. No. 99/2042 and ABP Ref. PL09.123207) – lodged 22/11/1999

Non Extractive Waste Operations On-Site

None present.

5. Proposed Classification for the Waste Facility

Category A .....~~Yes~~/No

Non-Hazardous Non-Inert .....~~Yes~~/No

Unpolluted Soil .....~~Yes~~/No

Non-Hazardous Prospecting Waste .....~~Yes~~/No

Waste Resulting from Extraction .....~~Yes~~/No

Treatment and Storage of Peat .....~~Yes~~/No

Inert Waste .....Yes/No

Category A .....~~Yes~~/No

Failure or Incorrect Operation

Contains Hazardous Waste

Contains Substances or Preparations Classified as Dangerous

Document Demonstrating that a major-accident prevention Policy

Safety Management System

Internal Emergency Plan

Reasons for considering that a Category A waste facility is not required (include identification of possible accident hazards).

6. Waste Characterisation[3]

'Extractive Waste' is referred to in the Regulations as "waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries.". Waste is defined in Section 4 of the Waste Management Act 1996 and means any substance or object which the holder discards, intends or is required to discard.

7. Description of the Waste Generating Operation

There is no intention on behalf of Kilsaran Concrete Unlimited to discard, where possible, any material extracted from the quarry/sand and gravel pit at Clonard. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations.

Extracted Material will fall into the following categories:

Soil and Sub-soil (Overburden) Stripping

This material is excavated to expose the underlying bedrock in the case of the quarry and sand and gravel in the case of the pit.

Topsoil – all topsoil stripped will either be used to construct perimeter visual/noise screening mounds or be place directly back into previously extracted areas as part of the progressive restoration scheme.

Sub-soil (Overburden) – this material will be dealt with in a similar manner to the items listed above.

Rock Extraction

Rock is extracted from the quarry face using commercial explosives, the blasted rock pile is processed through size reduction (crushing) and size classification (screening) to produce a suit of saleable aggregate products. Aggregates awaiting haulage off-site are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

Sand and Gravel Extraction

Sand and gravel is excavated from the exposed sediment pile at the working face, the excavated material is processed through size reduction (crushing), washing to remove silt and size classification (screening) to produce a suit of saleable aggregate products. With the exception of the fine silt material all the excavated sand and gravel is processed to produce various aggregate and sand products, which are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

Washing Fines – The fixed aggregates processing plant operates a closed circuit washing cycle where silt fines are washed out of the aggregates being processed and are allowed to settle out of the wash water in a series of constructed lagoons. Once settled the clear water is recycled back to the washing plant.

7. …. Continued

The settlement ponds are cleaned out on a regular basis to ensure adequate capacity within the ponds to allow sufficient retention time to ensure adequate settlement of fines.

All material removed from the settlement ponds is temporarily stored to allow natural outflow of retained moisture. Following this short storage period the material is put to a variety of operational or restoration uses within the site, namely:

Construction of visual screening or noise attenuation berms, and/or construction safety berms alongside haul roads or under quarry faces.

Washing fines are also placed directly back into previously extracted areas as part of the progressive restoration scheme prior to the replacement of sub and topsoil.

8. Subsequent Waste Treatment (if any)

In accordance with this extractive waste management plan there is no intention on behalf of Kilsaran Concrete to discard any material extracted from the quarry/sand and gravel pit at Clonard. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations. Therefore, no subsequent waste treatment is required.

9. Description of any Adverse Effects Resulting from Deposition of Waste

There will be no adverse effects on the Environment or on Human Health resulting from the deposition of waste as the aim of the extractive waste management plan is to avoid the generation of extractive waste. Extracted materials without a value as a construction aggregate will either be used for landscaping / screening berms during the operational stage of the development or be used for progressive and final site restoration, as part of the approved plan.

All berms will be constructed with safety as a priority to ensure there is no danger to the environment or to human health.

10. Description of Preventative Measures to Minimise Environmental Impacts[4]

The principal preventive measure of this extractive waste management is to prevent extractive waste production in the first place, in accordance with Section 5(2)(a) of the 2009 Regulations.

11. Control & Monitoring Procedures[5]

As part of an established environmental management system (EMS), Kilsaran has implemented a comprehensive environmental monitoring programme at Clonard in compliance with the various grants of planning permission granted previously by Kildare County Council and An Bord Pleanála on the operation of both the quarry and the sand and gravel operations.

Environmental noise, ground/surface water, blast, and dust monitoring is carried out on a regular basis, and past monitoring has demonstrated that the quarry and pit have not had any significant adverse effects on the surrounding environment.

12. Closure and After-Closure Procedures[6]

The requirement for closure and after-closure procedures is not applicable to inert waste and unpolluted soil resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries unless deposited in a Category A waste facility.

It is not envisaged that the operation of the Clonard facility will generate any extractive waste during its operational phase. The extractive operations once ceased will be restored in accordance with the approved restoration plan.

13. Measures for the Prevention of Water Status Deterioration[7]

It is an aim of this extractive waste management plan not to generate any extractive waste. The operations at the Clonard facility extract natural rock, sand and gravel. No chemicals or hazardous materials are used in the processing operations. Currently there are no discharges of any trade effluents from the site. As part of the recent planning application it is proposed to discharge treated storm water and groundwater from the deepened quarry void, which will require a effluent trade discharge license. Kilsaran proposed to apply to Kildare County Council for a discharge license in due course.

14. Measures for the Prevention/ Minimisation of Air and Soil Pollution[8]

It is an aim of this extractive waste management plan not to generate any extractive waste. Normal extractive operations, including aggregates processing are subject to mitigation measures to minimise the creation of dust, these include the following.

In dry, windy weather conditions, site activities may give rise to dust blows across and beyond the planned development site areas. To control dust emissions, the following measures will be implemented:-

- water will be sprayed from a tractor drawn bowser on dry exposed surfaces and stockpiles (paved roads, unsealed haul roads and hardstand areas);
- areas of bare or exposed soils will, insofar as practicable, be kept to a minimum through ongoing and future phased restoration;
- newly constructed screening berms / soil storage areas will be grassed at the earliest opportunity;
- emission of fugitive dust from machinery such as the crushing plant has, and will continue to be minimised by utilising dust suppression and by locating the primary mobile crushing plant within the quarry extraction area;
- all HGV's exiting the site will be routed through the wheelwash. This will minimise the transport of fines by HGVs over the access / egress road and the public road network;

The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of internal paved site roads and surrounding public roads as required.

15. Survey of Condition of Land to be Affected

No lands are lands are affected, as there are no extractive waste facilities within the subject site at Clonard quarry and pit.

16. Boundary Map Showing Limits of Excavation

Please refer to the attached Boundary Map showing the existing approved limit of excavation and the limit of excavation sought under the recent planning application (P.Reg. 22/83).

17. Explanation Required under Regulation 5(3)[9]

The information required under Regulation 5(3) is contained under the preceding sections of this Extractive Waste Management Plan.

The Plan will be reviewed at least every 5 years, or sooner if substantial changes to the operations should generate an extractive waste.

18. End Notes

[1] As defined by Regulation 3(2) of the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009

[2] As defined by Regulation 22 of the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009

[3] Schedule 2(1) – description of the expected physical and chemical characteristics of the waste to be deposited in the short and the long term, with particular reference to the stability under surface and atmospheric/meteorological conditions, taking account of the type of mineral or minerals to be extracted and the nature of any overburden and/or gangue minerals that will be displaced in the course of the extractive operations.

[4] Must include aspects referred to in Regulation 11(2) – see Appendix 1

[5] Must include aspects referred to in Regulation 10 & 11(2)(c) – see Appendix 1

[6] Not applicable to inert waste and unpolluted soil resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries unless deposited in a Category A waste facility.

[7] Pursuant to Regulation 13 – Prevention of water status deterioration, air and soil pollution

[8] Pursuant to Regulation 13 – Prevention of water status deterioration, air and soil pollution

[9] The plan shall explain, in particular, how the option and method chosen as mentioned in 5(2)(a)(i) will fulfil the objectives of the extractive waste management plan as laid down in 5(2)(a).

Appendix A

Excavation voids

10. (1) The competent authority shall ensure that the operator, when placing extractive waste back into the excavation voids for rehabilitation and construction purposes, whether created through surface or underground extraction, takes appropriate measures in order to:

(*a*) secure the stability of the extractive waste in accordance, mutatis mutandis with Regulation 11(2),

(*b*) prevent the pollution of soil, surface water and groundwater in accordance, mutatis mutandis, with Regulation13(1), (3) and (5),

(*c*) ensure the monitoring of the extractive waste and the excavation void in accordance, mutatis mutandis, with Regulation 12(4) and (5).

(2) Directive 1999/31/EC 3 as transposed into Irish legislation shall continue to apply to waste, other than extractive waste, used for filling in excavation voids as appropriate.

Construction and management of waste facilities

11. (1) The competent authority shall take appropriate measures to ensure that the management of a waste facility is in the hands of a competent person and that technical development and training of staff are provided.

(2) The competent authority shall satisfy itself that, in constructing a new waste facility or modifying an existing waste facility, the operator ensures that:

(*a*) the waste facility is suitably located, taking into account in particular Community or national obligations relating to protected areas, and geological, hydrological, hydrogeological, seismic and geotechnical factors, and is designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC 15 , 80/68/EEC 16 and 2000/60/EC 2 , and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable,

(*b*) the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimise as far as possible damage to landscape,

(*c*) there are suitable plans and arrangements for regular monitoring and inspection of the waste facility by competent persons and for taking action in the event of results indicating instability or water or soil contamination,

(*d*) suitable arrangements are made for the rehabilitation of the land and the closure of the waste facility,

(*e*) suitable arrangements are made for the after-closure phase of the waste facility.

Records of the monitoring and inspections referred to in point (*c*) shall be kept, together with licence documentation, in order to ensure the appropriate hand- over of information, particularly in the event of a change of operator.

(3) The operator shall, without undue delay and in any event not later than 48 hours thereafter, notify the competent authority of any events likely to affect the stability of the waste facility and any significant adverse environmental effects revealed by the control and monitoring procedures of the waste facility. The operator shall implement the internal emergency plan, where applicable, and follow any other instruction from the competent authority as to the corrective measures to be taken.

The operator shall bear the costs of the measures to be undertaken.

At a frequency to be determined by the competent authority, and in any event at least once a year, the operator shall report, on the basis of aggregated data, all monitoring results to the competent authorities for the purposes of demonstrating compliance with licence conditions and increasing knowledge of waste and waste facility behaviour. On the basis of this report the competent authority may decide that validation by an independent expert is necessary.

Closure and after-closure procedures for waste facilities

12. (1) The competent authority shall take measures to ensure compliance with paragraphs 2 to 5.

(2) A waste facility shall only start the closure procedure if one of the following conditions is satisfied:

(*a*) the relevant conditions stated in the licence are met,

(*b*) authorisation is granted by the competent authority, at the request of the operator,

(*c*) the competent authority issues a reasoned decision to that effect.

(3) A waste facility may be considered as finally closed only after the competent authority has, without undue delay, carried out a final on-site inspection, assessed all the reports submitted by the operator, certified that the land affected by a waste facility has been rehabilitated and communicated to the operator its approval of the closure.

That approval shall not in any way reduce the operators obligations under the conditions of the licence or otherwise in law.

(4) The operator shall be responsible for the maintenance, monitoring, control and corrective measures in the after-closure phase for as long as may be required by the competent authority, taking into account the nature and duration of the hazard, save where the competent authority or a Minister of the Government, as appropriate, decides to take over such tasks from the operator, after a waste facility has been finally closed and without prejudice to any national or Community legislation governing the liability of the waste holder.

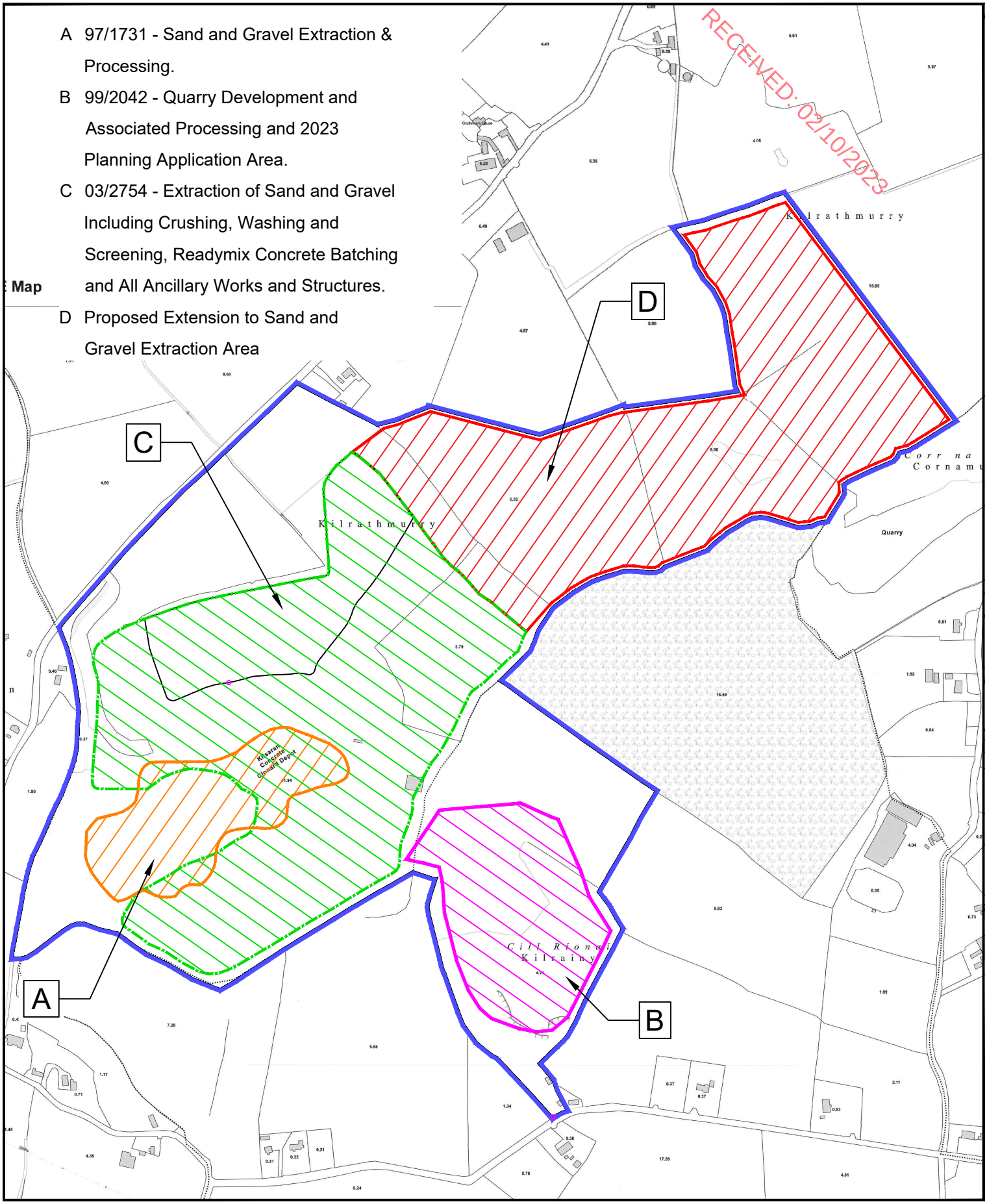
(5) When considered necessary by the competent authority, in order to fulfil relevant environmental requirements set out in Community legislation, in particular those in Directives 76/464/EEC 15 , 80/68/EEC 16 and 2000/60/EC 2 , following closure of a waste facility, the operator shall, inter alia, control the physical and chemical stability of the facility and minimise any negative environmental effect, in particular with respect to surface and groundwater, by ensuring that:

(*a*) all the structures pertaining to the facility are monitored and conserved with control and measuring apparatus always ready for use,

(*b*) where applicable, overflow channels and spillways are kept clean and free.

(6) Following closure of a waste facility, the operator shall, without delay, notify the competent authority of any events or developments likely to affect the stability of the waste facility, and any significant adverse environmental effects revealed by the relevant control and monitoring procedures. The operator shall implement the internal emergency plan, where applicable, and follow any other instruction from the competent authority as to the corrective measures to be taken.

The operator shall bear the costs of the measures to be undertaken. In cases and at a frequency to be determined by the competent authority, the operator shall report, on the basis of aggregated data, all monitoring results to the competent authorities for the purposes of demonstrating compliance with licence conditions and increasing knowledge of waste and waste facility behaviour.


A 97/1731 - Sand and Gravel Extraction & Processing.
B 99/2042 - Quarry Development and Associated Processing and 2023 Planning Application Area.
C 03/2754 - Extraction of Sand and Gravel Including Crushing, Washing and Screening, Readymix Concrete Batching and All Ancillary Works and Structures.
D Proposed Extension to Sand and Gravel Extraction Area
RECEIVED: 02/10/2023
Map
A
B
C
D
Kilrathmurry
Kilrathmurry
Quarry
Kilgarran Contracts Crushing Depot
Cil Rionaí
Kilrainy

Appendix 2-C
Existing Environmental Management System (EMS)

Environmental Management System (EMS)

MANUAL

CLONARD FACILITY
at
KILRATHMURRY & KILRAINY
Co. KILDARE

Planning Register Reference Numbers: 03/2754, 99/2042 & 97/1731

Date: 08/12/2021

Version: #3, Revision 3

Table of Content

1. Introduction

Founded in 1964, Kilsaran Concrete is a wholly Irish-owned company, whose business is primarily in the production of materials for the construction industry.

The Kilsaran Clonard Facility at Kilrathmurry and Kilrainy comprises a hard rock quarry and sand and gravel pit. On-site operations include drilling, blasting, crushing, washing and screening of rocks, with value-added manufacturing processes comprising a ready mixed concrete batching plant.

There is a workshop for the servicing of plant, machinery and haulage vehicles; a laboratory engaged in the quality control of the on-site processes and prefabricated offices that accommodate the site management associated with the business. There are employees' facilities comprising canteens, cloakrooms and toilets.

Clonard Facility is located in the townlands of Kilrathmurry and Kilrainy in Co. Kildare and is owned and operated by Kilsaran Concrete Unlimited Company.

In order to improve management of environmental issues related to this operation and site, this facility has implemented an environmental management system (hereafter referred to as EMS).

The site benefits from a series of planning permissions dating back to the first grant of planning permission for sand and gravel extraction in 1998:

- **Reg.No.97/1731:** Permission for Sand and Gravel extraction and processing on lands at Kilrathmurry, Enfield, County Kildare (Granted 30/12/1998).
-
- **P.Reg.No.99/2042:** Permission for Quarry development and associated processing on 13.2 hectares at Ballykane Hill, Kilrainy, County Kildare to include drilling, blasting, crushing and screening of rock, site restoration, puraflo liquid effluent treatment system and access via the adjoining sand and gravel site at Kilrathmurry, County Kildare (Granted 14/02/02).

- **P.Reg. No. 03/2754 (PL09.209480):** Extraction of sand and gravel with processing that includes crushing, washing (with associated silt disposal lagoons) and screening, readymix concrete batching plant and all ancillary works and structures on a site measuring 33.7 hectares.

  1. The proposed development consist of continued use of the existing sand and gravel workings granted under planning register reference number 1731/97 (on 4.9 hectares) for a period of 16 years plus two years restoration.

  2. The proposed development will also consist of an extension to the existing sand and gravel pit and provides for a readymix concrete batching plant, aggregates and wash-water recycler bays, aggregate storage bays and a prefabricated office, screening mounds, a workshop, concrete laboratory, two bunded fuel tanks

and two liquid effluent treatment system units on 25.5 hectares. It is also proposed to increase output from 90,000 tonnes per annum to 250,000 tonnes per annum and extraction will take place over a period of 16 years with an additional two years for restoration. Progressive restoration will follow sand and gravel extraction with final restoration of the entire site (including the planning register reference 1731/97 extraction area) to agriculture.

Access to the site will be via the existing landscaped entrance (planning register reference number 99/2042) on to the Kilrathmurry Road, all at Kilrathmurry Pit, Kilrathmurry, County Kildare (Granted 24/06/05)

Reg.No.16/1246: Extension of the Appropriate Period of Planning Register 99/2042 (Order issued 03/02/2017).

Definitions

Environmental aspect – elements of the extractive sites activities that can interact with the environment.

Environmental impact – any change to the environment, whether adverse or beneficial to site activities.

External interested parties – individual or group concerned with or affected by the environmental performance of the site (neighbours, media, environmental organisations, etc.).

Significant environmental aspect – an environmental aspect that has or can have a significant environmental impact.

Other requirements – requirements to which the organisation subscribes but which are not legal or regulatory requirements.

Dust – in this context, dust is considered to be any solid matter emanating from a surface aggregates working, or from vehicles serving it, which is borne by the air in the size range of 1 - 75µm in diameter. Particles greater than 10µm are associated with public perception and nuisance.

Noise – unwanted sound. Any sound that has a potential to cause disturbance, discomfort, or physical stress to a subject exposed to it.

Overburden –soil, subsoil and weathered material overlying production sand and gravel to be extracted (overburden is a restoration material).

Soil – in soil science: the natural medium for the growth of land plants and classifiable into soil types and soil horizons on characteristic physical properties such as structure, texture, colour and chemical composition including organic content, acidity, alkalinity etc.

2. Scope

As a member of the Irish Concrete Federation, Kilsaran Concrete applies the ICF Environmental Code (2nd Edition) to the operation of its business.

It is stated in the Code that… "An Environmental Management System will be installed appropriate to the nature of the activity. This EMS will be set up to facilitate compliance with the legal planning and environmental requirements of the site including any planning permissions, local authority permits, IPPC Licences where relevant and will facilitate compliance with the principles of this Environmental Code."

The Department of the Environment, Heritage and Local Government's Quarries and Ancillary Activities Guidelines for Planning Authorities document states that… "A well-prepared Environmental Management System is a valuable tool to assist the operations managers of businesses to meet current and future environmental requirements and challenges. It is a quality assurance system that can be used to measure a company's operations against environmental performance indicators, thereby helping the company to reach its environmental targets. A good EMS will integrate environmental management into a company's daily operations, long-term planning and other quality assurance systems."

The Environmental Protection Agency's document 'Environmental Management in the Extractive Industry (Non-Scheduled Minerals) – Environmental Management Guidelines' makes reference to the scope of an EMS. in Section 2.3 it sets out the main components that an EMS should include, which are:- Organisational Commitment; Environmental Policy Statement; Environmental Audits and Site Assessments; Environmental Monitoring; and Operational and Emergency Procedures.

The EPA Guidance also states that… "Each quarry operator should implement an EMS in accordance with the principles set out in Section 2.3.

The system should include an ongoing environmental monitoring programme. The purpose of the monitoring is to demonstrate compliance with any conditions attached to planning permissions, discharge licenses, etc. and to enable the operator to address any third-party complaints in relation to activities within the quarry. The monitoring programme should be agreed with the local authority and reviewed on an annual basis. Monitoring results should be submitted to the local authority on a regular basis and be available at the local authority offices for review by any interested third parties. A copy of the monitoring results should be retained on-site for a period not less than 7 years."

Reference to the information in Appendix C 'Guidelines on the Requirement for an EMS' of the EPA Guidelines was made when drafting this EMS.

The EMS will include all of the quarrying and associated operations at the Quarry Site undertaken by Kilsaran Concrete.

3. Environmental Policy

Kilsaran INTERNATIONAL

Environmental Management Policy

Kilsaran is Ireland's leading Independent Concrete Products and Construction Materials Producer. The Company produces ready-mix concrete, concrete blocks, mortar, aggregates, asphalt and macadam, hard-core and fill materials for the Irish construction industry market. Kilsaran also undertakes road surfacing contracts for road construction, local authority and civil engineering works.

In recent years the company has focused on a substantial expansion programme to its Paving & Walling division and Pre-mixed Dry Product facilities. The company operates from numerous locations mainly in the East, midlands and the South of Ireland with one location in the UK. Our goal is to establish Kilsaran as the best building materials company within the market sectors it serves, both domestically and internationally.

We recognise that our activities have an impact on the environment. Kilsaran are committed to protecting the environment, preventing pollution and enhancing the environmental performance of the company. It is our policy to manage our obligations to the environment in a responsible manner and to take a sustainable approach in our business and production activities. Kilsaran regards environmental protection as an integral and essential part of good business practice. We are committed to achieving and maintaining a high standard of environmental performance in all of our operations.

Kilsaran achieves this through the following:

- Establishing Environmental Management Systems throughout our operational facilities, from the extractive sites through to the manufacturing facilities and in the company's support infrastructure.
- Following best environmental practice in regard to our own activities, ensuring that pollution prevention is a major consideration in all operational activities.
- Operating in compliance with all relevant environmental legislation, regulations, waste permit requirements and best management practices.
- Developing objectives, targets and management programmes to help us to improve our environmental performance and achieve a level of continual environmental improvement.
- Raising staff awareness of the environmental issues and the environmental effects of our activities through communication and training.
- Reviewing our Environmental Policy and considering the need for any amendments in the light of changing circumstances.
- This Environmental Management Policy is made available to our employees, business colleagues, customers, the public and other interested parties.

Roy McKeown
Director

Date: 09/03/20.

Padraic Hogan
Director

Environmental Management Policy Rev 5 01.07.2019

4. Legal and Other Requirements

Kilsaran Concrete is committed to compliance with legal and other requirements that are applicable to the environmental aspects of its activities.

Kilsaran Concrete subscribes to the Pegasus Legal Register, a customised web-based Legal Register for Environment (and Energy). Pegasus is a subscription service provided by Antaris.

Pegasus publishes all legislation relevant to the organisation - not only national legislation currently in force but also upcoming EU Directives and Regulations that could impact on Kilsaran's business activities in the scope of Environment (and Energy). Pegasus is customised to the company's specific needs, incorporating the regulations and legislation that apply to its business activities and the sector in which Kilsaran works.

Pegasus continuously updates the register with legislation relevant to Kilsaran's business and industry and provides email notifications of changes to legislation and to the register.

Pegasus's experts interpret each piece of legislation to provide customised, expert guidance on its purpose and implications for the business. The interpretations are presented in simpler terms, so that the requirements for compliance are accessible to a wider range of employees, not just specialists.

Pegasus provides a compliance questionnaire enabling compliance evaluation with management standards, regulations and legislation relevant to the organisation. These questionnaires relate to individual pieces of legislation and will be assigned, completed and tracked through Pegasus. Users can record, communicate and monitor action plans to address any non-compliance identified by the evaluation process.

5. Environmental Aspects

Kilsaran Concrete has identified all known environmental aspects and related impacts of its activities and products, over which it has control and can have an influence, in order to determine which can have a significant impact on the environment.

- The list of environmental aspects and related impacts will be reviewed at least annually by the **Environmental Manager** in order to identify the significant aspects. Review will also take place within **6 months** of implementing new activities or modifying existing activities.

- The **Environmental Manager** will use the following aspect procedure and related documents to carry out the identification of aspects and associated impacts.

Table 1 Environmental Aspects/Impacts Table

	Activity/Aspect	Potential Environmental Impact
1	Soil Handling and Storage	A,D,N,SW
2	Overburden Handling and Storage	D,N,SW
3	Drilling & Blasting	D,N,V,B,FR
4	Excavating	D,N,GW,SW
5	Loading/Unloading Activities	D,N
6	Processing (Crushing/Washing/Screening)	D,N,GW,SW
7	Material Handling/Storage	D,N,SW
8	Transportation (On & Off Site)	D,N,V
9	Restoration/Rehabilitation	D,N,SW
10	Miscellaneous	
	Ready Mixed Concrete Manufacture	D,N,HK
	Fuel/Oil Storage	GW,SW
	Waste Batteries	GW,SW
	Waste Oil	GW,SW
	Worn Tyres	HK
	Scrap Metal	HK
	Wastewater Treatment/Sanitary Waste	GW
	Building Fire	GW,SW
	Disposal of Domestic Style Waste	GW,SW,HK

A Archaeology (loss off)
D Dust
N Noise
GW Ground Water (pollution)
SW Surface Water (pollution)
V Ground Vibration
B Air Blast
FR Fly Rock
HK On-Site Housekeeping

6. Environmental Emission Limit Values

The following emission limit values are prescribed by condition attached to the current granted planning permission(s) for the development of the facility (P.Reg.Ref.No. 03/2754 & 99/2042), they are given below.

Noise

Condition 7 – 99/2042

7 *(1) The equivalent continuous sound level (Leq) attributable to on-site operations (other than blasting) associated with the proposed development shall, when measured outside any dwellinghouse that is located in the vicinity of the site and is not owned by the developer, not exceed 50dB(A) over any continuous 15 minute period between 0800 hours and 1800 hours on Mondays to Fridays, inclusive, or over the period 0800 hours to 1600 hours on Saturdays. At other times it shall not exceed 45dB(A) over any continuous 15 minute period.*

(2) There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.

***Reason:** In the interest of amenity*

Condition 9 – 03/2754

9 *During the operational phase of the proposed development, the noise level from within the premises, measured at noise sensitive locations in the vicinity (at the boundary of the site) shall not exceed:*

(a) an LArt value of 55dB(A) (15 minutes) during the period 0800 ours to 180 hours, Monday to Friday inclusive and 0800 hours to 1400 hours on Saturday, and

(a) an LAeqT level of 45dB(A) at any other time.

***Reason:** In the interest of protecting the amenities of properties in the vicinity.*

Dust

Condition 5 – 99/2042

10 *The total dust emission arising from all the on-site operations associated with the proposed development shall not exceed 130 milligrams per meter squared per day averaged over a continuous period of 30 days when measured as deposition of insoluable particulate matter at any position along the boundary of the site. Soil stripping shall not take place in periods of extended windy or dry weather. Water shall be sprayed on the roads and exposed soil heaps in periods of windy and dry weather on the roads and exposed soil heaps in periods of windy and dry weather in order to reduce the potential impact of dust on neighbouring properties.*

***Reason**: In the interest of proper planning and development and the protection of the environment.*

Condition 10 – 03/2754

10 *Dust levels from the site shall not exceed 350 milligrams per square meter per day averaged over 30 days when measured at the boundary of the site. The developer shall submit to the planning authority for agreement details of ongoing dust monitoring programmes within three months of the date of this order. The details to be submitted shall include monitoring locations, commencement date and frequency of monitoring results. Details of all dust suppression measures shall likewise be agreed with the planning authority prior to commencement of development.*

***Reason**: To control dust emissions arising from the development in the interest of the amenities of the area.*

Groundwater

At the present time, groundwater monitoring wells are installed around the existing site and the proposed extension lands to monitor groundwater levels on a monthly basis.

Condition 9 – 99/2042

9 *(1) No quarrying operation shall take place at a level below 1 metre above ground water level.*

(2) Prior to commencement of development, details of a groundwater monitoring programme shall be submitted to the planning authority for agreement and such programme shall ensure that the existing ground water sources serving local residents in the vicinity if the site are unaffected by the development. An alternative water supply shall be provided to residents in the event of disruption of the existing water supplies or their contamination due to the activities of the quarry.

***Reason**: In the interest of proper planning and development and the protection of the environment.*

Condition 6 – 03/2754

6 *A minimum of one monitoring well shall be installed on site to at least one metre below the summer water table. Monitoring of the water level in the well shall be carried out on a monthly basis and the results of the monitoring shall be submitted to the planning authority on a six monthly basis.*

***Reason**: To ensure that groundwater resources are protected.*

Surface Water

Condition 13 – 99/2042

13 *Only clean uncontaminated storm water shall be discharged to surface waters.*

Blasting

Condition 8 – 99/2042

8 (3) *The transmitted ground vibration arising from any blast carried out on the site shall, when measured on the foundations of the dwelling house that is nearest the location of the blast and not owned by the developer or on part of the dwellinghouse in close contact with the foundations, not exceed a peak particle velocity of 12 millimetres per second in any one of three mutually orthogonal planes.*

(4) *The air overpressure arising from any blast carried out on the site shall, when measured outside the dwellinghouse that is nearest the location of the blast and is not owned by the developer, not exceed 125 dB (linear) at frequencies of 2 Hertz or over.*

***Reason**: In the interest of orderly development and residential amenity.*

7. Operational Control

Kilsaran Concrete, through its long experience of quarrying operations has identified operations and activities associated with the identified significant environmental aspects. Operational controls to mitigate the identified significant environmental aspects arising from the significant aspects are summarised in Table 2 below.

Notification of emergency contacts for visitors, contractors, aggregate delivery personnel, and fuel delivery personnel will be posted outside the **Quarry Office**.

The **Quarry Manager** shall plan these activities, including maintenance, to ensure they are carried out under specified operating conditions.

	Activity/Aspect	Potential Environmental Impact	Operational Control
1	Soil Handling and Storage	A,D,N,SW	i) In periods of dry weather internal stripping haul routes will be sprayed, ii) Screening berms will be seeded & planted to ensure soils surface is anchored, iii) Berm construction will have positive effect on noise, iv) Soil will be utilised for site rehabilitation.
2	Overburden Handling and Storage	D,N,SW	i) All embankments & stockpiles will be vegetated immediately to anchor the exposed surface, ii) Stripping will not take place in extended dry periods, iii) Overburden will be used for rehabilitation of the site.
3	Drilling & Blasting	D,N,V,B,FR	i) Drill rig will be fitted with a bag filter to control dust, ii) Blasting does not typically occur more frequently than once per month, iii) Ensure 'mic' is optimised so that ground vibration are minimised, iii) Provide sufficient amount of quality stemming, iv) overcharging avoided by careful charge weigh calculation, v) Blasting not carried out early or late in the day, vi) No exposed detonating fuse or chord used in blasting, vii) All blasts monitored, viii) Face Profiling is employed when deemed appropriate.
4	Excavating	D,N,GW,SW	i) Excavation will take place below surrounding ground level, ii) Groundwater quality and depth will be monitored, iii) Replacement water supplies provided if adjoining private wells affected.
5	Loading/Unloading Activities	D,N	i) Drops from buckets/conveyors will be minimised, ii) Mobile plant will be maintained to reduce any tonal or impulsive sounds, iii) Mobile plant will be throttled down or switched off when not in use.
6	Processing (Crushing/Washing/ Screening)	D,N,GW,SW	i) Dry plant will be fitted with water spray bars at transfer points, ii) Drops from conveyors will be minimised, iii) Crushing will take place on the pit floor, iv) All chutes will have rubber linings & head drums/screens will be fitted with top covers, v) Washing will be in a closed circuit with no discharge of process water, vi) recycling of process water will minimise top up water requirements at washing plant.
7	Material Handling/Storage	D,N,SW	i) Stockpiles will be dampened during dry windy periods, ii) stockpiles will be located at distance from sensitive receptors, iii) Drop heights will be minimised iv) Surface water run-off from stocking area to be treated to remove suspended solids.
8	Transportation (On & Off Site)	D,N,V	i) internal haul roads will be sprayed with water during dry periods, ii) Wheelwash will be provided, iii) Overhead spray bars will be fitted to wheelwash to dampen loads before exiting the quarry, iii) Haulage vehicles will be regularly maintained, iv) The entrance and access road will be paved.
9	Restoration /Rehabilitation	D,N,SW	i) Water spraying will be used to suppress dust associated with the replacement of soils, ii) Restored areas will be promptly vegetated minimising dust and preventing wash down of soils into surface water courses, iii) all plant employed will be modern and well maintained.
10	Fuel/Oil Storage	GW,SW	i) Diesel fuel and oils stored within bunded areas, ii) Spill kits maintained on site to deal with all spills and leaks, iii) Emergency & spill kit training will be provided.
11	Waste Batteries	GW,SW	i) Collected within central designated storage area while awaiting collection by licensed contractor for disposal/recycling.
12	Waste Oil	GW,SW	i) Collected within central designated storage area while awaiting collection by licensed contractor for disposal/recycling.
13	Worn Tyres	HK	i) Collected within central designated storage area while awaiting collection by licensed contractor for disposal/recycling.
14	Scrap Metal	HK	i) Designated scrap storage area established and build up monitored with regular clear-outs.
15	Septic Tank/Sanitary Waste	GW,SW	i) A foul wastewater treatment type plant with percolation area will be provided and a maintanence contract entered into.
16	Building Fire	GW,SW	i) Emergency Action plan, ii) Fire fighting equipment provided, iii) Containment and treatment where possible of dirty fire fighting water.
17	Disposal of Domestic Style Waste	GW,SW,HK	i) Collected in appropriate bins for regular removal by licensed waste contractor.

A Archaeology (loss off)
D Dust
N Noise
GW Ground Water (pollution)
SW Surface Water (pollution)
HK On-Site Housekeeping

Table 2 – Operation Controls

Additional site-specific operational controls have been applied at the Clonard Facility, they include the following:

(a) Suppression of on-site noise

- Provision of screening berms with screen planting around the perimeter of the extractive operations act as acoustic barriers.
- Haul roads are and will be kept clean and maintained in a good state of repair, i.e. any potholes will be filled and large bumps removed, to avoid unwanted rattle and "body-slap" from heavy goods vehicles.
- Heavy goods vehicles (HGV's) entering the site are required to have their tailgates securely fastened.
- All mobile plant to be used at the site will have noise emission levels that comply with the limiting levels defined in EC Directive 86/662/EEC and any subsequent amendments.
- Processing plants is operated in a proper manner with respect to minimising noise emissions, e.g. minimisation of drop heights, no unnecessary revving of engines, and plant used intermittently will not be left idling.
- Plant will continue to be subject to regular maintenance, i.e. all moving parts will be kept well lubricated, all cutting edges will be kept sharpened, and the integrity of silencers and acoustic hoods will be maintained.
- All plant at the site will be fitted with effective exhaust silencers which will be maintained in good working order to meet manufacturers' noise rating levels. Defective silencers will be replaced immediately.

(b) On-going monitoring of sound emissions in the vicinity.

Please refer to Section 10 of the EMS, below which provides details of the proposed Monitoring Schedule.

(c) Suppression of dust on site and for the monitoring of dust at the site boundaries.

Dust minimisation measures will be implemented to reduce the generation of airborne material. Measures will include the following:

- Implementation of a 30km/hr speed limit on all haul roads.
- Locate plant away from sensitive receptors considering prevailing wind.
- Provision of screening berms of up to 2.5m height adjacent to sensitive receptors.
- Use of water sprays and mists for dust suppression.
- Regular maintenance of all plant to control exhaust emissions.
- Construction of permanent surfaces on all internal roads at the earliest possible stage.
- The access road will be paved with macadam or asphalt, from the wheelwash to the public road.
- Limit the drop of falling material at the processing plant.
- Use of water bowsers, sprays or vapour mists on exposed surfaces in dry windy weather.
- Vegetate exposed surfaces at the earliest possible opportunity.
- Provision of wheelwashing facilities at the site entrance.

Please refer to Section 10 of the EMS, below which provides details of the proposed Monitoring Schedule.

(d) Bunding of fuel and lubrication storage areas and details of emergency action in the event of accidental spillage.

The development provides for the bunding of fuel tanks within the garage/workshop. The bund is constructed from mass concrete with an internal volume in excess of 110% of the largest tank contained therein.

Other lubricants, oils and greases are stored internally within the garage/workshop within a bunded area.

Appropriately stocked and maintained spill kits are provided adjacent to all areas where hydrocarbon derived products are being stored. Employees have been given emergency training which includes the use of spill kit products to treat accidental spills.

Accidental fuel spillage will be mitigated by installing appropriate bunds, refueling of Heavy Goods Vehicles and other machinery on concrete aprons with falls to the diesel tank bund.

(e) Management of all landscaping.

A qualified Landscape Architect shall be engaged to manage all landscaping.

(g) Monitoring of groundwater quality, levels and discharges.

Please refer to Section 10 of this EMS which provides details of the proposed Monitoring Schedule.

(h) Details of site manager, contact numbers (including out of hours) and public information on the entrance to the facility, details of which shall be agreed with the Planning Authority.

Clonard Facility Site Manager is Mr. Paul McDonagh. He can be contacted during and out of hours on 086 8179400.

8. Emergency Preparedness & Response

Kilsaran Concrete has established and maintains procedures for and response to accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with them.

Emergency Preparedness and Response Procedure:

- Kilsaran Concrete has an Emergency Action Plan and Emergency Telephone Contact List in the event of an environmental or other emergency. The plan and list are located in the **Quarry Office**. The Emergency Action Plan identifies the potential for emergency situations and the corresponding response. The Emergency Action Plan also considers the prevention and mitigation of any environmental impacts associated with accidents or emergency situations.
- The Emergency Telephone Contact List, posted in the **Quarry Office** contains the names and numbers of persons to be contacted in the event of an emergency. This contact list will be reviewed at least annually and revised if necessary, to ensure accuracy.

In the event of fire, or other emergency, staff shall remove themselves from danger, contact the **Quarry Manager**, and contact appropriate fire/police/rescue personnel by dialling 999 or 112.

9. Monitoring & Measurement

To demonstrate compliance with the requirements of a number of the planning conditions (which specify that details of the ongoing environmental monitoring programme be agreed with the planning authority prior to the commencement of the development), Kilsaran proposes the following comprehensive monitoring programme for the quarry.

Table 3 – Environmental Monitoring Schedule

Aspect	Parameter	Locations	Frequency
Noise	A Weighted	5	Monthly
Dust	Fugitive Dust	5	Continuously
Groundwater	Elevation	1	Monthly
Blast Monitoring	Ground Vibration	Various	Every Blast
	Air Overpressure	Various	Every Blast

Note 1: Dust monitoring will be carried out in accordance with the German TA Luft Air Quality Standards (1996) – The Bergerhoff Method (German Standard VDI 2119, 1972) as recommended by the EPA Extractive Guidance. Levels recorded will be compared to the TA Luft dust deposition limit of 350mg/m2/day (when averaged over a 30 day period) (+ or – 2 days). Monitoring will be carried out at the site boundary adjacent to sensitive receptors located to north, east, south, southwest and west of the excavation area.

Note 2: Noise Monitoring will be carried out monthly for a period of 15 minutes at each of the five locations at the site boundary adjacent to sensitive receptors located to the north, east, south, southwest and west of the excavation area.

Note 3: There are currently 1 number groundwater monitoring wells drilled across the property, it is proposed to continue to record the level in Well 3, as shown on EMS1 on a monthly basis. This will need to be reviewed as the excavation progresses across the site and wells are removed.

The locations of these monitoring and recording stations are marked on the attached drawing, Plan EMS1.

Kilsaran Concrete will engage independent experts to monitor noise, dust, and groundwater.

10. Reporting

It is proposed that quarterly reports of the environmental monitoring results for noise, dust and groundwater be submitted to the planning authority.

The reporting quarters shall be as follows:

Quarter 1 – January to March

Quarter 2 – April to June

Quarter 3 – July to September

Quarter 4 – October to December

Quarterly reports shall be submitted to the planning authority as expeditiously as possible following the end of a preceding quarter, bearing in mind there are lead in times associated with analysis of certain environmental parameters.

11. Environmental Management System Audits

Kilsaran Concrete audits its EMS at least **once a year**. The purpose of audits is to determine if the EMS has been properly implemented and maintained. The EMS Audit procedure is as follows:

Scope

- The audit will include all components of this EMS.

Frequency

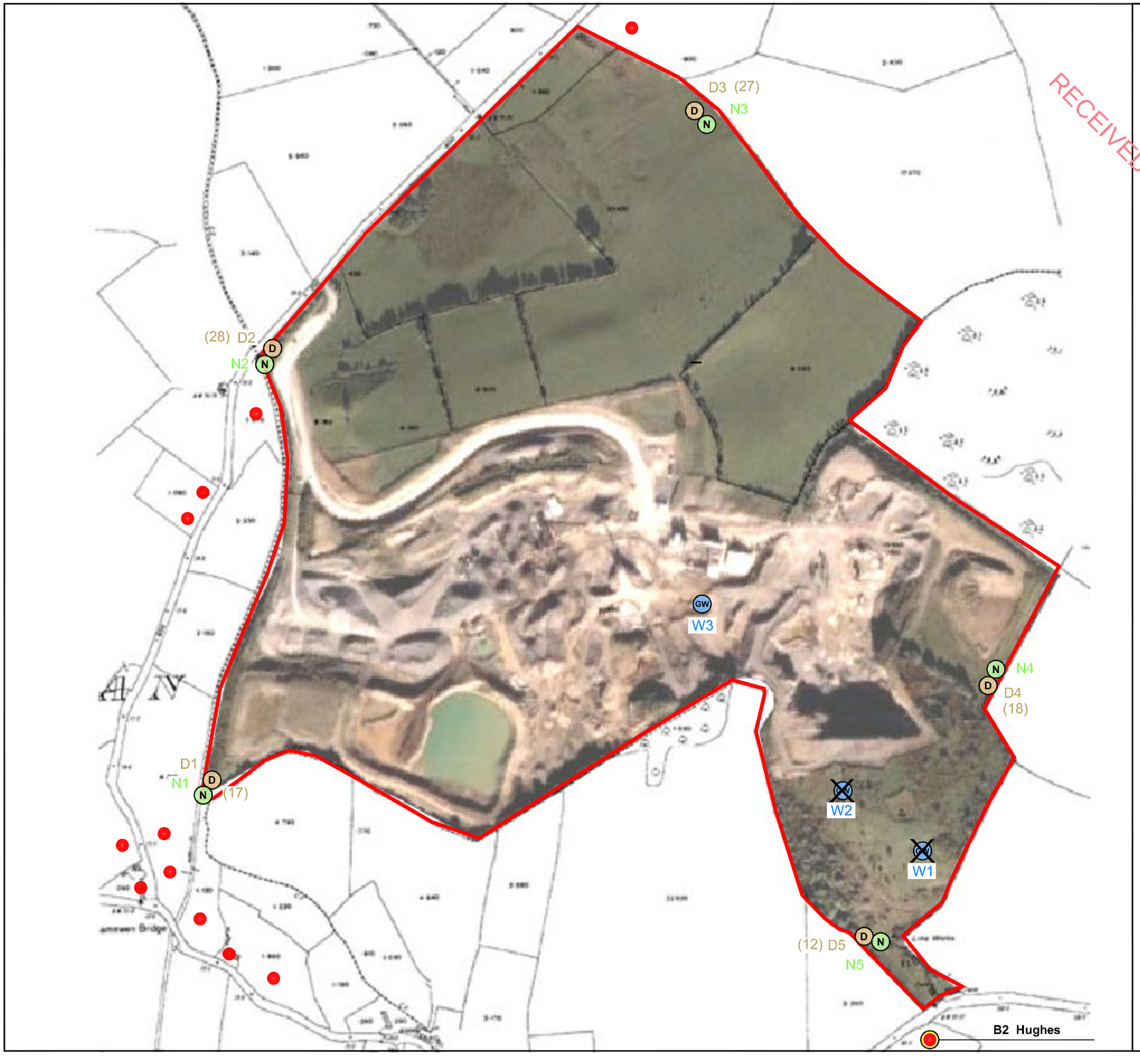
- The audit will occur **Annually**.

Methodology

- The **Audit Team** will review EMS documents prior to the audit.
- An on-site audit using the Irish Concrete Federation Environmental Code Audit Checklist will be carried out every year by the **Audit Team**.
- The audit will also consist of the **Audit Team** reviewing the EMS and noting any findings or corrections needed.
- Audit findings will be recorded and dated.

Responsibility

- The **Environmental Manager** will verify that all negative observations or non-conformances identified during the audit are effectively addressed.



Kilsaran
ideas taking shape

LEGEND

- Residence
- N — Noise Monitoring Location
- D — Dust Monitoring Location
- GW — Groundwater Monitoring Location
- Blast Monitoring Location

Site Code

CD

Development at:-

CLONARD FACILITY
Kilrathmurry, Co. Kildare

Date:- Dec 2021

Scale:- 1/4,000

Drawn By:-

Fergus Gallagher MSCSI, MRICS
Chartered Minerals Surveyor
Kilsaran Concrete, Dunboyne, Co Meath

Based on Ordnance Survey 1:2500

ENVIRONMENTAL MONITORING

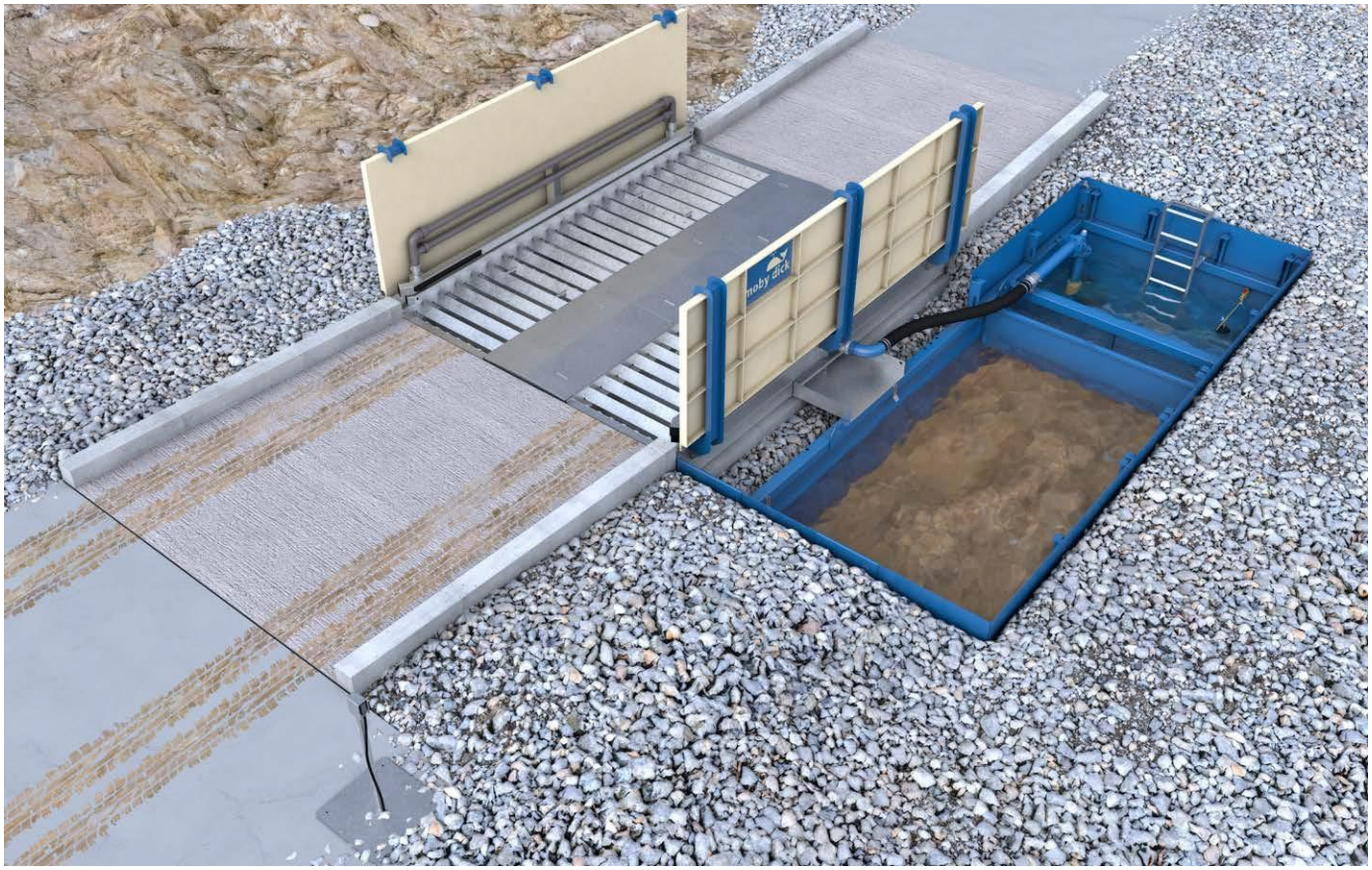
PLAN EMS1 v2

Appendix 2-D
Proposed New Wheelwash Details

Wheel washing system
MobyDick ConLine KIT Flex 400 B

Art. no. MDK-A300-400B

Galvanized, water-bearing wash unit with splash guard walls, recycling tank, pump technology, and a control system.



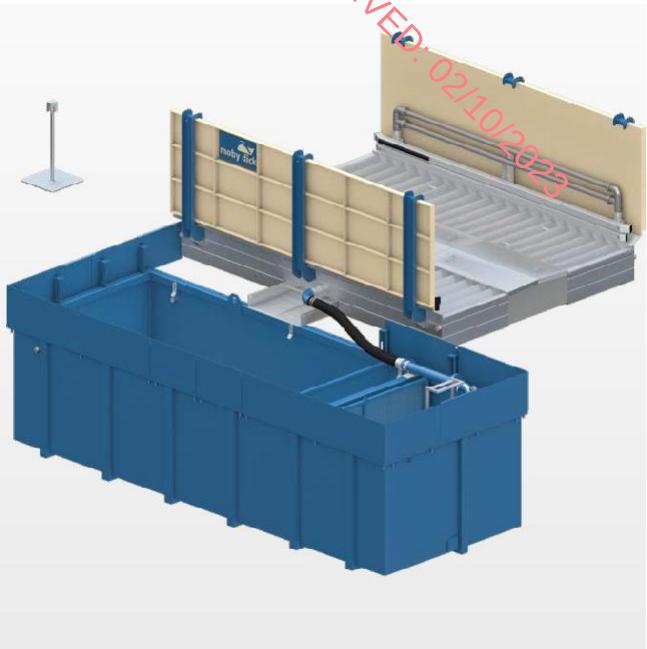
KIT Flex 400 B – A model from the ConLine KIT Flex range

ConLine KIT Flex – The modular concept for the construction industry

The wheel washing systems of the ConLine KIT Flex line were developed by our engineers specifically for the needs of the construction industry. The basic unit of the modular concept consists of a robust 158 inch long wash unit and a recycling tank. It can be combined with a scraper conveyor, a mobility package or a second basic unit to form eight different wheel washing systems that are 158 or 316 inch in length. All models can be installed quickly and impress thousands of operators around the world.

Function description

A truck drives slowly into the wheel washing system. The vehicle identification sensor automatically triggers the washing process. The specially coordinated nozzle system, consisting of a large number of bottom and side nozzles, then ensures the intensive cleaning of all tires and the entire chassis in one wheel rotation. Higher vehicle areas such as windows and rear-view mirrors are not washed, to leave the driver's field of vision clear. The kneading effect created by the angle profiles gives the tire profiles additional cleaning. The duration of the washing process can be freely selected using the timer relay in the control cabinet, in accordance with the relevant operating conditions. The waste water runs via the return channel from the wash unit to the side recycling tank. This is where the washed-off solids settle out. The water is fed under a surge wall and over the partition wall with sieve insert into the pump chamber. There it is reused by a robust MobyPump submersible pump for further spraying. An excavator or suction vehicle removes the settled solids from the recycling tank.



Water recycling

In all MobyDick wheel washing systems the water is circulated in a closed circuit. Water treatment is via sedimentation in the recycling tank. Sedimentation can be accelerated by adding a flocculant. The solids that settle out in the recycling tank should be extracted with an excavator or suctioned out with a suction vehicle at regular intervals (depending on how frequently the system is used).

Scope of supply

- Galvanized, water-bearing wash unit
- Splash guard wall per side
- Double side nozzle bars per side
- Galvanized return channel for the waste water
- Control cabinet
- Optical sensor to trigger the washing process
- 2 MobyPump submersible pumps
- Pump bracket and piping
- Recycling tank 20 B with entry ladder
- Rim elevation on recycling tank to end at ground level

Specifications (Dimensions see layout)

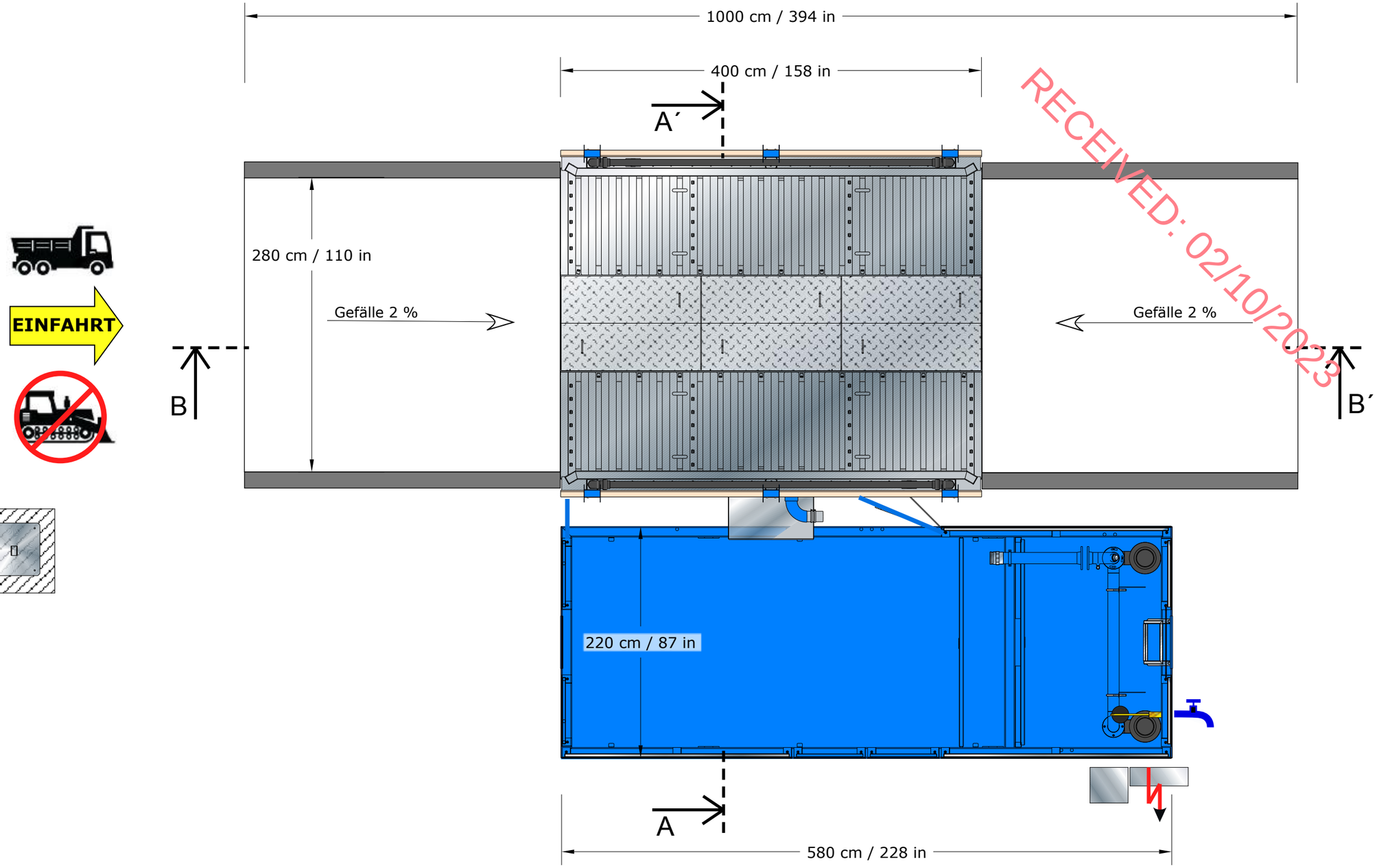
• Drive-through length	158 in
• Passage width	110 in
• Maximum axle load	16.5 tons
• Splash guard wall height	54 in
• Nozzles	130 pcs
• Nozzle Ø	0.28 in
• Recycling tank volume	4760 gal
• Maximum pumping capacity	2×660 gal/min
• Electrical connection value	15.0 HP
• Sound emission	< 75 dB
• Weight (ready to ship)	6.6 tons

Fields of application

The KIT Flex 400 B model can wash up to 150 moderately soiled trucks per day.

Typical operation sites – depending on the number of trucks and degree of soiling – are

- Construction sites
- Gravel pits and quarries
- Concrete mixing plants
- Recycling facilities
- Landfill sites
- Port facilities
- Food industry
- Cleaning and disinfection
- Other areas on request



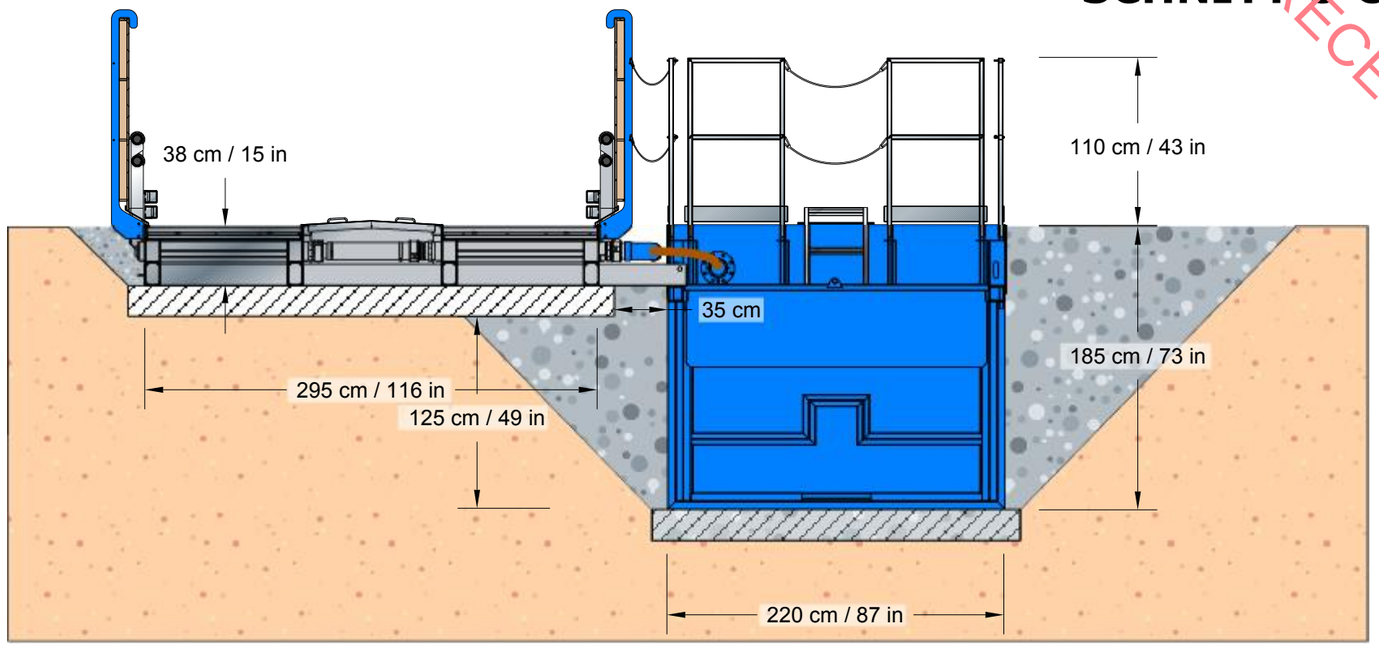
26.6.2017	V 1.0.	MoW	1 / 2
CL Kit Flex 400 B		**Layout**	
MDK-A300-400B			

moby dick MaxiWaschtag

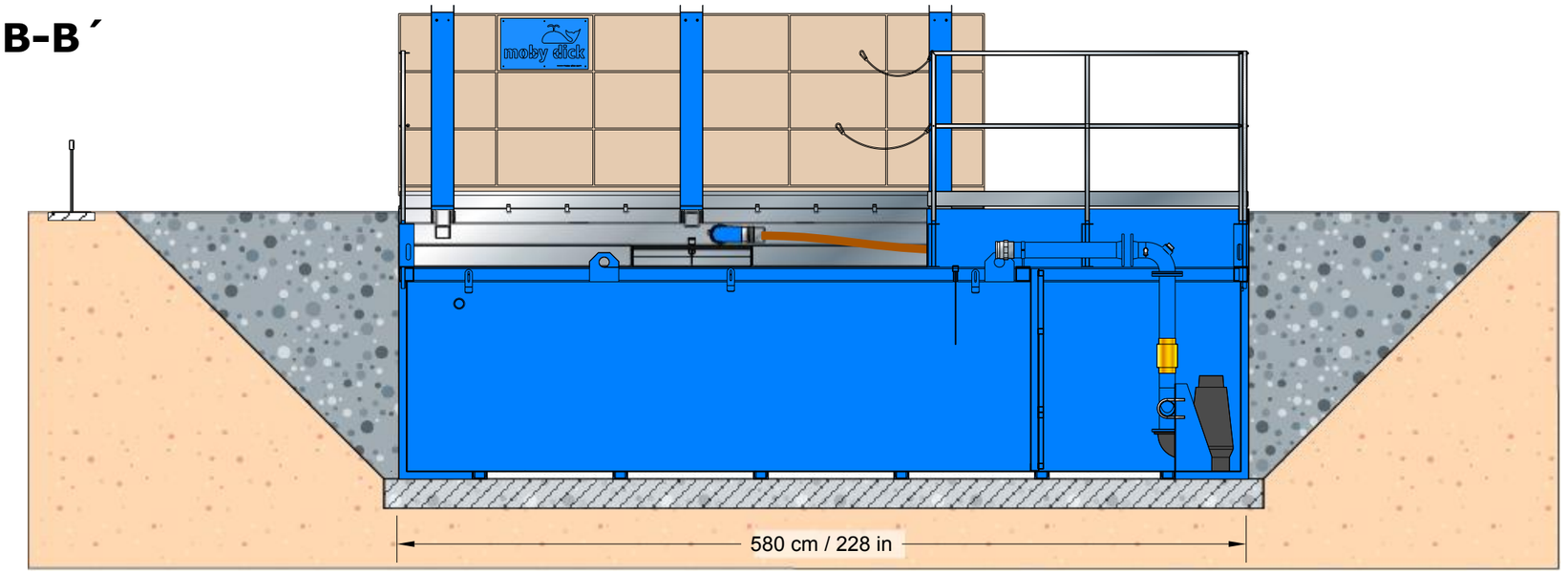
FRUTIGER Power in Tipper and Vehicles

SCHNITT A-A´

SCHNITT C-C´



SECTION B-B´



26.6.2017	V 1.0.	MoW	2 / 2
CL Kit Flex 400 B		**Layout**	
MDK-A300-400B			
moby dick		FRUTIGER	

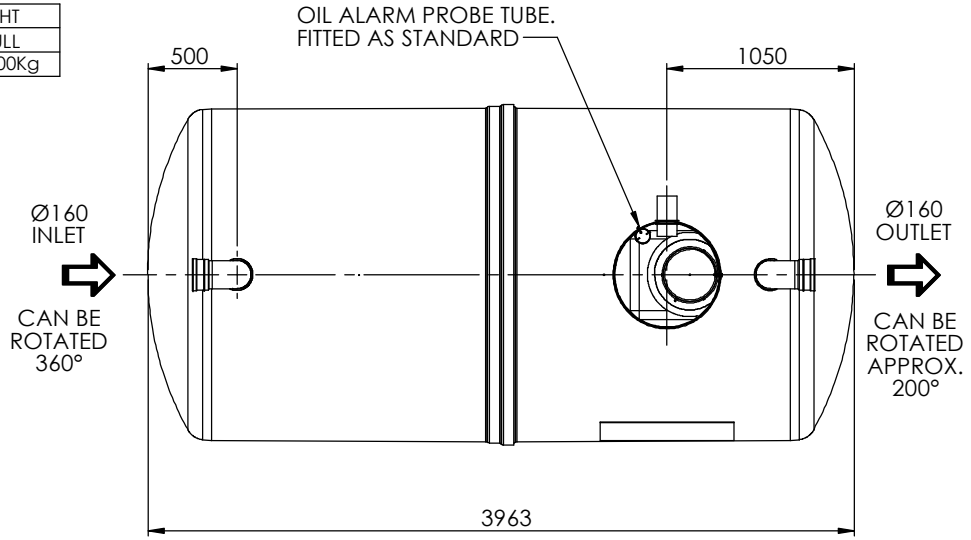
Appendix 2-E
Existing Hydrocarbon Interceptor Details

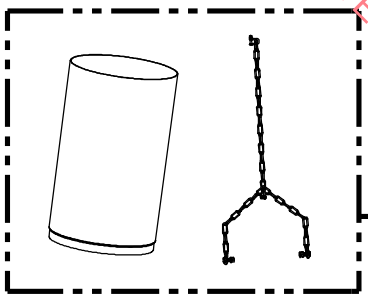
NS10 Enviroceptor Forecourt Separator

CONCRETE BACKFILL

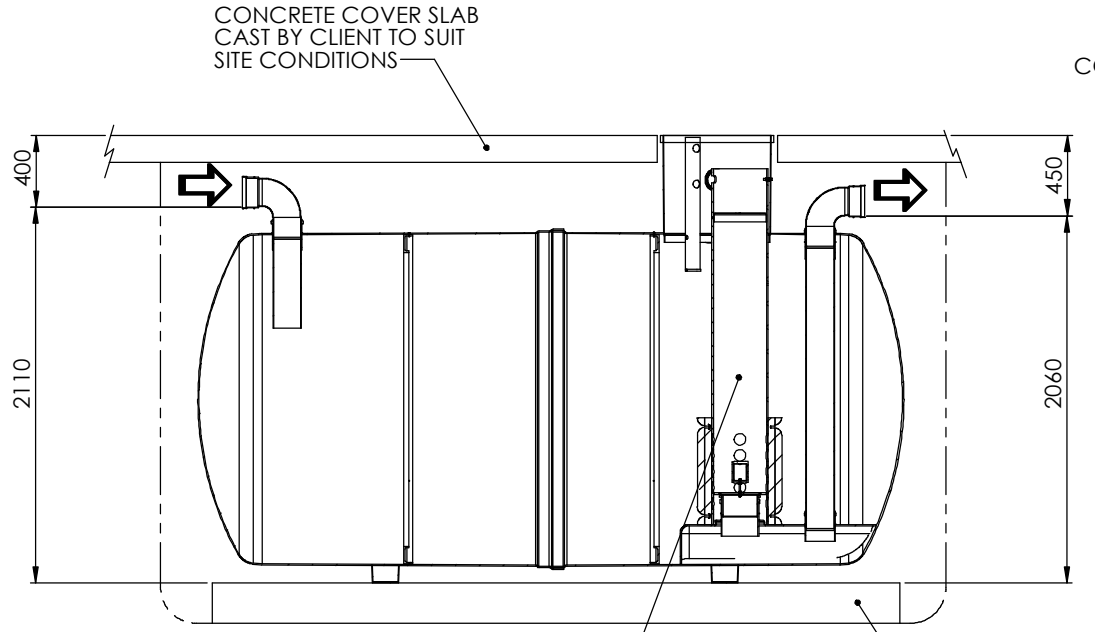
APPROX. WEIGHT	
EMPTY	FULL
500 Kg	10,500Kg

NOTE:- THE DESIGN OF THIS UNIT IS BASED ON AN NS10 FULL RETENTION UNIT

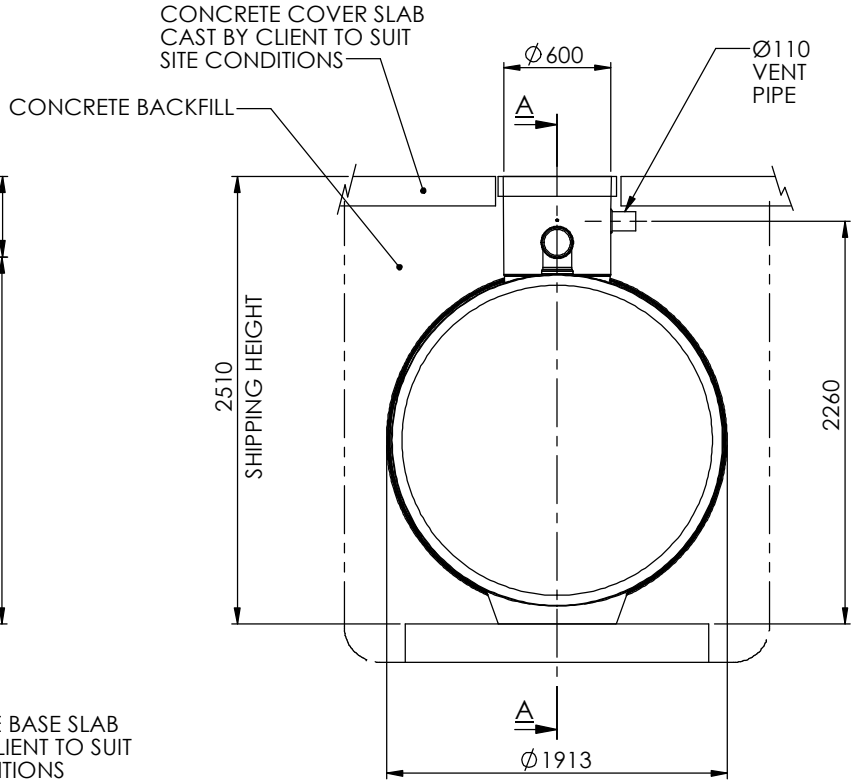




EXTENSION COMPONENTS
SUPPLIED IF REQUIRED
FOR ON SITE FITTING
SEE ARTICLE STRUCTURE



SECTION A-A



Please Check with Environmental Treatment Systems Limited For The Latest Issue Of This Drawing

Issue	Date	Drawn by	Approved by	Description
03	19.02.18	T.Kelly		CC1405 - Coalescer Extension Chains were Pipes
02	29.02.16	T.Kelly		CC1297 - Full Weight Corrected (Both Sheets)

Material : Spray Laminate	Tolerance (unless stated) : ±0.5mm
Finish : n/a	Thickness : 3mm
Weight : 11.35 Kg Min	Surface Area : EXT 2.23 m²
Modelled By :	

Drawing : DS1248

Enviroceptor Forecourt Separator (NS10)

All Dimensions In mm

Scale: Do Not Scale

Third Angle Projection

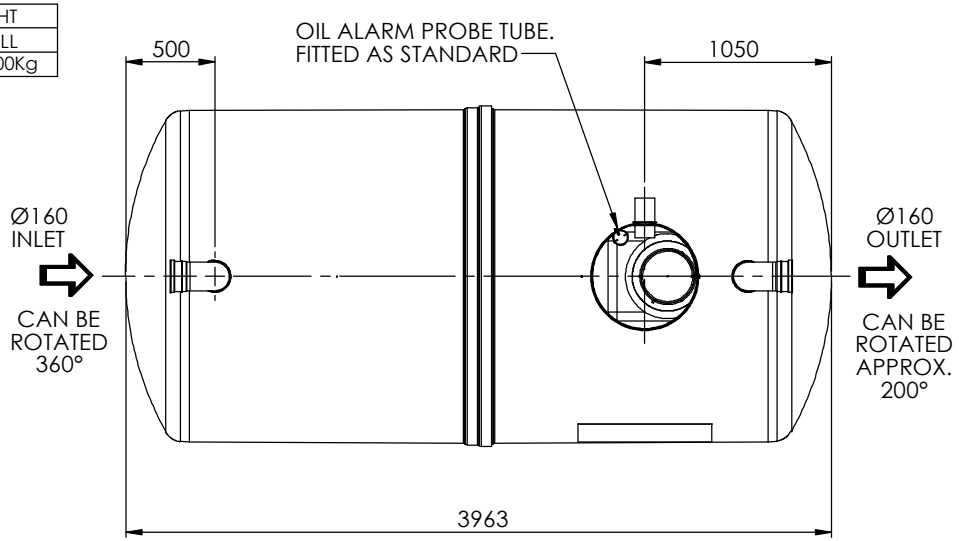
R:\Drawing Data\02 - Sales Drawings\DS\DS - 12\DS1248

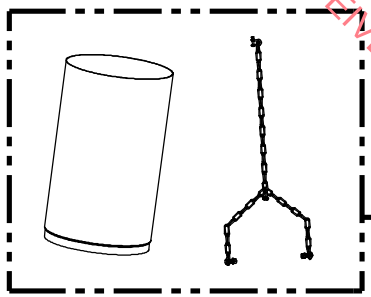
Kingspan Environmental

PEASHINGLE BACKFILL

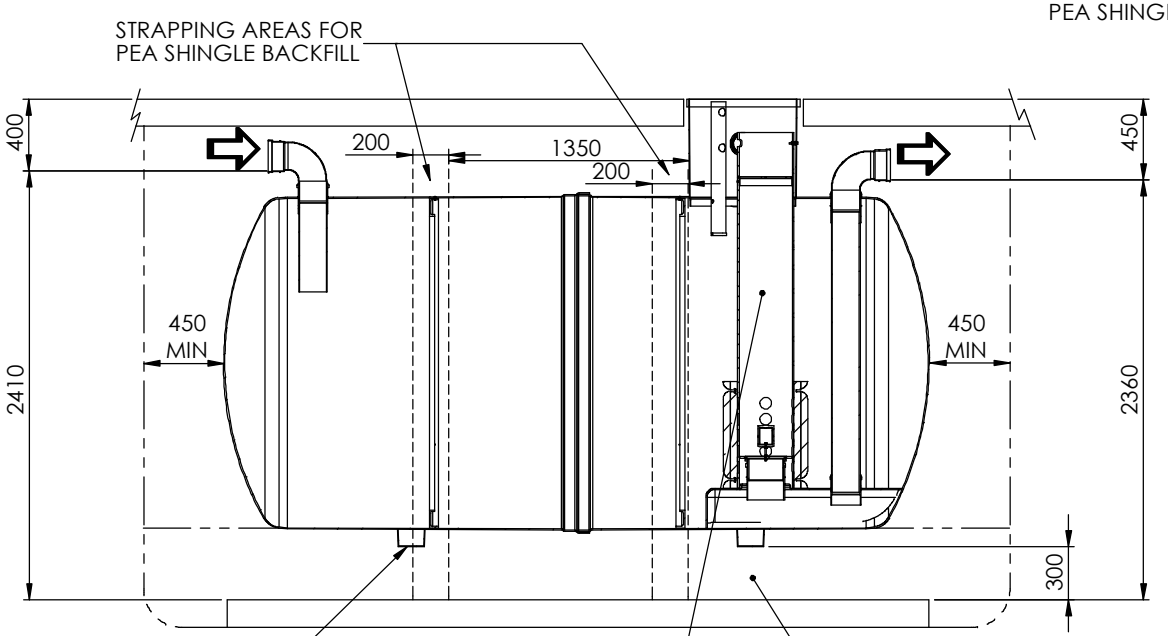
APPROX. WEIGHT	
EMPTY	FULL
500 Kg	10,500Kg

NOTE:- THE DESIGN OF THIS UNIT IS BASED ON AN NS10 FULL RETENTION UNIT





EXTENSION COMPONENTS SUPPLIED IF REQUIRED FOR ON SITE FITTING SEE ARTICLE STRUCTURE

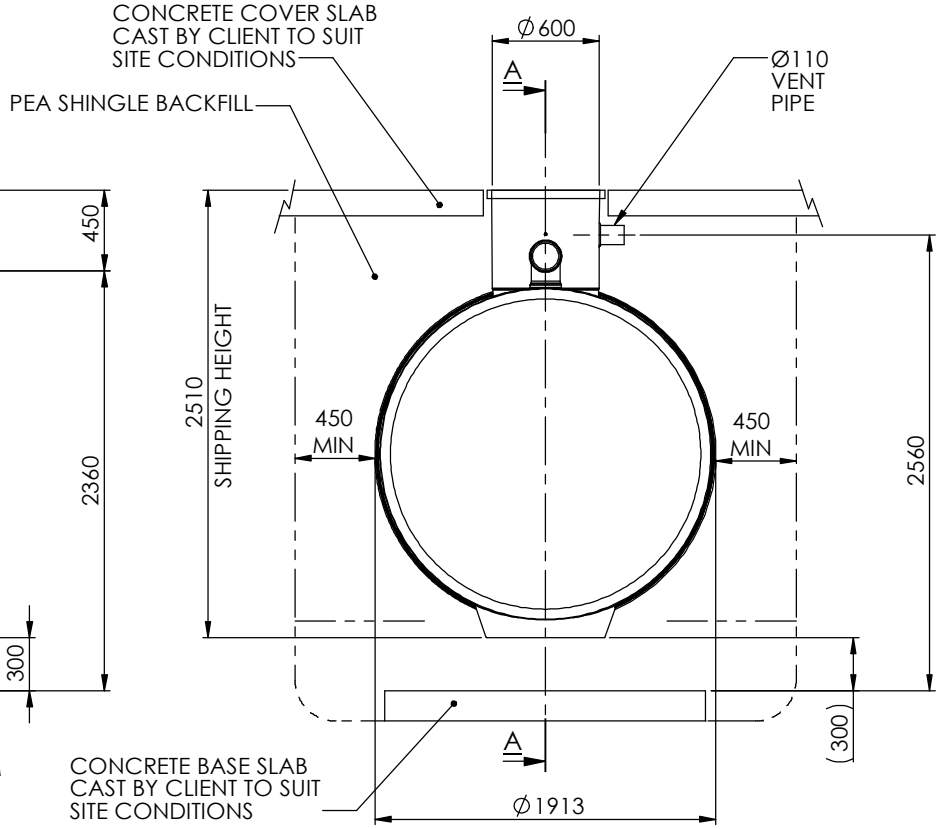


SECTION A-A

FEET MUST NOT BEAR DIRECTLY ONTO CONCRETE BASE SLAB

COALESCER ASSEMBLY WITH SHUT OFF DEVICE (REMOVABLE FOR MAINTENANCE)

300mm MINIMUM PEA SHINGLE BED



CONCRETE BASE SLAB CAST BY CLIENT TO SUIT SITE CONDITIONS

Material : Spray Laminate	Tolerance (unless stated) : ±0.5mm
Finish : n/a	Thickness : 3mm
Weight : 11.35 Kg Min	Surface Area : EXT 2.23 m²
Modelled By :	

Drawing : DS1248

Enviroceptor Forecourt Separator (NS10)

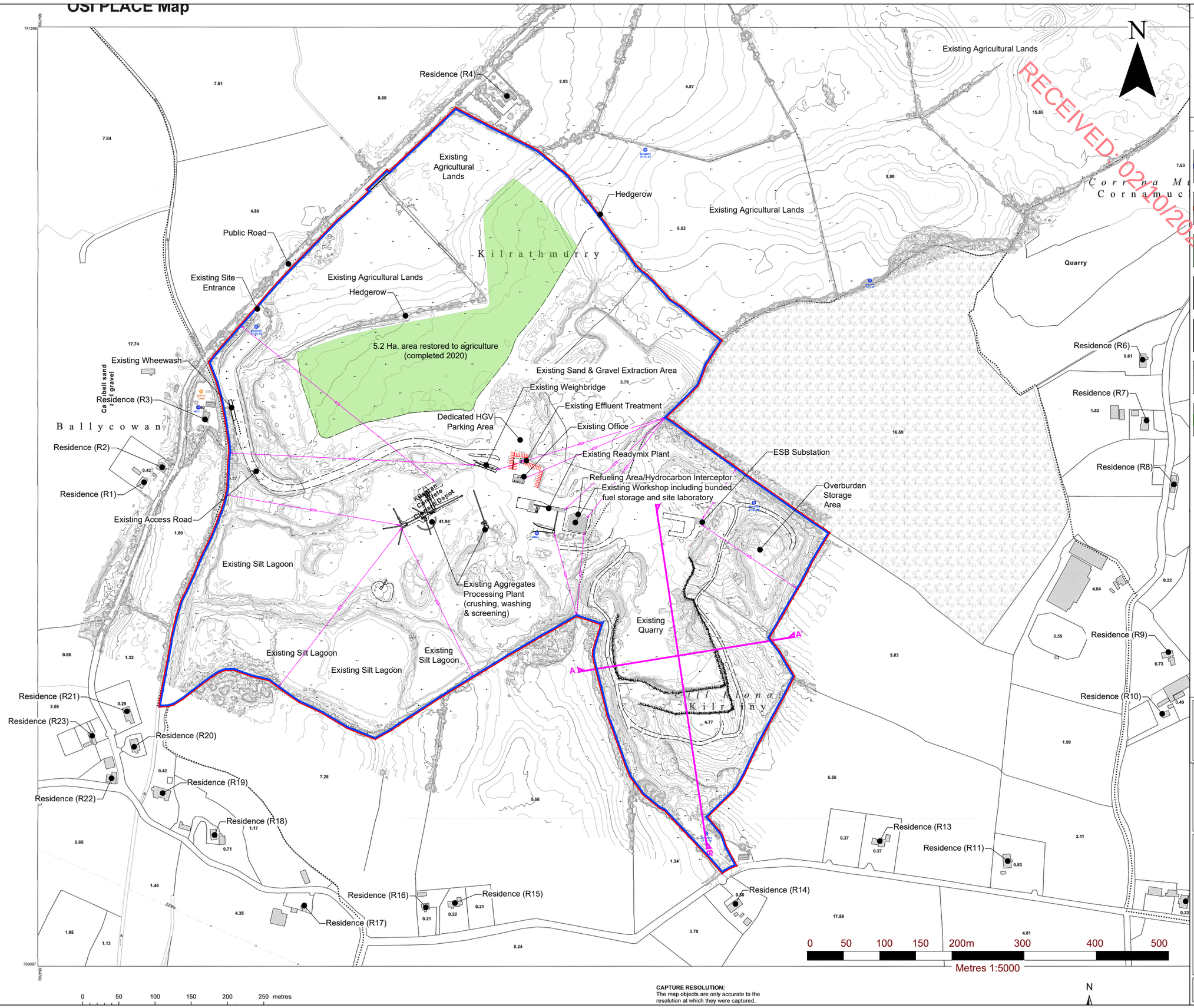
All Dimensions In mm | Scale: Do Not Scale | Third Angle Projection

Kingspan Environmental

R:\Drawing Data\02 - Sales Drawings\DS\DS - 12\DS1248

FIGURES

OSI PLACE Map



CAPTURE RESOLUTION:
The map objects are only accurate to the resolution at which they were captured.

NOTES

Extract from Ordnance Survey 1:5000 Sheets 3119 & 3051

Ordnance Survey Ireland Licence No. CYAL50316488
(c) Ordnance Survey Ireland and Government of Ireland

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY (c. 51.6 ha)
- SITE APPLICATION AREA c.51.6 ha
  TOTAL APPLICATION AREA c.51.7 ha
  (Site & Road Works)
- AREA RESTORED TO AGRICULTURAL LANDS IN 2020 (c.5.2 HECTARES)
- CONTOURS
- BUILDINGS / STRUCTURES
- CROSS SECTION LOCATIONS
- INTERNAL SITE HEDGEROWS

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ENVIRONMENTAL IMPACT ASSESSMENT REPORT

QUARRY DEVELOPMENT AT
KILRATHMURRY & KILRAINY
TOWNLANDS, CO. KILDARE

EXISTING SITE LAYOUT

FIGURE 2-1

Scale	Date
1:5,000 @ A3	SEPTEMBER 2023

00036.065251 Clonard EIAR Fig 2-1 Existing Layout.dwg

OSi PLACE Map

Residence (R4)
Existing Agricultural Lands
Proposed New Entrance
(Entrance to be constructed with fall back into site away from public road)
Proposed Acoustic Fence (c.170m)
Hedgerow
Public Road
Proposed Internal Barrier
New Internal Access Road
Proposed Wheelwash
Existing Site Entrance (to be closed)
Existing Agricultural Lands
Retained Hedgerow
Existing Agricultural Lands
Quarry
Proposed Screening Berm
Existing Wheewash (to be removed and replaced with new along new access road)
Residence (R3)
5.2 Ha. area restored to agriculture (completed 2020)
2.5 Ha. area for restoration 1 year following closure of existing entrance
Existing Sand & Gravel Extraction Area
Existing Weighbridge
Existing Effluent Treatment
Existing Office
Existing Car Parking
Existing Readymix Plant
Refueling Area/Hydrocarbon Interceptor
Existing Workshop including bunded fuel storage and site laboratory
ESB Substation
Overburden Storage Area
Residence (R6)
Residence (R7)
Residence (R8)
Residence (R2)
Residence (R1)
Existing Access Road
Existing Access Road (to be replaced)
Existing Silt Lagoon
Existing Aggregates Processing Plant (crushing, washing & screening)
Proposed Lateral Quarry Extension
P.Ref.99/2042 Quarry Footprint
Final Quarry Extraction Area at c.75.1m AOD
Quarry Bench
Quarry Face
Final Quarry Extraction Area (c.6.2 Ha.)
Residence (R9)
Residence (R10)
Residence (R21)
Residence (R23)
Residence (R20)
Residence (R19)
Residence (R22)
Residence (R18)
Residence (R16)
Residence (R15)
Residence (R17)
Residence (R13)
Residence (R11)
Residence (R27)
Residence (R14)
Residence

Ballycowan
Kilrathmurry
Corr na Muclac
Cornamucklagh

0 50 100 150 200m 300 400 500
Metres 1:5000

N

NOTES

Extract from Ordnance Survey 1:5000 Sheets 3119 & 3051

Ordnance Survey Ireland Licence No. CYAL50316488
(c) Ordnance Survey Ireland and Government of Ireland

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY (c. 51.6 ha)
- SITE APPLICATION AREA c.51.6 ha TOTAL APPLICATION AREA c.51.7 ha (Site & Road Works)
- AREA RESTORED TO AGRICULTURAL LANDS IN 2020 (c.5.2 HECTARES)
- AREA TO BE RESTORED FOLLOWING EXISTING ENTRANCE CLOSURE (c.2.5 HECTARES)
- CONTOURS
- BUILDINGS / STRUCTURES
- CROSS SECTION LOCATIONS
- INTERNAL SITE HEDGEROWS

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QUARRY DEVELOPEMENT AT KILRATHMURRY & KILRAINY TOWNLANDS, CO. KILDARE

PROPOSED SITE LAYOUT

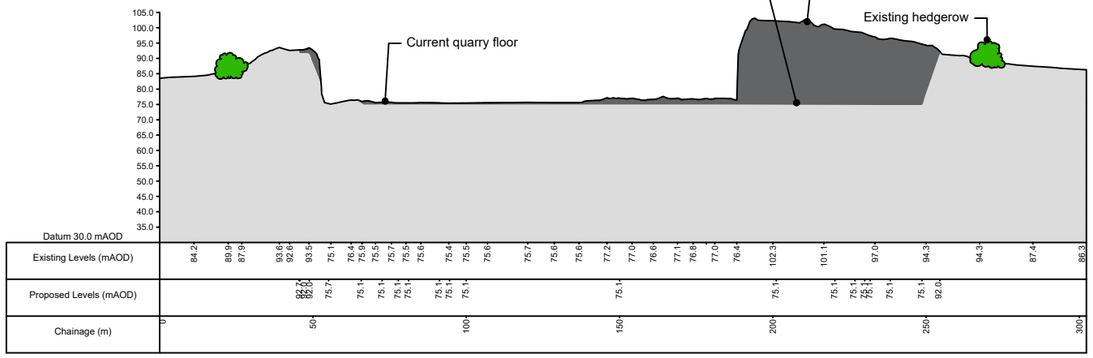
FIGURE 2-2

Scale 1:5,000 @ A3

Date SEPTEMBER 2023

00036.065251 Clonard EIAR Fig 2-2 Proposed Layout.dwg

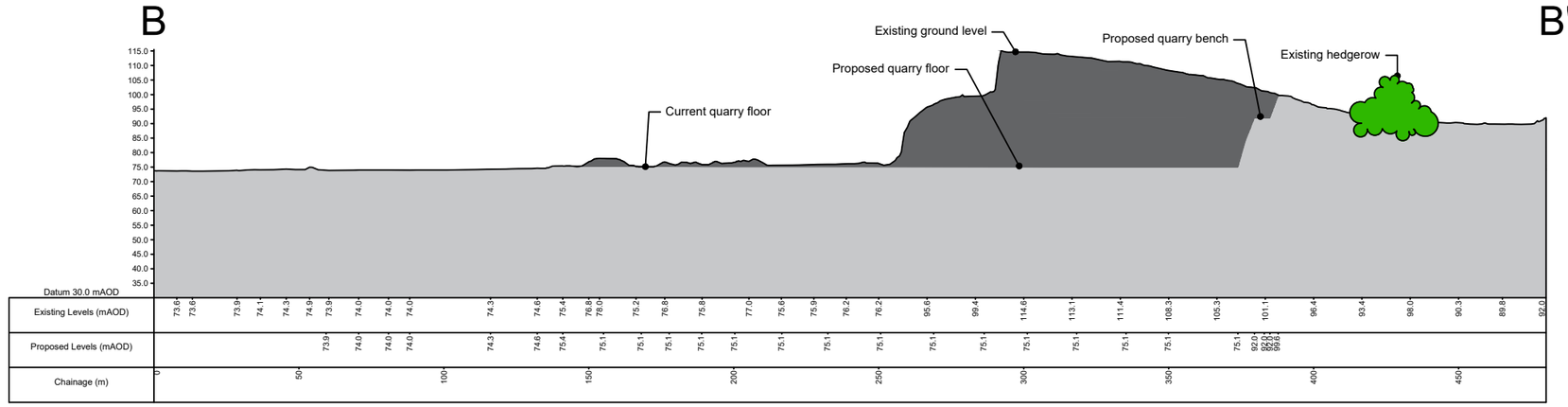
A



A'

Scale 1 to 1,000 (Horiz and Vert)

B



B'

Scale 1 to 1,000 (Horiz and Vert)

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QUARRY DEVELOPMENT AT
KILRATHMURRY & KILRAINY
TOWNLANDS, CO. KILDARE

EXISTING & PROPOSED SITE CROSS SECTIONS

FIGURE 2-3

Scale	Date
1:2,500 @ A3	SEPTEMBER 2023

0 80m 200

Metres 1:2500

00036.065251 Clonard EIAR Fig 2-3 Cross Sections.dwg

00036.065251 Clonard EIAR Fig 2-4 Landscape Plan.dwg

LANDSCAPE SCHEME

A number of landscape works will be carried out in conjunction with the commencement of the proposed development, i.e. the extraction of rock within the quarry area, as described further below and indicated on the plan to the left.

Please note that the plan also indicates the tree/shrub/hedgerow vegetation, which will require removal to facilitate the proposed development. Should planning permission be received, the affected trees are deemed to be exempt from requiring a felling licence in line with the Forestry Act 2014. Please also note that due to the density of some of the vegetation areas and/or small size of some of the affected plants, it is not feasible to identify every individual tree. Many of the trees to be removed are hawthorn, which are exempt from requiring a felling licence. Other species present within each of the affected areas are indicated on the plan.

LANDSCAPE PROPOSALS

Grassland Restoration Areas: Within one year of the access road being moved to its proposed new location, the area covering and surrounding the existing access road will be broken up, levelled, covered with topsoil (from storage on site) and restored to agricultural land. The same techniques, which have been previously employed in the restoration of the area to the north-west of the processing area, will be used.
Native Hedge Planting: A native hedge will be planted approximately 5m behind the sightlines required at the new site entrance. This hedge will replace the existing hedgerow, which will have to be removed to facilitate same. The proposed hedge mix includes Feathered Trees at a height of 2-2.5m for some immediate impact and to compensate the loss of approximately 15 mature ash to some extent.
Native Tree Planting: Blocks of native trees will be planted in a number of locations, i.e. at the new site entrance, to close off the existing site entrance, along the hedge which is crossed by the new access road and on the proposed screening berm. The planting will augment the screening of the existing boundary vegetation and will soften the appearance of the proposed berm. It will also provide cover for mammals and birds, thereby also contributing to the ecological enhancement of the site.
Lagoon Restoration: Parts of the existing silt lagoons are beginning to dry out and will be left to be recolonised by locally occurring scrub species. In order to kick-start this natural recolonisation it is proposed to plant a mix of willow, alder and reed along the driest sections of the lagoons, all of which are able to cope with the initially wet ground conditions. This planting will be carried out within one year of commencement of the proposed development.
Scrub Planting: Scrub species will be planted in gaps between existing patched of scrub, to provide additional screening in views from the south.

Refer to Planning Drawing 7A for the details on all proposed planting mixes.

PLANTING NOTES

Tree Planting: The proposed tree and hedgerow mixes contain locally occurring native species. Except for a small percentage of feathered trees along the site entrance, all stock is proposed to be supplied as transplants at 60-120cm height, as this type of stock is known to establish more successfully compared to larger stock. All plant handling, planting and establishment works will be carried out in accordance with current best practice and will take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions.
Aftercare: Establishment maintenance will be carried out for 2 years following the planting works (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of spiral guards.
All planting and maintenance works will be carried out by a suitably qualified landscape contractor.

NOTES

Aerial photography dated June 2021, provided by Kilsaran Concrete Unlimited Company

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY (c. 51.6 ha.)
- SITE APPLICATION AREA c.51.6 ha TOTAL APPLICATION AREA c.51.7 ha (Site & Road Works)
- PROCESSING/STORAGE/OFFICE AREAS TO BE RETAINED FOR THE DURATION OF THE DEVELOPMENT

TREE REMOVAL

- HEDGEROWS / TREES TO BE REMOVED TO FACILITATE THE PROPOSED DEVELOPMENT

LANDSCAPE PROPOSALS

- AREA TO BE RESTORED TO AGRICULTURAL LANDS WITHIN ONE YEAR OF THE RELOCATION OF THE ACCESS ROAD
- NATIVE HEDGE PLANTING ALONG PUBLIC ROAD, TO REPLACE HEDGE REMOVED FOR SIGHTLINES
- PROPOSED 2M HIGH TIMBER ACOUSTIC FENCE ON NORTH / EAST SIDE OF NEW ACCESS ROAD
- GRASSED SCREENING BERM WITH NATIVE TREE PLANTING ON OUTER SLOPES
- NATIVE TREE PLANTING (AT OLD AND NEW SITE ENTRANCE AND TO CLOSE GAP IN EXISTING HEDGEROW)
- WILLOW-ALDER-REED PLANTING ALONG SOME EDGES OF THE SETTLEMENT LAGOONS
- SCRUB PLANTING AMONGST EXISTING SCRUB

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ENVIRONMENTAL IMPACT ASSESMENT REPORT

QUARRY DEVELOPMENT AT KILRATHMURRY & KILRAINY TOWNLANDS, CO. KILDARE

PROPOSED LANDSCAPE PLAN

FIGURE 2-4

Scale: 1:5,000 @ A3
Date: SEPTEMBER 2023

00036.065251 Clonard EIAR Fig 2-5 Restoration Plan.dwg

RESTORATION SCHEME

The existing sand & gravel pit and processing/storage areas will be restored to agricultural land. The remainder of the site will be restored to a natural habitat. Both are benificial afteruses, in line with the 2006 EPA Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals).

RESTORATION PHASING:

Restoration Phase 1 will be carried out as soon as the area along the existing access road, which is to be closed off, is restored to agricultural land. Restoration Phase 2 will be carried out on completion of all extraction works.

RESTORATION ELEMENTS:

Agricultural land: The pit floor areas and majority of the processing area will be restored to agricultural land. Any pit faces below 1m in height will be smoothed out to tie into the adjoining land and also restored to agriculture. The respective areas will be cleared, levelled, covered with subsoil and topsoil and restored to agricultural land, using the same techniques, previously employed in the restoration of other areas throughout the site. Pit faces above 1m in height will be will be re-graded to slopes less than 27° (i.e. 2:1, H:V).

Hedge Planting: Native hedges will be planted in a number of locations crossing the large grassland restoration areas, in order to compensate the loss of previously removed hedgerows, and further increase the connectivity of habitats within the site, also contributing to the ecological enhancement of the site. Refer to the Hedge Mix below.

Natural regeneration: The settlement lagoons will be left to fully dry out naturally and to be colonised with scrub species. This will be aided by the willow-alder-reed mix planted in parts of the lagoons during the landscape phase. The quarry void will cleared and also left to natural regeneration. Natural regeneration is a viable restoration tool, as can be seen in the south-western corner of the application area, where a settlement lagoon was previously located and which is now completely covered over with grass and scrub species. An area surrounding the settlement ponds will also be left for natural regeneration, as a buffer to the adjoining restored agricultural land.

GSI request: Access will be allowed to quarry faces by appropriate scientists (upon request and with due regards to Health and Safety requirements) during quarrying to check for interesting new stratigraphies / relationships as they might become exposed and to establish if the quarry / sand and gravel site is worthy of recognition post extraction and through aftercare / restoration planning. The upper faces of the quarry will be left exposed on cessation of the extraction works. Should any of the sand and gravel pit slopes be deemed of interest to the GSI, a section of these will also be retained.

GENERAL NOTES:

Grass Seeding: All grass sowing will take place, whilst suitable weather conditions prevail. The surface preparation and the sowing specifications will be as per the manufacturer's instructions.

Hedge Planting: The proposed hedge mix contains locally occurring native species. All stock is proposed to be supplied as transplants at 40-90cm height, as this type of stock is known to establish more successfully compared to larger stock. All plant handling, planting and establishment works will be carried out in accordance with current best practice and will take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions.

Aftercare: Establishment maintenance will be carried out for 2 years following the planting works (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of spiral guards.

All planting and aftercare will be carried out by a suitably qualified landscape contractor.

NATIVE HEDGE MIX

Double row of staggered plants, using 3 plants/metre (30cm between the rows and ca. 33cm between plants. 2,030 lin.m. / 6,090 plants in total. To be planted randomly with no more than 5 plants of the same species in a row. All plants to be protected with spiral guards. Alternatively, the hedgerows can be enclosed by rabbit proof fencing.

No.	*Plant Name*	*Common Name*	*Height (cm)*	*Age/Pot Size*	*%*
Transplants					
305	Alnus glutinosa	Common Alder	60-90	1+1	05
1,220	Corylus avellana	Hazel	60-90	1+0	20
1,820	Crataegus monogyna	Hawthorn	60-90	1+1	30
305	Prunus avium	Wild cherry	60-90	1+0	05
1,220	Prunus spinosa	Blackthorn	60-90	1+0	20
610	Rosa canina	Dog rose	40-60	1+1	10
610	Sambucus nigra	Elder	60-90	1+1	10

NOTES

Aerial photography dated June 2021, provided by Kilsaran Concrete Unlimited Company

LEGEND

- APPLICANTS LAND INTEREST BOUNDARY (c. 51.6 ha.)
- SITE APPLICATION AREA c.51.6 ha
  TOTAL APPLICATION AREA c.51.7 ha (Site & Road Works)
- AREAS PREVIOUSLY RESTORED TO AGRICULTURAL LAND TO BE RETAINED
- TREE / HEDGE / SCRUB PLANTING CARRIED OUT DURING LANDSCAPE PHASE TO BE RETAINED

RESTORATION PHASE 1
(TO BE CARRIED OUT ON COMPLETION OF THE RESTORATION OF THE LAND ALONG THE EXISTING ACCESS ROAD TO AGRICULTURAL LAND)

- NATIVE HEDGE PLANTING

RESTORATION PHASE 2
(TO BE CARRIED OUT ON COMPLETION OF ALL EXTRACTION WORKS)

- AREA TO BE RESTORED TO AGRICULTURAL LANDS
- NATIVE HEDGE PLANTING
- SETTLEMENT LAGOONS AND ADJOINING LAND TO BE LEFT FOR NATURAL REGENERATION
- QUARRY VOID TO BE LEFT FOR NATURAL REGENERATION

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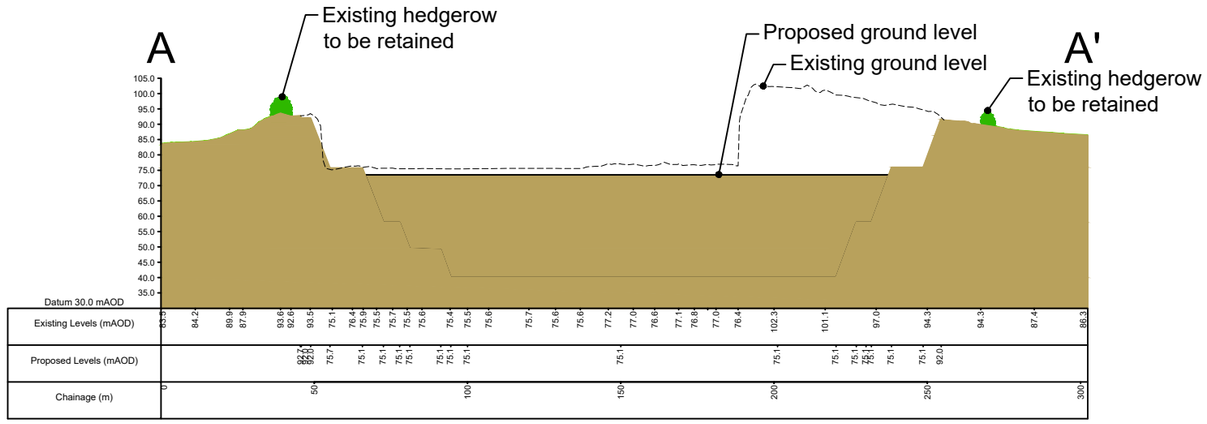
ENVIRONMENTAL IMPACT ASSESSMENT REPORT

QUARRY DEVELOPMENT AT KILRATHMURRY & KILRAINY TOWNLANDS, CO. KILDARE

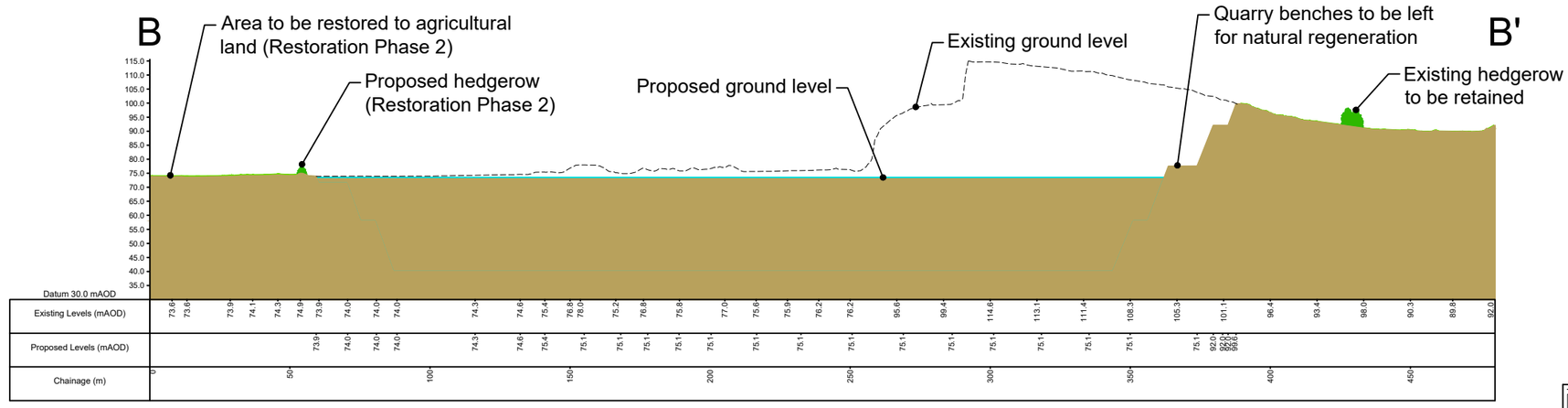
PROPOSED RESTORATION PLAN

FIGURE 2-5

Scale: 1:5,000 @ A3
Date: SEPTEMBER 2023



Scale 1 to 1,000 (Horiz and Vert)



Scale 1 to 1,000 (Horiz and Vert)

0 20 40 60 80m 120 160 200

Metres 1:2000

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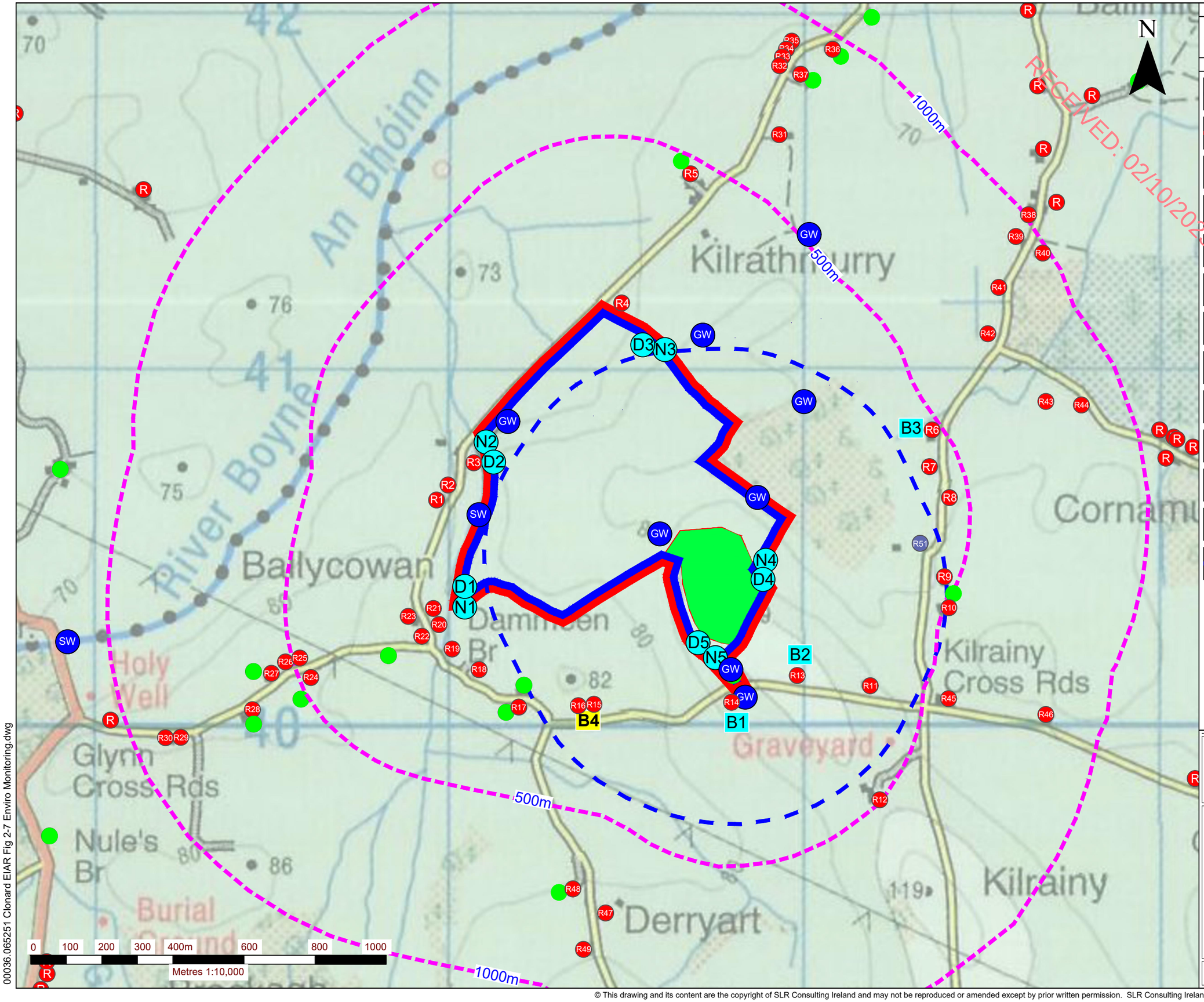
TOWNLANDS, CO. KILDARE

RESTORATION CROSS SECTIONS

FIGURE 2-6

Scale	Date
1:2,000 @ A3	SEPTEMBER 2023

00036.065251 Clonard EIAR Fig 2-6 Restoration Sections.dwg



NOTES

1. EXTRACT FROM 1:50,000 O.S DISCOVERY MAPS NO. 49

2. ORDNANCE SURVEY IRELAND LICENCE NO. CYAL50316488
(C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND

LEGEND

- LANDS UNDER THE CONTROL OF THE APPLICANT
- SITE PLANNING APPLICATION AREA
- 500m DISTANCE OFF-SET FROM PLANNING APPLICATION BOUNDARY
- R18 RESIDENCE LOCATIONS
- AGRICULTURAL BUILDINGS
- N1 EXISTING BASELINE NOISE COMPLIANCE MONITORING LOCATIONS (**N1-N5**)
- B1 BASELINE BLAST COMPLIANCE MONITORING LOCATIONS (**B1-B3**)
- D1 EXISTING BASELINE DUST COMPLIANCE MONITORING LOCATIONS (**D1-D5**)
- B4 **PROPOSED ADDITIONAL** BLAST MONITORING LOCATION (**B4**)
- GW **GROUNDWATER** MONITORING LOCATIONS (Refer to EIAR Chapter 7 for details)
- SW **SURFACE WATER** MONITORING LOCATIONS (Refer to EIAR Chapter 7 for details)
- QUARRY EXTRACTION AREA
- 500M OFF-SET FROM **QUARRY EXTRACTION FOOTPRINT**

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TOWNLANDS, CO. KILDARE

EXISTING / PROPOSED ENVIRONMENTAL MONITORING LOCATIONS

FIGURE 2-7

Scale	Date
1:10,000 @ A3	SEPTEMBER 2023

00036.065251 Clonard EIAR Fig 2-7 Enviro Monitoring.dwg