



## TECHNO-GRAM 003-2023



**SUBJECT:** Recycled Concrete Aggregate (RCA)

**PURPOSE:** The Purpose of this Techno-gram is to establish requirements pertaining to the use of Recycled Concrete Aggregate in Department of Permit, Inspections and Enforcement (DPIE) Permitted Construction Projects

**SCOPE:** This applies to the use of Recycled Concrete Aggregate RCA for DPIE permit projects

Effective immediately, RCA may be used in the construction of DPIE permitted construction projects, with the following requirements and limitations.

1. RCA materials are to be acquired from an approved aggregate processing plant with a valid Maryland Department of Environment-Operation Permit and certified by Maryland State Highway Administration approved quality control testing laboratory. The materials delivered to the site shall include certificates from the approved facility. These certificates shall be provided to the DPIE Inspector and the Third-Party Inspection Program (TPIP) Geotechnical Inspector for each delivery.
2. This techno-gram does not permit onsite production of RCA materials generated onsite. Any concrete debris resulting from the demolition of buildings, structures, or site features shall be disposed of in class III landfill or an aggregate processing plant.
3. The following MDE-permitted facilities with an SHA-approved quality control testing laboratory are available, but not limited to, to supply RCA materials:

Aggregate & Dirt Solutions  
Address: 5900 Sheriff Rd  
Capitol Heights, MD 20781

Ernest Maier  
4700 Annapolis Road  
Bladensburg, MD

Laney Recycling and Aggregates  
14852 Old Gunpowder Road  
Laurel, MD 20707

DC Material Inc.  
3334 Kenilworth Avenue Suite B  
Hyattsville, Maryland 20781



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4. RECYCLED CONCRETE (RCA) Usage, in accordance with MSHA specification 900.03.02 and this techno-gram.
  - I. Use RCA for the following:
    - (a) Graded Aggregate Base (GAB) in private roadways and parking lots.
    - (b) Common, Select, or Modified Borrow.
      - (1) At least 2 ft above saturated soil or groundwater conditions, as determined.
      - (2) At least 100 ft from surface waters (streams, creeks, or rivers, ponds, and lakes).
      - (3) At least 3 ft from exposed metal surfaces.
      - (4) At least 3 ft from geotextile.
      - (5) At least 3 ft from any water discharge locations.
    - (c) Commercial buildings – 1 story only, if recommended by the Geotechnical or Structural Engineer of Record.
    - (d) Temporary construction including temporary sediment/erosion control measures, temporary roadways and parking, and temporary pipes/utilities. These features shall be removed prior to permit closure.
  - II. Do not use RCA as Capping Borrow nor as aggregate for the following.
    - (a) Portland cement concrete.
    - (b) Asphalt mixes.
    - (c) Drainage systems, including but not limited to stormwater management, storm drain, underdrain, infiltration, trench drain, permeable paving, and retaining wall systems.
    - (d) Mechanically stabilized earth (MSE) systems.
      - (1) MSE walls.
      - (2) Reinforced soil slopes (RSS).
      - (3) Reinforced earth slopes (RES).
    - (e) In-site or building construction as follows.
      - (1) Within 1.5 ft of the top surface of any area to be vegetated.
      - (2) Within 2 ft of saturated soil or groundwater conditions, as determined.
      - (3) Within 100 ft of any surface water course (streams, creeks, rivers, ponds, lakes).
      - (4) Within 3 ft of any metal pipe or shoring.
      - (5) Within 3 ft of any water discharge locations.
      - (6) Under permeable or porous surfaces.
    - (f) Public roadways and private roadways in townhouse subdivisions
    - (g) Residential high-rise buildings
    - (h) Single family or duplex residential homes

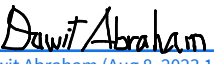


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- III. RCA shall not contain more than 5 percent brick and asphalt mix material by mass.
- IV. Percentage of Fines. The percentage of fines in RCA materials is not to exceed the limits required for the equivalent nonrecycled aggregate material. The percentage of materials passing the #200 sieve is not to exceed as defined by MSHA specification 901.01. An example, for RC-6, the percentage of fines shall not exceed the percentage for CR-6. For RC-57, the percentage of fines shall not exceed the percentage for #57 coarse graded aggregate, etcetera. The supplier certification shall stipulate the percentage of fines.
- 6. Permit Plan for RCA Use: The permittee is to include a site plan and typical sections in the grading and building permit plans that define the placement of RCA material in accordance with the above criteria. Placement or use of RCA materials not shown in the permitted plans is not allowed unless approved plan revisions are obtained from DPIE.
- 7. Visual observation and photographic documentation of the condition of the RCA material at the time delivered to the site and during placement are required. The regular moisture-density testing during construction is to be performed by TPIP Geotechnical Inspector as part of Daily Field Reports and submitted to the DPIE Inspector.
- 8. The permittee shall verify the placement of RCA materials in accordance with County Code, including but not limited to code sections 32-125, 32-152, 32-154.

**APPROVED BY:**

	Aug 8, 2023
<a href="#">Dawit Abraham (Aug 8, 2023 14:24 EDT)</a>	Date
Dawit Abraham, P.E.	
Acting Director	



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**ATTACHMENT A – Page 1**

**Third-Party Inspection Certification for RCA**

**Third-Party Inspection Engineer Certification – Recycled Concrete Aggregate (RCA)**

Permit Number \_\_\_\_\_

I hereby certify that the RCA was used and constructed in accordance with the permit plans and all county requirements, including the requirements stated in Techno-gram 003-2023.

Exceptions:

Name of Third-Party Engineer \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

\_\_\_\_\_  
Third-Party Engineer  
Signature and Seal

\_\_\_\_\_  
Dates

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Note: Certification to be signed and sealed by a Maryland Professional Engineer