



OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 Northeast 21st Street

Oklahoma City, OK 73105-3204

Date: April 25, 2006
To: Resident Engineers
From: Reynolds Toney, Division Engineer
Subject: Change to Concrete cylinder assurance testing

This letter describes new changes to the Department's Quality Assurance Program concerning Concrete cylinders. Revisions to specific pages of the Frequency Guide Schedule for Sampling and Testing Acceptance (Appendix 700A) are attached. Communicate this information to all personnel involved in sampling, testing and acceptance of concrete materials.

Changes:

- Eliminate sending the tenth set of cylinders to Materials Division.
- Residency conducts all cylinder compression testing for acceptance.
- Implement Independent Assurance sampling (casting) and testing of cylinders.
- Revise sampling/testing frequency of concrete

Discussion:

The current Appendix 700A specifies the tenth set of concrete cylinders cast by Residency personnel on a project be submitted to Materials Division for "assurance" testing. There are several problems with this current requirement:

1. Not all labs follow this requirement consistently.
2. Cylinders may be improperly handled during transportation to Materials Division.
3. Residencies are making acceptance decisions for materials not tested in their lab.
4. Does not meet the intent of an Independent Assurance Program.

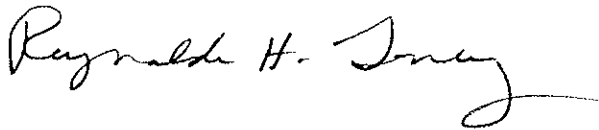
During the implementation of SiteManager Materials, the sampling and testing requirements for concrete had to be re-defined using a consistent pay item based frequency. The frequency chosen for concrete cylinders used in structural concrete was 1 set per 70 cubic yards. When the new sampling guide is published, this change to the frequency will carry into the new guide. For now, the 1 per 70 CY frequency for cylinders on structural concrete pay items, will apply only to contracts in SiteManager with Materials activated. When compared with the current frequency, we anticipate similar number of cylinder sets cast on typical concrete placements on projects.

The Independent Assurance frequency is usually 10% of the acceptance frequency, so IA will cast cylinders every 700 CY for structural concrete items. Your usual good cooperation and coordination with IA will be necessary to ensure proper handling and storage of the IA cylinders until they are picked up by IA for delivery to the Material Division Lab.

Implementation:

- Replace pages 19 and 24 of Appendix 700A with the attached copies.
- These changes become effective on all new projects beginning with the March Letting.
- Technicians should review the loading requirements detailed in section 7.6 of AASHTO T22.
- The Materials Division will establish a comparison requirement for compressive strength results between labs.
- Technicians and Laboratories shall work together in identifying and resolving issues related to non-comparing test results between labs.
- IA personnel will cast a set of cylinders at the same time as a Residency acceptance set of cylinders are cast.
- Residency personnel shall handle and store (cure) IA cylinders in the same manner as the acceptance cylinders until picked up by IA personnel.

Sincerely,



Reynolds Toney, P.E.
Materials Engineer

Attachment

cc: Materials File
George Raymond
Reynolds Toney
Scott Seiter
Kenny Seward
John Benson
Bill Hawkins

Spec. Section	Item	Mat'ls.	Tests	Test Method	Sampling Frequency	Sampling Location	Size of Sample
414	Wire Fabric	723	Lab		Same, otherwise 2 - 24" sections to Lab.	Project Site	
	Liquid Membrane Curing Compound	701.07	Lab		Identify as pretested		
	Sheet Curing Materials	701.07			Identify as Lab approved source.		
	Linseed Oil Emulsion Curing Agent	701.07	Lab		Identify as pretested.		
	Concrete		Slump Air Content Temperature	T-119 T-152, T-196, T-309	2500 CY	At point of discharge into forms	
			Cylinders and Beams	T-22, T-23, T-97, T-177, or T-231	2500 CY Beams and/or additional cylinders as required for opening to traffic.	Same	

* Revised April 24, 2006. Applies to projects let March, 2006 and after.

Spec. Section	Item	Mat'ls.	Tests	Test Method	Sampling Frequency	Sampling Location	Size of Sample
509	Water	701.04	Lab		Questionable Source.	Source	1 qt.
	Concrete	701.01	Slump Air Content Temperature	T-119 T-152, T-196, T-309	35 CY	Point of discharge into forms.	
			Cylinder & Beams	T-22, T-23, T-97, T-177 T-231	70 CY. Smaller placements to be cast and tested as required to insure quality. Additional beams and/or cylinders as required for placing structure in service & form removal.	Same	
	Liquid Membrane	701.07	Lab		Identify as pretested		
	Sheet Curing Materials	701.07			Identify as Lab approved source.		
	Linseed Oil Emulsion Curing Agent	701.07	Lab		Identify as pretested		
	Elastomeric Bearing Pads	733.05			Identify as pretested		

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