

LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE

For The Technical Direction Of The LTPP Program

Program Area: SPS

Directive Number: S-9

Date: April 21, 1994

Supersedes:

Subject: SPS-2 Materials Sampling and Testing Requirements

Attached is the second revision of selected tables in the SPS-2 Materials Sampling and Testing Requirements that was issued in SPS Directive S-7 dated February 9, 1994. Please distribute to appropriate State Agencies involved or interested in SPS-2 projects and incorporate these changes into all SPS-2 projects.

Approved: Paul Teng

Date: 4/22/94

Table 1 – Laboratory Materials Testing Plan: Primary SPS-2 Experiment

Material Type and Properties	LTPP Designation	LTPP Protocol	Minimum No. of Tests per Layer	Type of Sample Needed
Flexural Strength	PC09	P69		
14 day 3.8 MPa (550 psi)			3	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
6.2 MPa (900 psi)			3	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
28 day 3.8 MPa (550 psi)			3	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
6.2 MPa (900 psi)			3	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
1 year 3.8 MPa (550 psi)			3	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
6.2 MPa (900 psi)			3	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)

**Table B.4 – Samples to be Shipped to the State/Province Laboratory
(or their designee) for the SPS-2 Primary Experiment**

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Portland Cement Concrete			
B21	GX01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B22	GX03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B23	GX05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam

**Table B.4 – Samples to be Shipped to the State/Province Laboratory
(or their designee) for the SPS-2 Primary Experiment**

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Portland Cement Concrete			
B24	GX07	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX08	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY07	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY08	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ07	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ08	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX04	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY04	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ04	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B25	GX09	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX10	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY09	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY10	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ09	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ10	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX05	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY05	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ05	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B26	GX11	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX12	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY11	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY12	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ11	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ12	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX06	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY06	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ06	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam

**Table B.4 – Samples to be Shipped to the State/Province Laboratory
(or their designee) for the Supplementary SPS-2A Experiment**

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Portland Cement Concrete			
B11	GX01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B12	GX03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B13	GX05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam

Table C.1 – Laboratory Materials Testing Plan: Supplementary SPS-2B Experiment

Material Type and Properties	LTPP Designation	LTPP Protocol	Minimum No. of Tests per Layer	Type of Sample Needed
Flexural Strength	PC09	P69		
14 day 3.8 MPa (550 psi)			2	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
6.2 MPa (900 psi)			2	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
28 day 3.8 MPa (550 psi)			2	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
6.2 MPa (900 psi)			2	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
1 year 3.8 MPa (550 psi)			2	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)
6.2 MPa (900 psi)			2	152 x 152 x 508 mm (6 x 6 x 20 in.) beams (molded from fresh PCC)

**Table C.4 – Samples to be Shipped to the State/Province Laboratory
(or their designee) for the SPS-2B Supplementary Experiment**

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Portland Cement Concrete			
B14	GX01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ01	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ02	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ01	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B15	GX03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ03	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ04	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ02	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
B16	GX05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ05	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ06	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ03	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam

**Table C.4 – Samples to be Shipped to the State/Province Laboratory
(or their designee) for the SPS-2B Supplementary Experiment (continued)**

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Portland Cement Concrete			
B17	GX07	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GX08	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY07	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GY08	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ07	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	GZ08	3	152 mm x 305 mm (6 in. x 12 in.) cylinder
	FX04	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FY04	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
	FZ04	3	152 x 152 x 508 mm (6 x 6 x 20 in.) beam
C1	CP01	1	102 mm (4 in. Core)
C2	CP02	1	102 mm (4 in. Core)
C3	CP03	1	102 mm (4 in. Core)
C4	CP04	2	102 mm (4 in. Core)
C5	CP05	2	102 mm (4 in. Core)
C6	CP06	2	102 mm (4 in. Core)
C7	CP07	1	102 mm (4 in. Core)
C8	CP08	1	102 mm (4 in. Core)
C9	CP09	1	102 mm (4 in. Core)
C10	CP10	1	102 mm (4 in. Core)
C11	CP11	2	102 mm (4 in. Core)
C12	CP12	2	102 mm (4 in. Core)
C13	CP13	2	102 mm (4 in. Core)
C14	CP14	1	102 mm (4 in. Core)
C15	CP15	1	102 mm (4 in. Core)
C16	CP16	1	102 mm (4 in. Core)
C17	CP17	2	102 mm (4 in. Core)
C18	CP18	2	102 mm (4 in. Core)
C19	CP19	2	102 mm (4 in. Core)
C20	CP20	1	102 mm (4 in. Core)

LTTP SPS DIRECTIVES

3-30-94

DIRECTIVE	SUBJECT	DATE ISSUED
S-1	Revision of Existing SPS Documents	11-27-92
S-2	Policy in Treatment of Failed SPS Selections	11-27-92
S-3	Revisions of Construction Data Sheet 7 for SPS-5 and SPS-6	2-10-93
S-4	Deflection Testing of Subgrade and Base Layers for SPS-1, SPS-2, and SPS-8	2-22-93
S-5	Supplement Section Designations	4-19-93
S-6	SPS-1 Construction Guidelines and Materials Sampling and Testing Requirement Revisions	2-1-94
S-7	SPS-2 Construction Guidelines and Materials Sampling and Testing Requirement Revisions	2-9-94
S-8	SPS-2 Materials Sampling and Testing Requirements - Revisions	3-30-94
S-9	SPS-2 Materials Sampling and Testing Requirements – Revision #2	4-21-94