

State of Illinois
Department of Transportation
Bureau of Materials and Physical Research
Springfield

POLICY MEMORANDUM

Revised: January 1, 2008

8-08.0

This Policy Memorandum supersedes numbers 07-09 dated January 1, 2007

TO: REGIONAL ENGINEERS AND HIGHWAY BUREAU CHIEFS

SUBJECT: CONSTRUCTION AND DEMOLITION DEBRIS SAND AS A FINE AGGREGATE FOR TRENCH BACKFILL

1.0 SCOPE

This procedure shall apply to all producers of construction and demolition debris sand for trench backfill for Illinois Department of Transportation (IDOT)/local agency projects. No construction and demolition debris sand may be used unless the producer has complied with all requirements of this policy memorandum.

2.0 STANDARD SPECIFICATION REFERENCE

2.1 Referenced Articles

- 1003.01
- 1003.04

3.0 PURPOSE

IDOT currently uses an array of recycled materials in many different construction applications. Each recycled material must be matched to the appropriate application(s) to avoid performance and environmental problems. The Bureau of Materials and Physical Research recognizes processed construction and demolition debris as a viable aggregate for trench backfill.

This policy memorandum establishes the requirements for both the producer and IDOT for inspection and acceptance of this material.

Acceptance of construction and demolition debris sand shall be by process control unless product variability, as determined by the Department, warrants stockpile-by-stockpile acceptance.

4.0 GRADATION

The sampling and testing frequency shall conform to the current IDOT Manual for Aggregate Inspection. Gradation sampling and testing shall conform to the current IDOT Manual of Test Procedures for Materials. The gradation shall conform to Article 1003.04(c) of the current IDOT Standard Specifications for Road and Bridge Construction.

5.0 QUALITY

Construction and demolition debris sand shall be the angular fragments resulting from mechanical crushing/screening of unpainted exterior brick, mortar, and/or concrete with various small amounts of other materials.

The material shall conform to Article 1003.04 of the current IDOT Standard Specifications for Road and Bridge Construction. For this material, "objectionable matter" as used in Article 1003.04(b) shall include but is not limited to wood, metal, rubber, paper, and/or plastic.

This material shall be free of all hazardous substances. The producer shall run a detection program for asbestos and lead. The program shall consist of the following:

- 5.1 The sampling and testing frequency shall be one sample per calendar month. Sample date and time shall be determined by the Department. The sampling and testing frequency may be changed by the Department based on historical test data.
- 5.2 The representative sample (minimum 11 kg [25 pounds]) shall be taken by the producer, in the presence of an IDOT aggregate inspector, according to AASHTO T2 (Illinois Modified) detailed in the current IDOT "Manual of Test Procedures for Materials."
- 5.3 The sample shall be split by the producer, in the presence of the IDOT aggregate inspector, into two halves in a mechanical splitter according to AASHTO T248 (Illinois Modified) as detailed in the current IDOT "Manual for Test Procedures for Materials." The producer shall submit the appropriate test portion(s) of one-half of the sample for testing to a laboratory/ laboratories acceptable to the Department. The other half of the original sample shall be retained by the Department.
- 5.4 The laboratory/laboratories shall perform the following tests on the test portion(s) of the sample submitted:
 - 5.4.1 Asbestos Detection -- Analysis in accordance with Environmental Protection Agency (EPA) Test, "Interim Method for Determination of Asbestos in Bulk Insulation Samples by Polaroid Light Microscopy," 40CFR, Part 763, Subpart F, Appendix A, 1987.

5.4.2 Leachable Lead Concentration -- Extraction using EPA Test Method SW846-1311, "Toxicity Characteristic Leaching Procedure," and analysis by EPA Test Methods SW846-3020A and SW846-7421, "Graphite Furnace Atomic Absorption Spectroscopy."

5.5 Maximum test limits are as follows:

	<u>Maximum Limit</u>
Asbestos	none detected
Leachable lead	0.0075 mg/L

5.6 The producer shall provide the original test results, when received, to the IDOT aggregate inspector. These results along with the Department's half sample will be sent to the Bureau of Materials and Physical Research for review.

5.7 The Bureau of Materials and Physical Research will notify the producer, in writing, of any nonconformance. Nonconformance may lead to rejection of the material for its intended use.

5.8 The Department may sample and test (full EPA testing if deemed necessary) the material for conformance at any time.

6.0 MATERIAL PROCESSING

Construction and demolition debris shall be crushed and graded into specification. The "excess soft and unsound particles and other objectionable matter" shall be removed. Removing the contaminants may involve crushers; screens; magnets; air and/or water floatation separation devices; and/or hand picking.

7.0 STOCKPILING

Stockpiling, hauling, and loading shall conform to the current IDOT Manual for Aggregate Inspection.

Contamination in the stockpile area is as detrimental as contamination when picking up construction and demolition debris. Stockpile pads shall be provided, and haul roads and plant area shall be properly maintained to assure acceptable material is not contaminated prior to use.

8.0 PRODUCER DOCUMENTATION AND TRUCKLOAD INSPECTION PROGRAM

8.1 Documentation -- The producer shall require the generator/hauler of the construction and demolition debris to provide a completed material handling form that contains all the information required by the "Resource Conservation and Recovery Act" (1976). The information shall be reviewed by the producer prior to the acceptance of the first load of material from each demolition site. All completed material handling forms shall be on file for three years and available for IDOT inspection at the producer's facility. The producer should contact the Illinois Environmental Protection Agency to verify that a "Notification of Building Demolition or Renovation" form has been filed.

8.2 Truckload Inspection -- Each truckload shall be identified by the producer to ensure that material is coming from an approved site that has met the requirements of Article 8.1 herein. Prior to or during unloading, each truckload shall be visually inspected by the producer for contamination and hazardous substances. If a load is determined to be unacceptable, it shall be reloaded immediately. A written system, approved by the Department, shall be used to document this inspection process.

9.0 PRODUCER CERTIFICATION LETTER

All producers of construction and demolition debris sand for IDOT/local agency use shall submit an annual certification letter each January to the Illinois Department of Transportation, Bureau of Materials and Physical Research, 126 East Ash Street, Springfield, Illinois 62704-4766. This letter shall certify that the producer will ship only construction and demolition debris sand that complies with this policy memorandum and that the product does not contain hazardous substances.



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