



Florida Department of Transportation

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This Memo Has Expired

MATERIALS BULLETIN NO. 06-10
DCE MEMORANDUM NO. 16-10
(FHWA Approved: 11/9/10)

**TO: DISTRICT MATERIALS RESEARCH ENGINEERS
DISTRICT CONSTRUCTION ENGINEERS**

FROM: Thomas O. Malerk, P.E., Director, Office of Materials
David A. Sadler, P.E., Director, Office of Construction

Handwritten signatures of Thomas O. Malerk and David A. Sadler, corresponding to the names listed in the 'FROM' field.

COPIES: Rafiq Darji, Chris Richter, Michael Murtha, Bob Burleson,
Jim Warren, Mike Bergin, John Shoucair , Chad Thompson

**SUBJECT: SPECIFICATION CHANGE FOR COARSE AGGREGATE -
RECLAIMED PORTLAND CEMENT CONCRETE**

Pending a Specification change to permit the use of reclaimed Portland cement concrete from sources other than those produced and placed in accordance with applicable Specifications, this coarse aggregate may be used in applications described herein.

If requested by a contractor to use reclaimed Portland cement concrete as a source of aggregate for pipe backfill under wet conditions, Underdrain aggregate, or concrete meeting the requirements of Section 347 Portland Cement Concrete – Class NS, the contract may be amended to include the following language:

The second paragraph of Section 901-1.1 of the Standard Specifications shall be deleted the following substituted:

Coarse aggregate for use in pipe backfill under wet conditions, Underdrain aggregate, or concrete meeting the requirements of Section 347 Portland Cement Concrete – Class NS may also consist of reclaimed Portland cement concrete meeting the requirements of 901-5. Coarse aggregate for use in bituminous mixtures may also consist of reclaimed Portland cement concrete meeting the requirements of 901.5, except that the reclaimed concrete shall be from a source which was produced and placed in accordance with applicable Department Specifications.

Section 901-1.2 of the Standard Specifications shall be deleted the following substituted:

901-1.2 Deleterious Substances: All coarse aggregates shall be reasonably free of clay lumps, soft and friable particles, salt, alkali, organic matter, adherent coatings, and other substances not defined which may possess undesirable characteristics. The weight of deleterious substances shall not exceed the following percentages:

Coal and lignite (AASHTO T 113)	1.00
Soft and friable particles (AASHTO T 112)*	2.00
Clay lumps (AASHTO T 112)*	2.00
Plant root matter (visual inspection in AASHTO T 27)****	0.005
Wood and wood matter (visual inspection in AASHTO T 27)****	0.005
Cinders and clinkers	0.50
Free shell**	1.00
Total Material passing the No. 200 sieve (FM 1-T 011) At Source with Los Angeles Abrasion less than or equal to 30	2.50
At Source with Los Angeles Abrasion greater than 30.....	1.75
At Point of Use.....	3.75
Fine-Grained Organic Matter (AASHTO 194)	0.03
Chert (less than 2.40 specific gravity SSD) (AASHTO T-113)***	3.00

*The maximum percent by weight of soft and friable particles and clay lumps together shall not exceed 3.00.

**Aggregates to be used in asphalt concrete may contain up to 5% free shell. Free shell is defined as that portion of the coarse aggregate retained on the No. 4 sieve consisting of loose, whole, or broken shell, or the external skeletal remains of other marine life, having a ratio of the maximum length of the particle to the shell wall thickness exceeding five to one. Coral, molds, or casts of other shells, and crushed clam and oyster shell indigenous to the formation will not be considered as free shell.

***This limitation applies only to coarse aggregates in which chert appears as an impurity. It is not applicable to aggregates which are predominantly chert.

****Plant root matter, and wood and wood matter shall be considered deleterious when any piece exceeds two inches in length or 1/2 inch in width.

In addition, the weights for deleterious substances for Reclaimed Portland Cement Concrete Aggregate shall not exceed the following percentages:

Bituminous Concrete	1.00
Bricks	1.00
Wood and other organic substances.....	0.1
Reinforcing Steel and Welded Wire Fabric	0.1
Plaster and gypsum board	0.1
Joint Fillers.....	0.1

Note 1 = supersedes requirement of 901-1.2 for other coarse aggregate

Section 901-1.5 of the Standard Specifications shall be deleted the following substituted:

901-5 Reclaimed Portland Cement Concrete.

The reclaimed Portland cement concrete shall be crushed and processed to provide a clean, hard, durable aggregate having a uniform gradation free from adherent coatings.

The Contractor's (Producer's) crushing operation shall produce an aggregate meeting the applicable gradation requirements. The physical property requirements of 901-1.3 for Soundness shall not apply and the maximum loss as determined by the Los Angeles Abrasion (FM 1-T 096) is changed to 50.

The sources of reclaimed Portland cement concrete will be treated as a mine and subject to the requirements of Section 6 and Section 105. The source shall qualify as a facility generating Clean Debris as described in Rule 62-701.200(15), Florida Administrative Code, as uncontaminated concrete which is exempt from solid waste regulation in accordance with Rule 62-701.220(2)(f), FAC. If the Department has reason to suspect that the concrete has been contaminated with petroleum products or lead-based paint, the concrete shall not be considered clean debris and the source shall be required to be permitted and perform testing in accordance with the Rules 62-701, FAC and shall be subject to any ensuing enforcement action by the Florida Department of Environmental Protection.

Additionally:

- Concrete shall be asbestos free.
- Operators of demolition recycling facilities shall demonstrate that they are in compliance with 40 Code of Federal Regulations (CFR) 61.141 and 61.145. Notification requirements from each owner or operator of a demolition or renovation activity supplying reclaimed concrete shall be available at the recycling facility.
- Under penalty of law, operators of demolition recycling facilities shall not violate 40 CFR 61.143 by selling or supplying contaminated concrete to Department projects.
- The Department reserves the right to require and perform asbestos inspection by a Florida Certified Industrial Hygienist and testing for asbestos by an accredited lab.

This memorandum serves as a blanket approval to process this change at no cost to the Department and should be attached to the Field Supplemental Agreement/Work Order or Supplemental Agreement.

Should you have any questions concerning this matter, please contact John Shoucair (352) 955-2925 at the State Materials Office.

TM/DS/js