SECTION 301 CLASS I BASE COURSE

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATE BASES (DEDICATED STOCKPILE)	Recycled PC Concrete	301.02 1003.03 Mat. Lab	Prelim. Source Approval	Dist. Lab S 101 & S 801	1/Stockpile*	12 full sample sacks	-----	-----	5 weeks	*See S 801 for maximum stockpile quantities. Raw material stockpiles shall be approved by Dist. Lab Engr. prior to crushing.
		301.07 Contractor	Quality Control	Contractor S 101 & S 801	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		301.02 1003.03 Dist. Lab	Design*	Proj. Engr. S 101	1/source	6 full sample sacks	-----	-----	4 days	Material must be source approved. *For moisture-density relationships.
		301.02 1003.03 Dist. Lab	Accept.	Proj. Engr. S 101	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Material must be source approved.
	Sand-Clay-Gravel	301.07 Contractor	Quality Control	Contractor S 101 or S 401	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		301.02 1003.03 Dist. Lab	Accept.	Proj. Engr. S 101 or S 401	1/source	6 full sample sacks	-----	-----	10 days	For moisture-density relationships.
		301.02 1003.03 Dist. Lab	Design	Proj. Engr. S 101 or S 401	1/1000 yd^3	1 full sample sack	-----	-----	5 days	Must be accepted prior to mixing with cement. If individual components are to be mixed in the pugmill, approval procedure shall be approved by the Materials Engineer Administrator.

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGGREGATE BASES (DEDICATED STOCKPILE) (Cont'd)	Stone or Crushed Slag	301.07 Contractor	Quality Control	Contractor S 101	*	-----	-----	-----	-----	*Must be controlled so that materials placed in stockpile will conform to specifications when tested by the Department.
		301.02 1003.03 Dist. Lab	Design*	Proj. Engr. S 101	1/source	6 full sample sacks	-----	-----	4 days	(QPL 2) *For moisture-density relationships.
		301.02 1003.03 Dist. Lab	Accept.	Proj. Engr. S 101	1/1000yd^3	1 full sample sack	-----	-----	4 days	-----
		1003.03 Dist. Lab	IA	Dist. Lab S 101 or S 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
ASPHALTIC CONCRETE BASES		**FOR ALL RELATED MATERIALS, SEE SECTION 502 OF THIS MANUAL. SEE INDEPENDENT ASSURANCE PROGRAMS S 701.**								
ASPHALTIC MATERIAL	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL.**								
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL.**								

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
CEMENT (HYDRAULIC)	Types I, II & IP	1001.01 Mat. Lab	Prelim. Source Approval	Mfr. S 102	1/month/type	1 gal friction top can or acceptable moisture proof container	-----	-----	-----	(QPL 7) Composited and blended from daily plant samples and submitted for quality control verification.
		301.02 1001.01 Proj. Engr.	Accept.	-----	1/shipment	-----	CD 1 & 7	-----	-----	(QPL 7)
		301.02 1001.01 Mat. Lab	Verif.	Proj. Engr. S 102	1/project/ source	1 gal friction top can	-----	-----	21 days	(QPL 7)
PORTLAND CEMENT CONCRETE BASES		301.01 301.16	Design/ Quality Control/ Accept.	**SEE SECTION 706 & 901 OF THIS MANUAL.**						
MIXTURE WITH CEMENT AT CENTRAL MIX PLANT	Percent Cement	301.07 Contractor	Quality Control	Contractor TR 436	2/half day*	-----	-----	-----	-----	*In addition to start-up of plant each day and after each shut down.
		301.16 Proj. Engr.	Accept.	Proj. Engr. TR 436	1/half day	-----	-----	-----	1 hr	-----
	Gradation	301.07 Contractor	Quality Control	Contractor S 101	1/half day*	1 full sample sack	-----	-----	-----	*When gradation is a requirement of specifications.
		301.16 Proj. Engr.	Accept.	Proj. Engr. S 101	1/day*	1 full sample sack	-----	-----	4 hr.	*Gradation will be run when questionable or individual components of SCG are mixed in a pugmill.
	Moisture Content	301.07 Contractor	Quality Control	Contractor S 101 S 401	1/half day*	-----	-----	-----	-----	*In addition to start-up of plant each day and after each shut down.
	Proportions	301.07 Contractor	Quality Control	Contractor TR 436	*	-----	-----	-----	-----	*Shall be monitored continuously.
		301.16 Proj. Engr.	Accept.	Contractor TR 436	1/half day	-----	-----	-----	1 hr.	-----
	Pulverization	301.07 Contractor	Quality Control	Contractor S 401	1/half day	-----	-----	-----	-----	-----
		301.16 Proj. Engr.	Accept.	Proj. Engr. S 401	1/half day	-----	-----	-----	1/2 hr.	-----
BASE MATERIAL ON ROADWAY	Density	301.11 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications will be met.
		301.16 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/1000 lin ft/ 2 lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1/2 hr.	-----
		301.16 Dist. Lab	IA	Dist. Lab TR 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BASE MATERIAL ON ROADWAY (Cont'd)	Cross Slope & Grade	301.11 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall take measurements sufficient to ensure specifications are met.
		301.16 Proj. Engr.	Accept.	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Use an approved 10-ft metal static straightedge or other approved device.
	Moisture Content (For Soil Cement or Cement Stabilized Mixtures)	301.11 Contractor	Quality Control	Contractor TR 403	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		301.16 Proj. Engr.	Accept.	Proj. Engr. S 101 S 401	1/half day	-----	-----	-----	1 hr.	(TR 403)
	Thickness & Width	301.11 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall take measurements sufficient to ensure specifications are met.
		301.16 Proj. Engr.	Verif.	Proj. Engr. TR 602	1/half day	-----	-----	-----	1/4 hr.	Proj. Engr. shall notify the Dist. Lab when section is complete.
		301.16 Dist. Lab	Accept.	Dist. Lab TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder*	-----	-----	300 lin ft per location	3 days	*See DOTD TR 602. For small quantity, Proj. Engr. Documents in field book.
SOIL (RAW)	Dedicated Stockpile	301.11 Contractor	Quality Control	Contractor S 401	-----	-----	-----	-----	-----	Control uniformity of moisture and soil type while stockpile is being built.
		301.02 301.05 Dist. Lab	Design*/ Accept.	Proj. Engr. S 401	1/1000 yd^3	6 full sample sacks**	-----	-----	21 days max	*For cement content & moisture-density relationships. **When soils are to be blended, each component must meet specifications before blending. Design and final acceptance will be conducted on the blend.
		301.02 301.05 Dist. Lab	IA	Dist. Lab S 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
WATER		1018.01 Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 302 CLASS II BASE COURSE

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
NOTE: WHEN A CLASS II BASE COURSE IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL.										
AGGREGATE BASES	Recycled PC Concrete	302.02 1003.03 Mat. Lab	Prelim. Source Approval	Dist. Lab S 801	1/stockpile*	6 full sample sacks	-----	-----	5 weeks	*See S 801 for maximum stockpile quantities. Raw material stockpiles shall be approved by Dist. Lab Engineer prior to crushing.
		301.01 302.02 302.08 Contractor	Quality Control	Contractor S 101	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		302.02 Dist. Lab	Design*	Proj. Engr. S 101	1/source	6 full sample sacks	-----	-----	4 days	Material must be source approved. *For moisture-density relationships.
		302.02 Dist. Lab	Accept.	Dist. Lab S 101	1/1000 yd^3	1 full sample sack	-----	100 yd^3	4 days	Material must be source approved.
	Sand-Clay-Gravel	302.01 302.02 302.08 Contractor	Quality Control	Contractor S 101 or S 401	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		302.02 Dist. Lab	Design*	Proj. Engr. S 101	1/source	6 full sample sacks	-----	-----	10 days	*For moisture-density relationships.
		302.02 Dist. Lab	Accept.	Proj. Engr. S 101	1/1000 lin ft/ 2-lane rdwy or 1/ 2000 lin ft/ shoulder*	1 full sample sack	-----	200 lin ft or 100 yd^3	5 days	*For stockpiles, ramps, turnouts, etc. minimum frequency shall be 1 per 1000 yd^3.

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATE BASES (cont'd)	Stone or Crushed Slag	302.01 302.02 302.08 Contractor	Quality Control	Contractor S 101	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		302.02 Dist. Lab	Design*	Proj. Engr. S 101	1/source	6 full sample sacks	-----	-----	4 days	(QPL 2) *For moisture-density relationships.
		302.02 Dist. Lab	Accept.	Dist. Lab S 101	1/1000 yd^3	1 full sample sack	-----	100 yd^3	4 days	(QPL 2) Materials must be source approved.
		302.02 Dist. Lab	IA	Dist. Lab S 101	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
ASPHALTIC CONCRETE BASES		**FOR ALL MATERIALS, SEE 502 OF THIS MANUAL. SEE INDEPENDENT ASSURANCE PROGRAM S 701.**								
ASPHALTIC MATERIALS	Curing Membrane	**SEE SECTION 506 0F THIS MANUAL.**								
	Prime Coat	**SEE SECTION 505 0F THIS MANUAL.**								
CEMENT (Hydraulic)	Types I, II & IP	302.02 1001.01 Mat. Lab	Prelim. Source Approval	Mfr. AASHTO T 127	1/month/type	1 gal friction top can or acceptable moisture proof container	-----	-----	-----	(QPL 7) Composited and blended from daily plant samples and submitted for quality control verification.
		302.02 1001.01	Accept.	-----	1/shipment	-----	CD 1 & 7	-----	-----	(QPL 7)
		302.02 1001.01 Mat. Lab	Verif.	Proj. Engr. S 101	1/project/ source	1 gal friction top can	-----	-----	21 days	(QPL 7)
CONCRETE, PORTLAND CEMENT, BASE		302.01 302.12	Design/ Quality Control/ Accept.	**SEE SECTION 901 OF THIS MANUAL.**						
BASE MATERIAL ON ROADWAY	Cement Spread Rate (For soil cement or cement treated bases only)	302.01 302.08 Contractor	Quality Control	Contractor TR 436	each transport*	-----	-----	-----	-----	*The contractor shall determine the length of spread prior to mixing. Use an approved sampling device.
		302.12 Proj. Engr.	Accept.	Proj. Engr. TR 436	1/day*	-----	-----	-----	1/2 hr.	*The Proj. Engr. will verify the length of spread prior to mixing. At the discretion of the Proj. Engr. additional testing shall be performed when cement content changes. Use an approved sampling device.
	Cross Slope & Grade	301.01 302.08 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall check sufficient to ensure specifications are met.
		302.12(d) Proj. Engr.	Accept.	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Use an approved 10 ft metal static straightedge or other approved device.

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
BASE MATERIAL ON ROADWAY (Cont'd)	Density	302.01 302.08 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		302.12 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
		302.12 Dist. Lab	IA	Dist. Lab TR 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Moisture Content (For Soil Cement or treated Sand-Clay-Gravel only)	302.01 302.08 Contractor	Quality Control	Contractor S 101 or S 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		302.05 302.12 Proj. Engr.	Accept.	Proj. Engr. S 101 or S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can*	-----	-----	1 hr.	*May be obtained by M.C. % determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Pulverization (For soil-cement only)	302.01 302.08 Contractor	Quality Control	Contractor S 401	*	-----	-----	-----	-----	*Soil cement shall be tested sufficiently to ensure specifications are met.
		302.05 302.12 Proj. Engr	Accept.	Proj. Engr. S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can	-----	-----	1/2 hr.	DOTD TR 431
	Thickness & Width	302.01 302.05 302.08 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall be measured sufficiently to ensure specifications are met.
		302.12 TR 602 Proj. Engr.	Verif.	Proj. Engr. TR 602	1/half day	-----	-----	-----	1/4 hr.	Proj. Engr. To notify Dist. Lab when section is completed.
		302.12 Dist. Lab	Accept.	Dist. Lab TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	300 lin ft per location	3 days	See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.
GEOTEXTILE SEPARATOR FABRIC	Class D	203.11 302.04 1019 Mat. Lab	Accept.	**SEE SECTION 203 OF THIS MANUAL.**						Only required when aggregate base course placed on un-treated or lime-treated soils.
SOILS (RAW) ON ROADWAY FOR SOIL CEMENT	Density (93%)	302.01 302.05 302.08 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. Minimum density is required on roadway prior to spreading cement. Check M.C. % before mixing with cement (TR 403).
		302.05 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/half day	-----	-----	-----	1/2 hr.	-----

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
SOILS (RAW) ON ROADWAY FOR SOIL CEMENT (Cont'd)	Soils/Soil-Aggregate	302.05 Dist. Lab	Design*	Proj. Engr. S 101 or S 401	1/1000 lin ft/ 2-lane rdwy or 1/ 2000 lin ft/ shoulder	6 full sample sacks of blend	-----	-----	21 days	*For cement content and moisture-density relationships. Design will be conducted on blend.
		302.02 Dist. Lab	Accept.	Proj. Engr. S 101 or S 401	1/1000 lin ft/ 2-lane rdwy or 1/ 2000 lin ft/ shoulder	1 full sample sack of blend & 1 sample sack of each component	-----	200 lin ft	5 days	Blending of soils prior to mixing with cement will not be allowed for adjustment of LL or PI.
		302.02 Dist. Lab	IA	Dist. Lab S 101 or S 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
SOILS (RAW) IN STOCKPILE FOR SOIL CEMENT	Soils/Soil-Aggregate	302.01 302.08 Contractor	Quality Control	Contractor S 101 or S 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications will be met when placed on roadway. Check M.C. % before spreading cement.
		302.05 Dist. Lab	Design*	Proj. Engr. S 101 or S 401	1/1000 yd^3	6 full sample sacks of blend & 1 full sample sack of each component	-----	-----	21 days	*For cement content and moisture-density relationships. Design will be conducted on blend.
		302.02 Dist. Lab	Accept.	Proj. Engr. S 101 or S 401	1/1000yd^3	1 full sample sack of blend & 1 full sample sack of each component	-----	100 yd^3	5 days	Blending of soils prior to mixing with cement will not be allowed for adjustment of LL or PI.
		302.02 Dist. Lab	IA	Dist. Lab S 101 or S 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
Water		1018.01 Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 303 IN-PLACE CEMENT STABILIZED BASE COURSE

MATERIAL		REF. TESTED	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.										
MATERIAL FOR BASE PRIOR TO SPREADING CEMENT (Existing or Furnished Soils/Soil-Aggregate)	Contractor Furnished Soil	303.07 Contractor	Quality Control	Contractor S 101 or S 401	-----	-----	-----	-----	-----	Must test sufficient to ensure material will meet specification requirements before placing on roadway. Check M.C.% on all materials before spreading cement.
		303.02 Dist. Lab	Accept.	Proj. Engr. S 101 or S 401	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Contractor furnished material will be approved before incorporation into existing material. Furnished material not meeting the requirement of specification Subsection 302.02(a) will not be incorporated in the base.
	Density (93%)	303.04 303.07 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall be tested frequently enough to ensure specifications are met. Minimum density is required on roadway prior to mixture with cement. All blending of soils materials will be accomplished before testing.
		303.04 Proj. Engr	Accept.	Proj. Engr. TR 401	1/half day	-----	-----	-----	30 min.	-----
	In-Place Material on Roadway	303.04 303.05 Dist. Lab	Design*/ Accept.	Contractor S101 or S401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	6 full sample sacks	-----	-----	14 days	*For cement content and moisture-density relationships (if needed). Design will be conducted on the final blend.
	Pulverization	303.04 303.07 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall be tested frequently enough to ensure specifications are met.
		303.04 303.11 Proj. Engr.	Accept.	Proj. Engr. TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	Shall be obtained after blending of any contractor furnished material. Pulverization shall be approved prior to spreading cement.

SECTION 303 IN-PLACE CEMENT STABILIZED BASE COURSE (Cont'd)

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 501,501 AND 901 OF THIS MANUAL, AS APPLICABLE.										
MIXTURE WITH CEMENT ON ROADWAY	Cement Spread Rate	303.07 Contractor	Quality Control	Contractor* TR 436	each transport	**	-----	-----	-----	*The contractor shall determine the length of spread prior to mixing. **Use an approved sampling device.
		303.11 Proj. Engr.	Accept.	Proj. Engr.* TR 436	1/day	**	-----	-----	1/2 hr.	*The Proj. Engr. will verify the length of spread prior to mixing. **Use an approved sampling device.
	Cross Slope & Grade	303.07 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. Use an approved 10 ft metal static straightedge.
		303.07 Proj. Engr.	Verif.	Proj. Engr.	*	-----	-----	-----	1/4 hr.	Use an approved 10 ft. metal static straightedge or other approved device.
	Density	303.07 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		303.11 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
		303.11 Dist. Lab	IA	Dist. Lab TR 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Moisture Content	303.05 303.07 Contractor	Quality Control	Contractor S 101 or S 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. (DOTD TR 403)
		303.05 303.11 Proj. Engr.	Accept.	Proj. Engr. S 101 or S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can*	-----	-----	1 hr.	*May be obtained by M.C.% determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Thickness & Width	303.07 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall be measured sufficiently to ensure specifications are met.
		303.11 TR 602 Proj. Engr.	Verif.	Proj. Engr. TR 602	1/half day	-----	-----	-----	1/4 day	Proj. Engr. shall notify Dist. Lab when section is complete.
		303.11 Dist. Lab	Accept.	Dist. Lab TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder*	-----	-----	300 lin ft per location	3 days	*See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.

SECTION 304 LIME TREATMENT

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.										
CURING MEMBRANE	Type B (only)	304.05 1002.01 Mat. Lab/ Proj. Engr.	-----	-----	**SEE SECTION 506 OF THIS MANUAL.**					
LIME (Hydrated and Quicklime)		304.02 1018.03 Mat. Lab	Prelim. Source Approval	Mfr. S 102	1/quarter	-----	-----	-----	-----	-----
		304.02 1018.03 Mat. Lab	Accept.	-----	1/shipment	-----	CD 1 & 7	-----	-----	(QPL 34)
		304.02 1018.03 Mat. Lab	Verif.	Proj. Engr. S 102	1/projet/ source	1 gal friction top can	-----	-----	21 days	(QPL 34) *Not required if sampled under another item.
MIXTURE ON ROADWAY	Density- (Type B)	304.08 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall Check sufficient to ensure specifications are met.
		304.07 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	30 min	-----
		304.07 Dist. Lab	IA	Dist. Lab TR 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Density- (Type C & D)	304.07 Proj. Engr.	Accept.	Proj. Engr.	-----	-----	-----	-----	-----	Compact to the satisfaction of the Engineer.
	Density- (Type E)	304.07 Proj. Engr.	Accept.	Proj. Engr.	**SEE SECTION 203 OF THIS MANUAL.**					
	Lime Spread Rate	304.08 Contractor	Quality Control	Contractor* TR 436	Each transport	**	-----	-----	30 min.	*The contractor shall determine the length of spread. **Use an approved sampling device
		304.05 Proj. Engr.	Accept.	Proj. Engr.* TR 436	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	**	-----	-----	30 min.	*The Proj. Engr. shall verify the length of spread. **Use an approved sampling device.

SECTION 304 LIME TREATMENT (Cont'd)

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
MIXTURE ON ROADWAY (Cont'd)	Pulverization (Type B & C)	304.08 Contractor	Quality Control	Contractor S 101	*	-----	-----	-----	-----	*Shall Check sufficient to ensure specifications are met.
		304.06 Proj. Engr.	Accept.	Proj. Engr. S 101	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can	-----	-----	1/2 hr.	-----
	Pulverization (Type D & E)	304.06	Accept.	Proj. Engr	-----	*	-----	-----	-----	*Satisfaction of Engineer.
	Thickness & Width (Type B)	304.08 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall Check sufficient to ensure specifications are met.
		304.05 Proj. Engr	Verif.	Proj. Engr. TR 602	1/half day	-----	-----	-----	1/4 hr.	Proj. Engr. to notify Dist. Lab when section is complete.
		304.11 Dist. Lab	Accept.	Dist. Lab TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	300 lin ft per location	3 days	See DOTD TR 602. For small quantity, Proj. Engr. Documents in field book.
	Thickness & Width (Type C & D)	304.05 Proj. Engr.	Accept.	Proj. Engr. TR 602*	*	-----	-----	-----	-----	*Satisfaction of the Project Engr. Documents in field book.
	Thickness & Width (Type E)	304.05 Proj. Engr.	Accept.	**FOR LIFT THICKNESS REQUIREMENTS SEE SECTION 203 OF THIS MANUAL.**						
SOIL OR SOIL-AGGREGATE	% Lime*	304.04 304.05 Dist. Lab	Design	Proj. Engr. S 101 or S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder*	6 full sample sacks	-----	-----	10 days	*Not required when percent lime is specified in plans or project specifications.
Water		304.02 1018.01 Mat Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 305 SUBGRADE LAYER

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
NOTE: WHEN A SUBGRADE LAYER IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL. FOR PLACEMENT AND CONSTRUCTION REFER TO APPLICABLE SECTIONS OF THIS MANUAL.										
AGGREGATES	Stone, Recycled PC Concrete, Crushed Slag	305.02 305.04 Dist. Lab	**SEE SECTION 302 OF THIS MANUAL**							
	Asphaltic Concrete	203.09 1007.09 Mat Lab	Prelim. Source Approval	Dist. Lab S 101	1/source/ blend	6 sacks	-----	-----	4 weeks	Source shall be approved by Materials Lab prior to use.
	Blended Calcium Sulfate	1003.01 1003.10 Contractor	Quality Control	Contractor S 101	*	-----	-----	-----	-----	*Must test sufficient to ensure materials being delivered meet specification requirements.
		1003.01 1003.10 Dist. Lab	Design*	Proj. Engr. S 101	1/source	6 full sample sacks	-----	-----	4 days	*For moisture-density relationships.
		305.04 1003.01 1003.10	Accept.*	Proj. Engr. S 101	1/1000 yd^3	1 full sample sack	-----	100 yd^3	4 days	*Shall not be placed within 10 ft of metal pipe. Shall be from an approved source.
CEMENT		**SEE SECTION 302 OF THIS MANUAL.**								
ASPHALTIC MATERIALS	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL.**								
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL.**								
GEOTEXTILE FABRIC		305.02 1018.19	**SEE SECTION 203 OF THIS MANUAL**							
LIME (Hydrated or Quicklime)		**SEE SECTION 304 OF THIS MANUAL.**								
MIXTURE WITH LIME AND/OR CEMENT ON ROADWAY	Pulverization*	305.04 Proj. Engr.	Accept.	Proj. Engr. S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1/2 hr.	*For soil after mixing with cement and/or lime.
SOIL		305.04 Dist. Lab.	Design*	Proj. Engr. S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	6 full sample sacks	-----	-----	10 days	*For Moisture Density relationships.
		305.04 Dist. Lab	Accept.*	Proj. Engr. TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	1 full sample sack	-----	-----	4 days	*When soils are to be blended, each component must meet specifications before blending. Design and final acceptance will be conducted on the blend.

SECTION 305 SUBGRADE LAYER (Cont'd)

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
SUBGRADE LAYER	Density (Stone Recycled PCC, Soil Cement, Crushed Slag)	**SEE SECTIONS 302 AND 308 OF THIS MANUAL**								
	Density (Blended Calcium Sulfate)	305.01 Contractor	Quality Control	Contractor S 401	*	-----	-----	-----	-----	*Shall check sufficiently to ensure specifications requirements.
		305.04 Dist. Lab	Accept.	Proj. Engr. S 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	Shall not be placed within 10 ft of metal pipe. Shall be from an approved source.
	Thickness & Width	305.04	Verif.	Proj. Engr. TR 602	**See Section 302, 303 or 304 of this Manual as applicable. District Lab not required to perform DOTD TR 602 Measurements.**					
WATER		305.02 1018.01 Mat. Lab	Accept.	Proj. Engr. S 303	1/source	1 qt plastic bottle	-----	-----	21 days	Drinkable water need not be sampled.

SECTION 306 SCARIFYING & COMPACTING ROADBED

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
EXISTING MATERIAL	Density	306.02 Proj. Engr	Accept.	Proj. Engr. TR 401, TR 415 or TR 418	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
ASPHALTIC MATERIAL	Prime Coat	306.02	**SEE SECTION 506 TO THIS MANUAL.**							

SECTION 307 PERMEABLE BASES

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
AGGREGATE	Stone	307.02 1003.06 Dist. Lab	Accept.	Proj. Engr. S 101	1/1000yd3	1 full sample sack	-----	-----	4 days	(QPL 2)
ASPHALTIC MATERIALS	Asphalt Cement	307.02	Prelim. Source Approval, Accept., Verif.	**SEE SECTION 502 OF THIS MANUAL**						(QPL 41)
ANTI-STRIP		307.02 1002.02	Prelim. Source Approval, Accept. Verif.	**SEE SECTION 502 OF THIS MANUAL**						(QPL 57)
ADMIXTURE		307.02 1011.02	Prelim. Source Approval, Accept., Verif.	**SEE SECTION 901 OF THIS MANUAL**						(QPL 58)
CEMENT (HYDRAULIC)		307.02 1001	Prelim. Source Approval, Accept., Verif.	**SEE SECTION 901 OF THIS MANUAL**						(QPL 7)
CURING COMPOUND		307.03 601.10 1011.01	Prelim. Source Approval, Accept.	**SEE SECTION 601 OF THIS MANUAL**						(QPL 65)
PERMEABLE ASPHALT BASE (PLANT)	JMF	307.02 Contractor	Design*	-----	1/mix/plant	-----	-----	-----	-----	*Contractor shall submit to the Dist. Lab Engr. The proposed job mix formula with supporting design data. Approval is required prior to starting work.
		307.02 Dist. Lab	Verif.*	Proj. Engr. S101, S201, S601	1/JMF	-----	-----	-----	-----	*Dist. Lab verifies % retained coating in accordance with TR 317.
	Anti-Strip Additive %	307.02 Proj. Engr.	Accept.	Proj. Engr. S 605	1/2500 tons	*	-----	-----	-----	*% AS from meter.
	Asphalt Cement	307.02 Proj. Engr.	Accept.	Proj. Engr. S 605	1/2500 tons	*	-----	-----	-----	*% AC from meter.

SECTION 307 PERMEABLE BASES

MATERIAL		REF. TESTED BY	PURP.	SAMPLED BY METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
PERMEABLE ASPHALT BASE (PLANT) (Cond't)	Loose Mixture (Gradation, % AC, & % Crushed	307.02 Contractor	Quality Control	Contractor S 203 & S 605	1/1000 tons	suitable sampling bucket	-----	-----	-----	-----
		307.02 Dist. Lab	Verif.	Proj. Engr. S 203	1/5000 tons	1 gal friction top can	-----	-----	3 days	-----
PERMEABLE CONCRETE BASE (PLANT)	Mix Design	307.02 Contractor/ Dist. Lab	Design/ Accept.	*	1/mix/plant	-----	-----	-----	3 days	*Contractor shall submit to the Dist. Lab Engr. the proposed job mix formula with supporting data. Approval is required prior to starting work.
		307.02 Proj. Engr.	Verif.	*	1/truck	-----	-----	-----	-----	*Obtain "batch tickets" to verify quantities from mix design.
PERMEABLE BASES	Cross Slope & Grade	307.05 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Under thickness shall not exceed 1/2" (12 mm).
		307.05 Proj. Engr.	Accept.	Proj. Engr.*	1/day	-----	-----	-----	-----	*Use 10 ft metal static straight edge or approved device.
	Thickness & Width	307.01 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall measure sufficiently to ensure specifications are met.
		307.06 Proj. Engr.	Accept.	Contractor/ Proj. Engr. TR602	1/2000 lin ft	-----	-----	-----	-----	Under thickness shall not exceed 1/2" (12 mm).
	Temperature	307.03 Proj. Engr.	Accept.*	Proj. Engr. S 605	1/5000 tons	-----	-----	-----	-----	*Required for Asphaltic Concrete only.
WATER		1018.01	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	21 days	*Drinkable water need not be sampled.

SECTION 308 IN-PLACE CEMENT TREATED BASE COURSE

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.										
MATERIAL FOR BASE PRIOR TO SPREADING CEMENT (Existing or Furnished Soils/Soil-Aggregate)	Contractor Furnished Soil	308.07 Contractor	Quality Control	Contractor S 101 or S 401	-----	-----	-----	-----	-----	Must test sufficient to ensure material will meet specification requirements before placing on roadway. Check M.C.% on all materials before spreading cement.
		308.02 303.04 Dist. Lab	Accept.	Proj. Engr. S 101 or S 401	1/1000 yd^3	1 full sample sack	-----	-----	4 days	Contractor furnished material will be approved before incorporation into existing material. Furnished material not meeting the requirement of specification Subsection 302.02(a) will not be incorporated in the base. If A-4 or A-6 soil group is used, the blend shall meet the durability requirements of DOTD TR 432, Method D.
	Density (93%)	308.04 307.02 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall be tested frequently enough to ensure specifications are met. Minimum density is required on roadway prior to mixture with cement. All blending of soils materials will be accomplished before testing. Check M.C. % before mixing with cement (TR 403).
		308.04 Proj. Engr	Accept.	Proj. Engr. TR 401	1/half day	-----	-----	-----	30 min.	-----
	In-Place Material on Roadway	308.05 Contractor	Design*	Contractor S101 or S401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	6 full sample sacks	-----	-----	21 days	*Only when Portland - Pozzolan or Portland Blast-Furnace Slag, cement is used.
		308.05 Dist. Lab	Verif.	Contractor S101 or S401	1/soil type	6 full sample sacks	-----	-----	21 days	-----
	Pulverization	308.05 303.07 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall be tested frequently enough to ensure specifications are met.
		308.05 308.11 Proj. Engr.	Accept.	Proj. Engr. TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	Shall be obtained after blending of any contractor furnished material. Pulverization shall be approved prior to spreading cement.

SECTION 308 IN-PLACE CEMENT TREATED BASE COURSE (Cont'd)

MATERIAL		REF. / TESTED BY	PURP.	SAMPLED BY / METHOD	MIN. FREQ.	MIN. QUANT. / CONTAINER	CERT. / DISTR.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 501,501 AND 901 OF THIS MANUAL, AS APPLICABLE.										
MIXTURE WITH CEMENT ON ROADWAY	Cement Spread Rate	308.05 308.07 Contractor	Quality Control	Contractor TR 436	each transport	*	-----	-----	-----	The contractor shall determine the length of spread prior to mixing. *Use and approved sampling device.
		308.11 Proj. Engr.	Accept.	Proj. Engr. TR 436	1/day	*	-----	-----	1/2 hr.	The Proj. Engr. will verify the length of spread prior to mixing. *Use an approved sampling device.
	Cross Slope & Grade	308.07 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		308.11 Proj. Engr.	Accept.	Proj. Engr.	1/half day	-----	-----	-----	1/4 hr.	Use an approved 10 ft. metal static straightedge or other approved device.
	Density	308.07 Contractor	Quality Control	Contractor TR 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met.
		308.11 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
		303.11 Dist. Lab	IA	Dist. Lab TR 401	**SEE INDEPENDENT ASSURANCE PROGRAM S 701.**					
	Moisture Content	308.05 303.07 Contractor	Quality Control	Contractor S 101 or S 401	*	-----	-----	-----	-----	*Shall test sufficient to ensure specifications are met. (DOTD TR 403)
		303.05 308.11 Proj. Engr.	Accept.	Proj. Engr. S 101 or S 401	1/half day	1 gal friction top can*	-----	-----	1 hr.	*May be obtained by M.C.% determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Thickness & Width	308.07 Contractor	Quality Control	Contractor	*	-----	-----	-----	-----	*Shall be measured sufficiently to ensure specifications are met.
		308.11 TR 602 Proj. Engr.	Verif.	Proj. Engr. TR 602	1/half day	-----	-----	-----	1/4 day	Proj. Engr. shall notify Dist. Lab when section is complete.
		308.11 Dist. Lab	Accept.	Dist. Lab TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	300 lin ft per location	3 days	See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.