

WASTE HIERARCHY

The waste hierarchy set out by national and European legislation requires that the following priority apply in the development and implementation of waste management policy:

- (i) prevention
- (ii) re-use / preparation for re-use
- (iii) recycling
- (iv) recovery
- (v) disposal.

Prevention is defined in the EU Waste Framework Directive (2008/98/EU) and Irish legislation as *'measures taken before a substance, material or product has become waste, that reduce:*

- (a) the quantity of waste, including through the re-use of products or the extension of the life span of products;*
- (b) the adverse impacts of the generated waste on the environment and human health; or*
- (c) the content of hazardous substances in materials and products'.*

Re-use is defined as *'any operation by which products or components that are not waste are used again for the same purpose for which they were conceived'.*

Preparing for re-use means is defined as *'checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing'.*

Recycling is defined as *'any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations'.*

Recovery is defined as *'any operation, the principal result of which, is waste serving a useful purpose by replacing materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy'.*

Disposal is defined as *'any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy'.* A non-definitive list of disposal activities is provided in Annex 1 of the waste framework directive

The proposed waste facility at Ballinclare Quarry will provide for

- (i) disposal of excavated inert soil and stone and other inert particulate (soil / sludge-like) wastes in a lined landfill developed within an existing quarry void; and
- (ii) the recycling of construction and demolition (C&D) waste to produce recycled (secondary) aggregate (through crushing and washing processes), typically for re-use as general / selected fill on construction and development projects and possibly also for use in production of non-structural concrete.

Landfill Facility

The inert landfill facility at Ballinclare Quarry provides for the disposal of inert soil and stone and other inert particulate (soil / sludge-like) wastes which are not otherwise acceptable for recovery at authorised (unlined) waste recovery facilities.

The inert soil waste imported for disposal at Ballinclare Quarry will typically be generated or excavated at construction / development sites or in the course of utilities installation / maintenance activities. Given that excavation and handling of such materials incurs a cost, it can be implicitly assumed that engineering designers and/or works contractors will avoid or minimise, insofar as possible, the volume of excess soil material excavated in order to execute the planned development or maintenance works.

It can also be implicitly assumed that excess excavated materials will only be exported off-site where it is not possible to re-use it within the development site or to backfill temporary excavations.

Natural clayey soils or other inert particulate (soil / sludge-like) wastes which fail to comply with the onerous intake criteria at authorised soil recovery facilities and which may have traces of contaminants above natural background levels or in excess of laboratory detection limits, cannot, under existing EPA guidance, be accepted for recovery purposes and MUST therefore be consigned to a lined landfill facility for disposal.

Given the limited re-use potential for these waste materials, the intensive energy and resource consumption and marginal benefit associated with any conceivable form of waste treatment and the resultant costs thereof, they cannot be consigned for any higher-level activity on the waste hierarchy than that provided for in this waste licence application.

Inert materials placed in a landfill facility are technically to be disposed of because they are placed in the ground, in a specially engineered facility (and thereby correspond to disposal activities D1 and D5 listed in Annex I of the Waste Framework Directive).

In the particular context of this application however, inert waste materials placed in the former (lined) quarry void will also serve a useful purpose in backfilling and restoring the former quarry void. In this way, the waste activity could arguably also satisfy the definition for waste recovery set out in EU Waste Framework Directive as it constitutes an operation which entails *'waste serving a useful purpose by replacing materials which would otherwise have been used to fulfil a particular function'*.

Where soil and other particulate wastes are demonstrably inert, they can be used at the Ballinclare Quarry landfill facility to achieve a practical and beneficial purpose, without the need for further treatment or processing. The backfilling and restoration of the quarry void to former ground level using inert waste materials will

- facilitate its long-term restoration to a scrub / grassland habitat, similar to that which existed prior to rock extraction; and
- better integrate the site into the surrounding natural landscape and improve the overall visual quality and coherence of the surrounding rural landscape;

In so doing, it will achieve a desirable outcome which would not otherwise be possible or would require extensive use of natural soil resources.

Construction and Demolition Waste Recovery Facilities

Source segregated C&D waste imported to the waste recovery facility at Ballinclare Quarry will typically be generated at construction / development sites or in the course of utilities installation / maintenance activities.

Some non-segregated or mixed wastes in a soil / clay matrix which is imported to the facility and contains a high proportion of granular soils (i.e. sand and gravel) or intermixed demolition waste may be suitable for recovery by way of soil washing and need not therefore be directly disposed of at the adjoining inert landfill facility. To that end, a soil washing / aggregate recovery plant will be installed at the proposed facility which will effectively recover sand and gravel and recycled (secondary) aggregate from imported intermixed wastes.

Given that the excavation, processing and handling of C&D waste incurs costs, it can be implicitly assumed that engineering designers and/or works contractors will avoid or minimise, insofar as possible, the volume of excess material or waste to exported off-site and will look to maximise re-use or recycling opportunities within the planned or approved development works.

It can also be implicitly assumed that excess excavated materials will only be exported off-site where it is not possible to re-use or recycle it within the planned or approved development works.

C&D waste can be readily processed at off-site facilities to produce a recycled (secondary) aggregate. In general, recycled aggregates can be re-used either as relatively low grade 'general fill' for earthworks purposes at construction sites or alternatively as 'selected fill', principally as capping material for road or pavement foundations. With greater control and effort, recycled aggregates could also be re-used in non-structural concrete or asphalt production.

It is therefore evident that where C&D waste is generated by construction and development works and requires to be exported off site, the highest tier activity on the waste hierarchy to which it may be assigned is a waste recovery activity. Recovery / recycling of aggregates from C&D waste will ultimately conserve natural resources which would otherwise be required.

End of Waste Criteria

Under the European Waste Framework Directive, the use of secondary aggregates derived from C&D wastes is contingent on demonstrating compliance with a set of criteria set out in Article 6, so called 'End-of-Waste' criteria. Under national transposing legislation, Kilsaran cannot set or define End of Waste criteria for recycled aggregates produced from C&D waste. The Agency is the only body in Ireland which has the statutory power to do so.

As part of its Circular Economy programme, the Agency has just published a draft national End of Waste decision establishing criteria determining when recycled aggregate ceases to be waste under Regulation 27 of the European Union (Waste Directive) Regulations 2011-2022 (Ref. EoW N0001/2023). After a period of public consultation and review by European Commission, it is expected that the EoW decision in respect of recycled aggregates will be finalised and come into effect later in 2023.