CIRCULAR ECONOMY PROGRAMME
The Driving Force for Ireland's Move to a Circular Economy

DRAFT EXPLANATORY NOTE ON NATIONAL END-OF-WASTE DECISION

FOR RECYCLED AGGREGATES.

DECISION REFERENCE NO: EOW-N001/2023

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ENVIRONMENTAL PROTECTION AGENCY
An Ghníomhaireacht um Chaomhnú Comhshaoil
PO Box 3000, Johnstown Castle Estate, Co Wexford, Ireland
Telephone: +353-53-9160600; Fax: +353-53-9160699
E-mail: info@epa.ie Website: www.epa.ie
Lo Call: 1890 335599

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Introduction

Background

End-of-waste marks the point at which a material transitions from a waste to a secondary product. Regulation 28(1) of the European Commission (Waste Directive) Regulations 2011-2020 (the Regulations), requires that in order for a recycled/recovered material to be classified as a non-waste, it must meet criteria set out in an end-of-waste decision. The Agency have published a national decision on end-of-waste setting out criteria for recycled aggregates in decision EoW-N001/2023 (referred to as 'the decision' from herein).

Purpose

This guidance provides explanatory notes in relation to criteria set out in the decision (EoW-N001/2023). It aims to assist producers of recycled aggregate to understand and comply with the decision.

This guidance is not exhaustive and does not preclude permit holders from their statutory obligations. This document should be read in conjunction with the National End-of-Waste Decision for Recycled Aggregates (EoW-N001/2023).

It should be noted that this document is not a legal interpretation of the legislation relevant to end-of-waste.

Revision

This document is proposed to act as 'live guidance'. Accordingly, this document may be subject to change as a result of future amendments in relevant legislation or due to the introduction of relevant new legislation or as a result of an amendment to the decision. Any such changes may be made without consultation or prior notice.

Please ensure you refer to the most recent version of this guidance, as published on the Agency's website here.

Other information

General guidance in relation to end-of-waste is available here.

Where this guidance document does not provide sufficient explanation on specific requirements of a criterion, clarification may be sought from article28@epa.ie. Additional clarifications may be sought from the Office of Environmental Enforcement or the relevant local authority with remit over the waste authorisation under which you operate.

Data protection

The EPA intend to establish and maintain a register of producers of recycled aggregate in accordance with national decision EoW-N001/2023. It is intended to publish the producers name and waste authorisation number on the EPA website. The basis for this is to provide traceability for recycled aggregate and enable compliance monitoring and enforcement. This information may include personal data. The EPA or another regulator (e.g. a local authority, National Building Control Office & Market Surveillance Office etc.) may contact the primary data controllers (registered producer) to seek information in relation to the production of recycled aggregate in accordance with the national decision.

The website privacy policy is available on the EPA's website at https://www.epa.ie/footer/privacypolicy/. By visiting this website, you are accepting the terms of this

Website Privacy Policy. Any external links to other websites are clearly identifiable as such and we are not responsible for the content or the privacy policies of these other websites.

Explanatory notes

Explanatory notes are presented below in chronological order as per the criteria. For ease of reference the criteria are presented in *blue boxed italics*, under which the associated explanatory note is presented.

In the case where criteria are self-explanatory, explanation notes are not provided.

Section 1: Subject matter

National End-of-Waste Decision EoW-N001/2023 establishes criteria determining when recycled aggregate resulting from a recovery operation ceases to be waste.

These criteria do not:

- *affect the obligation of the producer to hold and comply with a waste collection permit, certificate of registration, waste facility permit or waste/industrial emissions licence or any other National or European legislation which may apply when transporting, handling, storing or processing waste;*
- *affect permitting or any other legal requirements that do not depend on the status of the material as a waste; and*
- *negate the producers or user' statutory obligations or requirements under any other authorisations (including planning permission), enactments or regulations.*

The Agency accepts no responsibility for material produced in compliance with these criteria. It is the producer's responsibility to ultimately ensure the material is fit for the intended use. It is the user's responsibility to store and use the material as specified by the producer.

The decision is not a consent. It is a statement of fact that recycled aggregate, if produced in accordance with the criteria within the decision, will be re-classified from a waste to a non-waste, or as more commonly known, as a product or secondary product.

The decision does not provide authorisation for the waste recovery operation. The recovery operation involves the acceptance and processing of waste. As such, an appropriate waste authorisation is required to produce recycled aggregate. Planning consent is also required for the facility/ site in which the recovery operation is being undertaken. The waste authorisation and planning consent consider and control the environmental impacts associated with the treatment process, including but not limited to noise, dust, run-off, emissions, traffic etc.

If recycled aggregate is being produced at a demolition/development site, for example recovered via mobile crushing, then the mobile crusher must hold an appropriate waste authorisation. The planning consent for that site must also provide for the recovery activity at the development site, as above. The recycled aggregate may be used at the same site in which it was recovered. It is the user's responsibility to ensure such use is in accordance with planning regulations.

Any transport of the input waste to the recovery facility should be undertaken under an appropriate waste collection permit.

The producer (waste operator) is responsible for ensuring that they hold appropriate waste authorisation, planning permission and any other statutory requirements including those related to waste management, planning, products, and any other requirements.

The producer may be subject to enforcement action if they produce recycled aggregate:

i. without the appropriate waste authorisations; or
ii. without appropriate planning consent.

The producer may be subject to enforcement action if they market (sell or make available) recycled aggregate:

i. that does not comply with all criteria set out in the decision; or
ii. that does not comply with any other statutory requirements.

Enforcement action may be taken under, but is not limited:

i. Waste Management Act 1996, as amended;
ii. Part VIII of the Planning and Development Acts 2000–2022;
iii. European Union (Construction Products) Regulations 2013.

Where a recycled aggregate is used for purposes other than those listed on the statement of conformity as 'suitable use', (e.g. if used in contact with surface water), the user may be subject to enforcement action under the relevant legislation.

Section 3: Criteria for recycled aggregate

3.1 Recycled aggregate shall cease to be waste where all of the following conditions are demonstrated as fulfilled:
The point at which the recycled aggregate stops being classified as a waste and is considered a product/ secondary product (non-waste), is when the material is demonstrated to comply with all criteria. Compliance with the criteria must be documented. Recycled aggregate can be considered to cease to be waste prior to a statement of conformity issuing. A statement of conformity provides documented evidence/ a declaration that recycled aggregate has ceased to be waste. It also provides important information to the user in relation to its suitable uses and restrictions on use. Refer to Section 5.2 for details of when a statement of conformity should issue.
3.1.(a) the recycled aggregate results from a recovery operation undertake under an appropriate waste authorisation;
Refer to Section 1.
3.1 (h) the producer has satisfied requirements with any guidance issued by the Agency in relation to these criteria.
This criterion requires compliance with: • this explanatory note; and • any other related future guidance as may be issued by the Agency.

Section 4: Specific uses & restrictions on use

4.1 The recycled aggregate shall only be specified as suitable for use for purposes listed in Part 1 of Annex II.
The producer may only identify uses as listed in Part 1 of Annex II as being suitable uses. The statement of conformity must list the use(s) for which the recycled aggregate is suitable.
4.2 The restrictions on use as listed in Part 2 of Annex II shall be specified in the statement of conformity.
The recycled aggregate is not suitable for use in any of the restricted uses listed in Part 2 of Annex II. The statement of conformity must list all unsuitable (restricted) use(s) along with any other restrictions specified by the producer.

Section 5: Statement of conformity

5.1 The producer shall issue a statement of conformity conforming to the template set out in Annex III for each batch or consignment of recycled aggregate, whichever is of smaller quantity.
The statement of conformity should mirror the template set out in Annex III. A statement of conformity must issue for : • each batch of recycled aggregate where the full batch is being supplied/ dispatched to a single user; • each part of a batch of recycled aggregate where the batch is divided and supplied to multiple users. i.e. a statement of conformity should be issued for each consignment from that batch; • each batch of recycled aggregate where a consignment comprises more than one batch; • each batch of recycled aggregate produced where the full batch is being used at the site of production (e.g. produced at demolition site via mobile crushing and then used at the same site); or • each batch of recycled aggregate where more than one batch is produced and used at the site of production. A producer may develop their own statement of conformity or incorporate the statement of conformity requirements within a declaration of performance, environmental performance declaration or similar; This is provided all line items as presented in the template set out in Annex III and prescribed in Section 5 are included.
5.2 The statement of conformity shall be issued prior to the recycled aggregate being dispatched to the next holder.
If recycled aggregate is being sold/ made available to another user, a statement of conformity must be issued before it leaves the recovery site. If recycled aggregate is being used at the same site in which it was recovered, for example recovered via mobile crushing at a development site and then used at the same site, a statement of conformity must be issued before it is used.
5.3 The statement of conformity shall state the suitable specific use(s) for the recycled aggregate and any associated restrictions as set out in Section 4.
Refer to Section 4.1 and Section 4.2.

5.4 The producer shall transmit the statement of conformity to the next holder of the recycled aggregate. The producer shall retain a copy of the statement of conformity for at least 1 year after its date of issue and shall make it available to competent authorities upon request.
The producer must supply the next holder (i.e. the buyer, user, haulier or another intermediary) with the statement of conformity. Good practice would be to issue an electronic copy to all known parties, including those involved in the transport, sale or use of the recycled aggregate. Onsite User If the material is to be used at the same site in which it was recovered, then a statement of conformity should be transferred directly from the waste operator (producer) to the user. Haulier An intermediary such as a haulier may become the next holder if transport of the recycled aggregate is required. The producer should give the haulier the statement of conformity prior to or on collection for transport. A haulier transporting the recycled aggregate must have a hardcopy or electronic copy during transportation. The haulier should give the statement of conformity to the next holder (i.e. the buyer or user or supplier). Supplier If recycled aggregate is being sold/ made available to an intermediary supplier such as a building depot, the intermediary supplier must transfer the statement of conformity to the next holder (i.e. the buyer/user). Buyer/Offsite User If recycled aggregate is being sold/ made available to a buyer/ user, the buyer/ user should retain a copy of the statement of conformity for at least 1 year. If the buyer/ user is a contractor or the buyer/user transfers the recycled aggregate to another holder, the statement of conformity should be given to the final holder, i.e. the person with overall control or ownership at the use location. The statement of conformity acts as evidence that the material is not a waste. Where a recycled aggregate is used or moved without a statement of conformity this may be construed as movement of waste and may be subject to enforcement action.

Section 6: Management system

6.1 The producer shall implement a management system suitable to demonstrate compliance with the criteria referred to in Sections 3 to 5 and Section 7, and specific monitoring requirements set out in Annex I for each criterion
The management system must conform to a recognised accredited industry standard; Refer to Section 6.4. The system should set out policies, controls, processes and procedures to ensure the recycled aggregate is produced in accordance with the criteria. The system should include records to demonstrate each criteria has been fulfilled for each batch of recycled aggregate. The management system may be incorporated within another management system operated by the producer. For example, the producer may incorporate the management system within the management system they operate for the waste authorisation under which the recycled aggregate is produced.

Similarly, where agreeable with the accreditation body, factory production controls as may be required under industry standards, may also be incorporated within the management system.
6.2 The management system shall include a set of documented procedures concerning each of the following aspects: (a) to (l)
Documented procedures should set out the steps to be taken for particular tasks that need to be undertaken. The procedure acts as a guide/set of rules for the producer (waste operator) to ensure they and their staff undertake tasks in a consistent manner. Documented procedures should also set out the roles and responsibilities of staff undertaking the tasks, or individual steps within a task. A separate procedure should be drafted, implement and followed for each item (task) numbered (a) to (l).
6.3 Where any of the treatments referred to in Part 2 of Annex I is carried out by a prior holder, the producer shall ensure that the supplier implements a management system which complies with the requirements of this Section.
Where input waste has undergone any prior recovery or treatment as set out in Part 2 of Annex I , the waste operator who undertakes this treatment must operate a management system compliant with Section 6. The producer shall check and document that that waste operator who undertook any previous treatment has an appropriately accredited management system in place which complies with Section 6.
6.4 The management system shall be certified by a Management System Certification Body accredited by the Irish National Accreditation Board. This certification shall verify that the management system complies with the requirements of this Section. The verification shall be carried out annually.
The management system must conform to a recognised industry standard. Examples of such standards include, but are not limited to: • *IS EN ISO 9001- Quality Management Systems* • *IS EN ISO 14001- Environmental Management Systems* The management system must be certified by a third party on an annual basis. The third party must be accredited to undertake such certification. A list of accredited third parties is available here. The certification acts as evidence that the management system conforms to the industry standard adopted. This certification should include verification that the management system complies with the requirements of Section 6 of the decision.
6.6 The producer shall give competent authorities access to the management system and records upon request.
A competent authority (regulator) may at any stage, whether for compliance or surveillance purposes, in response to an incident or non-compliance or for enforcement purposes, may seek a copy of the management system. The management system and all associated records must be made available to the competent authority.

Section 7: Register & reporting

7.1 Any producer of recycled aggregates in accordance with these criteria shall register as a producer on the Agency's public register, or as may be otherwise prescribed by the Agency. Where it is the case that a producer operates under multiple waste authorisations, a separate registration shall be made relating to each waste authorisation under which the recycled aggregates are produced.

The Agency will establish a public register of producers of recycled aggregate who produce recycled aggregate in accordance with the national decision. This register will list waste operators who produce recycled aggregate which has ceased to be waste. The register will be publicly available on the Agency website so that buyers/ users can choose an appropriate authorised supplier and that competent authorities can undertake compliance and/or surveillance checks. The register may also act to inform those generating certain wastes of waste operators who provided circular solutions for their waste.

Where a recycled aggregate is supplied (sold or made available for use) by a producer that is not registered as a producer, this is in breach of the criteria and as such may be construed as mis-classification of waste and may be subject to enforcement action.

A producer of recycled aggregate must register an entry for each waste authorisation under which they produce recycled aggregate.

The register will include the following details:

- Name of the producer (waste operator);
- Organisational email address or contact no.;
- Waste authorisation reference number;
- Environmental enforcement regulator with remit over the waste authorisation (either the Office of Environmental Enforcement (EPA) or the Environment Section of the issuing local authority;
- End-of-waste decision reference no. being utilised (in this case: EOW N001/2023); and
- End-of-waste material being produced (in this case: recycled aggregates)

The relevant environmental enforcement regulator shall receive an automatic alert when a waste authorisation within their remit has been added to the register. The environmental enforcement regulator may decide to undertake site visits or request records.

7.2 The producer shall report tonnages of recycled aggregates produced per annum on an annual basis as part of environmental performance reporting/ annual environmental reporting for the waste authorisation under which the material is produced, or shall make such records available as may be otherwise prescribed by the Agency.

The producer shall specify the total tonnage of recycled aggregates recovered and produced from waste annually within their returns (environmental performance reporting/ annual environmental reporting) to the environmental regulator with remit over the waste authorisation under which the recycled aggregate was produced.

The tonnages reported should account for and include a note of any non-conforming outputs reintroduced into the recovery process.

This explanatory note may be updated, where any other future or alternative reporting requirements are prescribed.

Section 8: Entry into force

National End-of-Waste Criteria No. 001/2022 shall be available for utilisation following publication on the Agency's website.
The decision will come into force from the date the finalised version is published on the Agency website. Any waste operator, who holds an appropriate waste authorisation, which provides for the recovery operation and waste inputs, may utilise the criteria. The criteria may be utilised to establish when recycled aggregate recovered from waste ceases to be waste. In plain terms, the criteria can be used as a means of reclassifying recycled aggregate from a waste to a non-waste (product). In order to utilise the criteria, the waste operator must register as a producer of recycled aggregate in accordance with the decision. Refer to Section 7.1

Annex I – Part 1: Waste inputs

1.1 Inputs shall be restricted to the non-hazardous list of waste codes specified in Table 1.
Only waste types assigned list of waste code as listed in Table 1 can be used to produce recycled aggregate.
1.2 Inputs shall meet the incoming waste acceptance criteria of the waste authorisation under which the recycled aggregate is produced.
The waste authorisation must authorise the acceptance of the list of waste codes for the waste inputs to be used in the recovery operation to produce recycled aggregate. The waste operator must also comply with the tonnages of waste permitted to be accepted and/or recovered under the waste authorisation.
1.5 Only waste that contains recoverable aggregate (minerals) may be used as input.
The input waste must contain minerals (stone, rock, sand, gravel, concrete, brick, or ceramic tiles) which can be extracted as aggregate. With the exception of soil and stone, the waste input should predominantly consist of minerals. Any non-mineral constituents (material other than stone, rock, sand, gravel, concrete, brick, or ceramic tiles) should be minimal and the recovery process should be capable of removing these to acceptably low levels as specified in Table 4 of the decision. Soil and stone inputs should predominantly consist of soil and minerals. Apart from soil, any non-mineral constituents should be minimal. The recovery process should be capable of removing soil contents (fractions) and non-mineral contents to acceptably low levels as specified in Table 4 of the decision.
1.7 (a) Wastes inputs shall not contain the following: asbestos;
For materials originating for demolition activities an asbestos survey should be undertaken prior to any demolition activities from which input material is sourced. Any asbestos or asbestos containing material identified must be segregated and disposed of separately in accordance with National and European legislation. Asbestos and asbestos containing materials are not permitted in the input material, therefore records of inspection of asbestos surveys completed for the source sites shall be maintained. An asbestos survey is not required for waste arising from a manufacturing process (e.g. List of waste codes 10 12 and 10 13), greenfield soil and stone (e.g. list of waste code 17 05 04) or other

non-demolition sources, where the presence of asbestos is highly unlikely. A justification for not including an asbestos survey should be clearly recorded and form part of the due diligence assessment (Refer to Part 1.8).

1.7 (b) Wastes inputs shall not contain the following: epoxy resin;

Epoxy resin is not permitted to be contained within waste inputs.

Concrete and other demolition wastes inputs have the potential to be treated with epoxy resin. Epoxy resins are used to form a chemical resistant, waterproof and durable layer on the surface of concrete and typically form a layer a few millimetres to a few centimetres thick on the surface of the concrete. Some epoxy resin entry into the concrete matrix may also occur.

Concrete or other demolition wastes containing epoxy resins should be segregated at source. Producers should specify to their waste suppliers their requirements in this regard. A due diligence assessment of the input should identify the potential for such materials to be contained within the input (Refer to Part 1.8). In addition, visual inspection of waste inputs should be undertaken to assess for the presence of flaky gel-like structures or shiny surface to one side of concrete fragments.

1.7 (i) Wastes inputs shall not contain the following: any other substances or material identified as unsuitable by the Agency.

As regulations are subject to amendment and replacement, and new regulations come into force, the Agency may amend/ add additional restrictions on substances or materials contained with waste inputs. Any such addition/ amendment shall be specified within a revision of this document.

In addition, an environmental regulator may provide instruction on a case-by-case basis to a waste operator that certain substances or materials may not be contained within waste inputs.

1.8 The waste input shall be assessed for potential chemical contamination beyond pollutants listed within Tables 2 and 3. Where potential for chemical contamination is identified, contaminants of concern shall be quantified via testing and shall be recorded. Testing shall be carried out in accordance with Part 4.2 of Annex I.

For all new source of waste inputs, the requirement as per self-monitoring requirement (extracted below) applies:

A due diligence assessment for each new source of input waste shall be completed to identify any potential contamination.

Due diligence may simply require a knowledge of the raw input for low risk inputs such as greenfield soil and stone (17 05 04) or material arising from a waste product residues arising from a manufacturing process (List of waste codes 10 12 and 10 13).

A site investigation report or waste classification report or waste characterisation reports may be required to identify potential contamination of inputs and associated contaminants of concern. Such reports/assessments should be prepared by a qualified person. A qualified person is a suitably qualified, trained and experienced person who is a registered professional with chartered status (or equivalent) awarded by a relevant professional body and who has the requisite knowledge and experience required to issue a letter of suitability. These reports/assessments should include a knowledge of the material, including historic uses of the source site. Where potential for contaminants of concern which are not listed in Table 2 and Table 3 are identified, sampling and analysis should be undertaken to quantify these.

Where there is potential for contaminants of concern to be present, basic characterisation i.e. testing and analysis for contaminants of concern should be undertaken as a minimum. Basic characterisation includes a thorough determination, according to standardised analysis and

behaviour testing methods, of the short and long-term leaching behaviour and/or characteristic properties of the waste input. Samples should be collected, and associated results interpreted by a qualified person.

Where testing identifies contaminants of concern, an assessment needs to be undertaken to determine whether these parameters or substances are above or below 'acceptable levels'.

'Acceptable levels' of contaminants for parameters not listed in Table 2 and Table 3 may be interpreted as:

- below the laboratory's limits of detection that is commonly reported by environmental testing laboratories for the compound(s) of concern;
- below the 98th percentile values from the National Soils Database (for naturally occurring parameters or substances); or
- below levels as agreed with the Agency or a local authority environment enforcement office.

Where concentrations are determined to be above acceptable levels, the treatment process must be capable of reducing contaminants to acceptable levels. Where the treatment process is not capable of reducing contaminants to acceptable levels, the waste should not be used as an input.

It is considered good practice to seek waste classification from waste suppliers prior to acceptance at a waste facility. It is also common practise to carry out compliance testing and on-site verification testing prior to input to the recovery process for producing recycled aggregates. Waste classification should include sampling and laboratory testing for commonly reported suites of contaminants. In some cases, this may be required by the waste authorisation in some capacity anyway. For further detailed information in relation to basic characterisation refer to :

- *Council Decision 2003/33/EC of 19th December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC*; and
- *EPA's 2020 Guidance on waste acceptance criteria at authorised soil recovery facilities.*

Testing of inputs can identify unsuitable inputs which are likely to give rise to non-conforming material. This may help to avoid cost and resource losses associated with processing material that will fail the criteria. Such testing is recommended to include pollutant limits specified in Table 2 and Table 3 and any other potential contaminants of concern associated with the historic use of the source site or source material. Such contaminants could include pesticides, volatiles and other persistent or dangerous substances.

Annex I – Part 2: Recovery processes & treatment techniques

2.1 All treatment processes (like crushing or grinding; sorting, separation, washing, decontamination, grading, sieving, soil flocculation) needed to prepare the recycled aggregate for direct input into final use shall have been completed.
The recovery operation needs to include treatment process/ techniques that are sufficient to produce a recycled aggregate that meet quality requirements set out in Part 3 of Annex I. For example: • The recovery process may need to include crushing and grading in order to meet a geotechnical grading classification specified within an industry standard. • The recovery process for clean, source segregate uncontaminated concrete (17 01 01) may only require crushing and grading. • The recovery process for waste input 17 05 04 (soil and stone) needs to be capable of removing soil content to < 1% within the recycled aggregate. • The recovery process for waste input 17 01 07 (mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06) may require washing in addition to crushing and grading as it may not meet pollutant limit values without washing. As a rule of thumb, the cleaner the input (source segregated and uncontaminated), the cleaner the output and the more likely the material is to meet the quality criteria. Producers should specify their requirements to their waste suppliers in regard to the quality of waste inputs, including any requirements in relation to source segregation and physical and chemical contamination.
2.2 The treatment process shall include processes sufficient to reduce: *(i) pollutant concentrations to levels below those specified within Tables 2 and 3*
Where pollutant concentrations in the input are greater than the pollutant limits in Table 2 and Table 3, whether the cause is naturally occurring or as a result of contamination, treatment process/ techniques need to be capable of reducing/ removing pollutants. Self-monitoring requirement (extracted below) applies: *Qualified staff shall monitor and review the efficacy of the treatment process regularly.* This should include a comparison of the test results for the input and output from the recovery process to ensure pollutant reduction consistently occurs.
2.2 The treatment process shall include processes sufficient to reduce: *(ii) concentrations of chemical contamination of concern identified under Part 1.8 to acceptable levels*
Where testing completed under Part 1.8 identifies contaminants of concern which are above acceptable levels, the treatment process/ techniques need to be capable of reducing/ removing these parameters or substances to acceptable levels. Refer to Part 2.2 (i) and Part 1.8.

Annex I – Part 3: Quality of recycled aggregate

3.1 The recycled aggregate shall be graded/ classified according to a customer specification or an industry specification/ standard for direct use.
Where the recycled aggregate is required to conform to an industry standard the material should be graded and classified according to that standard. For example, a recycled aggregate that complies with IS EN 13242 may be graded per its size as coarse, fine or all-in. Other properties of the aggregate will also need to be quantified and declared. Depending on the specified use the

standard recommendation for the industry standard may refer to industry specifications, under which the material can also be classified. For example:

- Material for use as general fill should meet the specifications for general fill under Transport Infrastructure Ireland -*Specification for Road Works Series 600 - Earthworks*. The material can be classified for example as Selected Granual Fill-6F2 for which grading requirements also apply.
- Material for use as unbound fill in road pavements should meet the specifications under Transport Infrastructure Ireland - *Road Pavements – Unbound and Hydraulically Bound Mixtures* Series 800. The material can be classified for example as Unbound Granular Mixture B (UGM B), for which grading requirements also apply.

3.2 The recycled aggregate shall comply with the relevant product technical standard(s), industry specification and customer specification, as applicable for the materials specified use.
Where a technical standard is available for a specified use, the recycled aggregate shall comply with the standard.

The recycled aggregate must comply with all relevant standards and specifications applicable to its intended/ specified use. Where a technical standard is available for a specified use, the recycled aggregate must comply with the standard. For example, where the following uses are specified as suitable use, then the recycled aggregate must comply with the corresponding industry standards listed in the table below:

Specified use	Industry Standard	Specification
Pipe bedding, haunching, or surrounding materials	IS EN 13242: Aggregates for bound and hydraulically bound materials for use in civil engineering work and road construction	TII-Specification for Road Works Series 500-Drainage and Service Ducts
General fill, Granular fill or Capping in road works		TII-Specification for Road Works Series 600-Earthworks
Unbound sub-bases in road pavements		TII-Specification for Road Works Series 800-Road pavements-Unbound and cement bound mixtures
Bituminous mixtures and surface treatments for roads, airfields and other trafficked areas	EN 13043, Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas	TII-Specification for Road Works Series-900-Road Pavements-Bituminous Bound Materials.
Concrete	IS EN 12620 Aggregates for concrete	
Mortar	IS EN 13139 Aggregates for mortar	
Railway ballast	IS EN 13450: Aggregates for Railway Ballast	
Armourstone	IS EN 13383-1 Armourstone Part 1: Specification	
Lightweight aggregate	IS EN 13055 Lightweight aggregates	

The above list is not exhaustive and other industry standard may be applicable to other uses. As standards are subject to regular review, it is the producer and user's responsibility to ensure that the latest version is referred to. It should also be noted that new standards may be published which are applicable or which may replace existing standards for listed or unlisted specified uses.

In many cases, industry specifications may also apply to your specified use. The national standard recommendation SR21[1], which acts as guidance for the technical IS EN 13242, currently links requirements for specified uses to industry specifications (see links made in table above) . While it may be common practise to only comply with the industry standard, it should be noted that this may not fulfil overarching legislative requirements such as the Construction Product Regulations that may be applicable to your use. The industry standard includes CE marking requirements with a requirement to declare aggregate properties and attestation (accreditation).

In some cases, industry standards may limit or restrict use of recycled aggregate to a percentage content. For example, currently[2]:

- National standard recommendation SR21 for the technical IS EN 13242 explicitly excludes the use of recycled aggregate from use as unbound granular fill (hardcore) for use under concrete floors and footpaths. Therefore, recycled aggregate currently cannot be used for this specified use.
- TII-*Specification for Road Works Series 800 - Road pavements- Unbound and cement bound mixtures* limits the allowable content in some classification to 30% while there is no limitation on other classifications.
- National standard recommendation SR18 for the technical IS EN 13139 specifies the "*guidance is only for natural aggregates used to make masonry mortar, plastering/rendering and floor screeds. It does not include guidance with regard to the use of manufactured or recycled aggregates or for special bedding materials, repair mortar or grouts.*"

It is the user's (or their agent, such as an engineer or designer) responsibility to define any specific customer specifications to the producer. It is the producer's responsibility to confirm whether the material conforms to an industry standard, industry specification or customer specification and to specify if the material is suitable for certain uses.

There may be instances where an industry standard or specification is not directly applicable for a specified use. For example, construction of agricultural lanes, forestry roads/ tracks, decorative gravel, or temporary or permanent unbound ground cover i.e. carparks, construction compounds etc. In these cases, compliance with a customer specification may be considered sufficient. This is provided that uses of virgin aggregate in the same use would not warrant compliance with an industry standard or specification. The requirements for recycled aggregates with regard to standard compliance should mirror those for virgin aggregates. As best practise, to ensure a minimum technical quality standard, it is recommended that the recycled aggregate conforms with a quality standard most comparable for the specified use. For example, recycled aggregate to be used in unbound applications such as constructing access roads/ lanes or as general ground cover is recommended to comply with an industry standard such as I.S. EN 13242 or similar.

[1] Standard Recommendation 21 – Guidance on the use of I.S. EN 13242:2002+A1:2007 – Aggregates for unbound and hydraulically bound material for use in civil engineering work and rad construction.
[2] January 2023

3.3 The recycled aggregate shall, as required, comply with the relevant provisions of the: *i Classification, Labelling and Packaging (CLP) Regulation[3];* *ii Construction Product Regulation (CPR)[4];* *iii Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation[5];* *iv Building Regulation[6]; and* *v Persistent Organic Pollutants (POPs) Regulation[7].* *Or any other relevant legislation requirements as applicable or as identified by the Agency.*
As per self-monitoring requirements extracted below: *As regulations are subject to amendment and replacement, it is the producer and user's responsibility to ensure that current regulations are referred to.* This also applies to the provisions of any new legislation. The producer should satisfy themselves that they fulfil any legislative requirements applicable to the recycled aggregate product which they produce and for any markets they supply.
3.6 Chemical contamination identified under Part 1.8 shall be demonstrated to have been reduced to acceptable levels. *Testing shall be carried out in accordance with Part 4.2.*
Where testing under Part 1.8 identifies detectable contaminants of concern in the input, repeat testing must be undertaken for those detected contaminants of concern. An assessment should be undertaken by a qualified person to determine whether these contaminants of concern comply with acceptable levels. Refer to Part 1.8. Where concentrations do not meet acceptable levels, the batch of recycled aggregate should be considered as non-conforming and cannot cease to be waste (i.e. remains waste). While detectable contaminants of concern may have been determined to be below acceptable levels under Part 1.8, where the recovery process includes change of size via crushing, or removal of soil content, this may increase the leachability of those contaminants of concern and give rise to increased concentrations and potential to exceed acceptable levels. Accordingly, repeat testing of the recovery operation output for detectable contaminants of concern recorded under Part 1.8 should be undertaken.
3.7 Where the recycled aggregate is only suitable for 'low permeability use' and not suitable for 'general use', as determined by sampling and testing defined in Table 3, the Statement of Conformity shall specify: *i the recycled aggregate is suitable in 'low permeability use' scenarios only; and* *ii the recycled aggregate is not suitable for uses in exposed areas (at surface) when present over a high permeability subsoils.*
There are two sets of pollutant limits set out in Table 3; one set for all specified uses "general use" and one set of less stringent limits for "low permeability uses". While a recycled aggregate may fail the "general use' limits they may comply with the "low permeability uses". The "low permeability uses" limits have been set on the basis that the recycled aggregate is either placed: (i) beneath a hydraulically or bituminous bound surface layer; and/or (ii) above a low permeability subsoil (e.g. clay) or drift (minimum of 1 m in thickness), which overlies a groundwater aquifer. The low permeability scenario assumes there is less risk of contaminants leaching into the underlying groundwater due to either:

[3] Classification, Labelling and Packaging - Regulation (EC) No 1272/2008 (CLP)
[4] Construction Product Regulation (CPR) (EU No305/2011)
[5] Registration, Evaluation, Authorisation and Restriction of Chemicals - Regulation 1907/2006/EC (REACH)
[6] Building Regulations 1997, as amended;
[7] Persistent Organic Pollutants - Regulation 850/2004/EC (POPs)

- reduced infiltration of water and consequently reduced leachate generation as a result of an overlying less permeable bound layer of surfacing such as concrete or tarmacdam; or
- reduced migration of leachate as a result of the presence of low permeability subsoil beneath the material.

This "general use" scenario assumes use in areas exposed at surface and present over a high permeability subsoil, which overlie a groundwater aquifer. The general use scenario can be considered a more sensitive scenario. Use of recycled aggregate classified as suitable for "low permeability use" only in a "general use" scenario may result in environmental impacts. Accordingly, it is essential, particularly for material only suitable for low permeability uses, that this is communicated to the customer through the statement of conformity.

Part 3, Table 2 Solid Pollutant Limit Values (PLVs)

Testing for and compliance with arsenic and lead solid pollutant limits is only required when the specified use scenario relates to a residential use scenario. These limits have been set to ensure human health protection under a residential scenario. Typically, arsenic and lead in recycled aggregate do not present a human health risk in commercial and public open spaces scenarios or to workers.

Where arsenic and/or lead solid limits are failed, but all other testing limits are complied with, the statement of conformity should clearly state that the recycled aggregate is not suitable for use in residential settings. Where testing is not undertaken but there is potential for the material to be used in these scenarios the same should be stated.

Annex I – Part 4: Sampling & testing

4.1 A verification sample shall be collected and tested for each batch of the recycled aggregate produced, or every 2,000 tonnes produced, whichever is the lesser. The sample shall be tested:

i. at an accredited laboratory, using accredited test methods, where available, for all parameters specified in Table 2 and Table 3; and

ii. *in accordance with relevant test methods as specified in Tables 2 to 4.*

Batch size

As per the definition set out in Section 2 of the decision, batch means:

'a production quantity or stockpile of material produced at one time under conditions that are presumed uniform, that can be regarded as a single unit, and has a unique reference'

A batch may be from a single source or multiple sources. A batch should be considered to have reasonably consistent properties and should arise from similar inputs. For example:

- the production process uses 5,000 tonnes of soil and stone (17 05 04) from a single source as input into the recovery process. In this scenario the batch may be 5,000 tonnes, with testing of the output to occur every 2,000 tonnes;
- the production process typically uses concrete (17 01 01) of a reasonably consistent (clean) quality from multiple sources as input into the recovery process on an ongoing basis. In this scenario a batch size may be as defined by the producer. Testing of the output must occur at least every 2,000 tonnes;
- the production process uses 5,000 tonnes of concrete (17 01 01) from multiple sources as input into the recovery process. In this scenario the batch may be 5,000 tonnes, with testing of the output to occur every 2,000 tonnes. Depending on the sources of the concrete input and assessment under Part 1.8 (Refer to (Part 1.8), the producer may decide to separate the waste input into smaller batches per single sources or groups of sources. They

may do this where there is concern for potential failure of criteria associated with a particular input source;

- the production process uses 1,000 tonnes of soil and stone (17 05 04) from a single source as input into the recovery process. Following the processing of the 1,000 tonnes of soil and stone (17 05 04), 800 tonnes of concrete (17 01 01) from multiple (5 no.) sources is input into the recovery process. In this scenario there should be a minimum of two batches one for the soil and stone input and one for the concrete input. As per the example above, the producer may decide to split the concrete input into smaller batches depending on the source and nature of the input. A verification sample of the output should be collected from each batch;
- The production process typically uses small volumes of inputs from multiple list of waste codes from multiple sources on an ongoing basis. In this scenario a batch size will be as defined by the producer. Testing of the output must occur at least every 2,000 tonnes. However, it should be noted in this scenario that increased testing should be undertaken, and consideration given as part of the diligence assessments for inputs. Refer to Part 1.8.

Sampling and testing methods

As per self-monitoring requirements extracted below:

- *The laboratory selected should be able to achieve detection limits for each parameter below the PLVs specified in Tables 2 to 3, where possible.*
- *A sample should comprise a composite of a minimum of 3 no. sub-samples and be collected in accordance with ISO 10381-8: Soil Quality Testing – Sampling – Part8: Guidance on sampling of Stockpiles*

Note that for larger stockpiles/ batches, the number of sub-samples collected per composite sample may need to be greater than three.

Samples should be collected, and associated results interpreted by a qualified person.

4.2 Where contaminants of concern have been identified under Part 1.8, a verification sample (of outputs) shall be collected and tested for all contaminants of concern identified under Part 1.8. Testing shall be undertaken at an accredited laboratory, using accredited test methods, where available. Testing shall be undertaken for each batch of the recycled aggregate produced, or every 2,000 tonnes produced, whichever is the lesser.

Refer to Part 3.6 with regard to parameters to be tested.

Refer to Part 4.1 with regard to batch size and sampling and testing requirements.

Laboratory's limits of detection should be at concentrations commonly reported by environmental testing laboratories for the compound(s) of concern, using accredited test methods, where available.

Annex II – Specified uses and restrictions on use

1.1 The recycled aggregate that is produced in compliance with these criteria shall only be suitable for the following specific uses:

The full list of specified uses as per Annex II, Part 1.1 should not be transcribed into the statement of conformity. The producer should assess and define the suitable uses.

The suitability of use of the recycled aggregate shall be determined by the quality of the recycled aggregate defined by a geotechnical performance assessment undertaken under Annex 1, Part 3. From the quality assessment undertaken, the producer shall determine which uses listed in Annex

II, Part 1.1 are suitable and shall only specify (list) these as suitable on the statement of conformity. The producer may transcribe uses as listed in Annex II, Part 1.1 as written in the decision, or they may refine the specification to be more specific where they see fit.

For example,

- if the recycled aggregate has not been assessed under *EN IS. 12620: Aggregates for Concrete*, then the aggregate cannot be specified as suitable for use in bound uses for non-structural concrete (Part1.1 (ii)(a))
- if the recycled aggregate has been assessed under *EN IS. 13242: Aggregates for bound and hydraulically bound materials for use in civil engineering work and road construction,* then the aggregate can be specified as suitable for use in road construction (Part1.1 (i)(a)). The producer may however further specify, as defined by the quality testing, that the recycled aggregate be used as UBG B (refer to Annex I Part 3.1) in road construction.

The specified list is not exhaustive. Where a use scenario is reasonably comparable to a listed specified use this may be considered suitable, provided it is not listed as a restricted use and has been agreed with the Agency or local authority enforcement officer.

In addition, the specified use may need to include a specific use based on environmental performance testing. Where the recycled aggregate only conforms with pollutant limits for "low permeability uses" the statement of conformity must specify "The material in this consignment is only suitable for use:

i beneath a hydraulically or bituminous bound surface layer; and/or
ii above a low permeability subsoil (e.g. clay) or drift.]"

This explanatory note may be updated, where any other suitable specified uses are identified.

1.2 Recycled aggregate that is produced in shall only be used in areas:

i less than 100m width x 100m length; or
ii less than 1km long and less than 50m in width when used in straight sections in linear features

Explanatory Note No. A.2.P.1.2:

All specified uses as per Annex II, Part 1.2 should be transcribed directly into the statement of conformity as they are applicable in all potential use scenarios.

This explanatory note may be updated, where any other suitable restriction on use are identified.

2.1 (v) structural concrete or mortar, including concrete blocks or other bound applications for structural use;
(vi) in building structures, including beneath the structure or within its fabric, foundations, or curtilage (within 1m);
(vii) footpaths adjacent to building structures;
(viii) civil engineering structures, excluding linear features, including beneath the structure or within its fabric, foundations or supports;

Recycled aggregate should not be used to construct any buildings or civil engineered structures. Buildings structures include domestic, commercial, industrial, agricultural, or similar buildings. Civil engineering structures include retaining walls, bridges, tunnels etc. Recycled aggregates should not be used within the structure itself (fabric) or underneath it, or in the surrounding area in which the weight/ load of the structure acts upon.

Recycled aggregates may be used to construct linear features such as roads, bunds, haul and construction roads, access roads, lanes, tracks, paths, greenways or similar.

While these criteria exclude the use of recycled aggregates in buildings and civil engineered structures, criteria for such uses may be developed in the future.
2.1 (ix) as unbound granular fill (hardcore) for use under concrete floors and footpaths;
Annex E of national standard recommendation (SR21), for the technical IS EN 13242 explicitly excludes the use of recycled aggregate from use as unbound granular fill (hardcore) for use under concrete floors and footpaths. Therefore, recycled aggregate cannot currently be used for this specified use.
2.1(x) for the purpose of infilling of any former quarry, pit or mineral excavation related to mining;
Large volume use scenarios such as infilling of quarries have the potential to generate a large volume of leachate and will represent a much higher risk to the water environment than the scenarios which have been modelled to derive the pollutant limits presented within the decision. Accordingly, the criteria, with particular reference to pollutant limits, are not suitable for filling large volume sources such as quarries. In any case the restriction of the use of recycled aggregate to and area of 100m x 100m would preclude such use scenarios.
2.1(xi) as a growth medium in areas used for food production or livestock grazing;
This exclusion relates to areas where food is grown including residential, allotments, public open space or agricultural settings or in pasture areas used for livestock. This exclusion does not incorporate tracks within forestry and agricultural land, on which living organisms are likely to spend only limited time.
2.1(xii) as ground cover in areas where sensitive ecological species are present;
This exclusion does not incorporate tracks within forestry and agricultural land, on which living organisms are likely to spend only limited time. To determine whether a sensitive ecological species could be present, an assessment should be made by checking for statutory defined ecological sensitive sites, or by seeking the advice of a competent ecologist.
2.1(xiii)in an area greater than 100m width x 100m length or in an area greater than 1km long and over 50m in width when used in straight sections in linear features
Recycled aggregate must not be placed over an area wider than 100m x 100m or in an area greater than 1 km long which is over 50 m in width when used in straight sections in linear features (e.g. roads, bunds, haul and construction roads, access roads, lanes, tracks, paths, greenways or similar). These dimensions have been assumed in calculations to generate pollutant limit values which are set to ensure no overall adverse environmental impact associated with the recycled aggregate's use. If a larger area was assumed, this would have resulted in lower PLVs which would be impractically low for use. There is no limitation on the thickness of recycled aggregate that can be placed. Use in areas exceeding this may result in environmental impacts. Consequently, this area restriction has been applied.
2.1(xiv) within 25m of another area(s) of recycled aggregate where the combined area is greater than 100m in width for square or rectangular applications or the length is greater than 1km and is less than 50km width for linear features;
There should be a minimum distance of 25m separation between areas of recycled aggregate use in the same project. These distances would apply if the total length of an application was 100m or greater (if the application area is square/ rectangular) or 1km or over (for linear features).

If there are a number of smaller areas of recycled aggregate within a project, the 25m separation between each areas of recycled aggregate would not apply if the overall total width and length of the area in which they are placed is less than 100m x 100m or less than 1km x 50m for linear features. Regardless of the percentage content of recycled aggregate within an aggerate (i.e. recycled aggregate mixed with virgin aggregate) the same area restrictions apply.
2.1 (xiv) Any other restrictions as may be prescribed by the Agency.
This explanatory note may be updated where any other future restrictions are deemed appropriate by the Agency.

Annex III – Statement of conformity

1. Producer of the recycled aggregate
All fields are of this section are **mandatory**. For traceability purposes, the waste authorisation details and contact details for the waste operator are required. It is recommended that organisational contacts details are provided only. No personal data should be included on a statement of conformity, by doing so would be otherwise considered as consent that the personal data could be shared. It should be noted that this would be uncontrolled and at the risk of the person filling out the statement of conformity. The date of production is the date on which the material ceased to be classified as waste (i.e. as a non-waste or a product). Refer to Section 1 for further details on when recycled aggregate ceases to be waste.
3. Classification/ specification & suitability for use *(a) The material in this consignment is only suitable for the following specified use(s):*
Text in *italics* (e.g. *"Delete this item as appropriate"*) is the instruction to the producer. Text in [brackets] is text for inclusion or deletion by the producer as appropriate. The producer should list suitable uses as determined through environmental and geotechnical performance assessment undertaken under Annex 1, Part 3 . Refer to Annex II Part 1.1.
(b) Name, grade or classification of recycled aggregate category, in accordance with an industry specification or standard (as specified in Part 4 below):
The producer should list classifications, grade and specifications of the aggregate as determined through environmental and geotechnical performance assessment undertaken under Annex 1, Part 3 . Refer to Annex II Part 1.1. Any classification, grade and specification specified must be in accordance with those set out in a technical standards, industry specifications and any customer specification listed in Part 4 of the Statement of Conformity.
4. This recycled aggregate in this consignment complies with the customer specification, industry specification or standard listed below:
As defined under Annex 1, Part 3.2 , list the technical standards, industry specifications and any customer specification against which the recycled aggregate has been tested and demonstrated to conform to.
5. Restrictions on use
Text in *italics* (e.g. *"Delete this item as appropriate"*) is the instruction to the producer. Text in [brackets] is text for inclusion or deletion by the producer as appropriate. i. *Delete this item as appropriate*- [exposed areas (at surface) when present over high permeability subsoils.]

This restriction must be included where the results of testing fail pollutant limits for "general use" as specified in Table 3 of Annex 1, Part 3. i.e. the test results only comply with "low permeability use" pollutant limits.

This restriction may be deleted if test results comply with associated leachate pollutant limits for "general use" specified in Table 2 of Annex 1, Part 3.

ii. Delete this item as appropriate- [residential settings.]

This restriction must be included where either:

- testing has not been undertaken for soil arsenic and lead parameters specified in Table 2 of Annex 1, Part 3; or
- the results of testing fail pollutant limits specified in Table 2 of Annex 1, Part 3.

This restriction may be deleted if test results for arsenic and lead comply with associated solid pollutant limits specified in Table 2 of Annex 1, Part 3.

It is the producer's responsibility to specify the restrictions on use of the material. It is the user's responsibility to comply with restrictions on use as specified by the producer. By stating that *"Any use under these scenarios is taken at the liability of the user and may be subject to enforcement action.*", the producer is making the user aware of their liability if the material is used in restricted uses.

9. Chain of custody

The producer, on transfer of the recycled aggregate, must complete the chain of custody specifying the date they transferred the material and they should fill out the details of the next holder.

It is the next holder's, and any subsequent holders, responsibility to fill out the date they transfer the material to the next holder and they should fill out the details of the next holder, as applicable.

The holder of the recycled aggregate should have the original statement of conformity and an up to date chain of custody. Each holder should retain a copy of the statement of conformity

The producer or any subsequent holder is not required to hold a completed copy of the chain of custody for holders beyond those in which they transferred the material to.