

**SECTION 701 CULVERTS & STORM DRAINS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
		TESTED BY		METHOD		CONTAINER	DISTR.				
BACKFILL	Density	701.08 Contractor	Quality Control	Contractor TR 401	As needed*	-----	-----	-----	-----	*To ensure density requirements are met for each lift of backfill. DOTD to do TR 415 or TR 418.	
	Density, when required by specifications	701.08 Proj. Engr.	Accept.	Proj. Engr. S 401	1/200 LF Pipe/Location/Side of Pipe/3' of Backfill*	-----	-----	-----	-----	*Test first lift at 1/3 the pipe height, and at least 1 test for each additional 3' of backfill thickness.	
	Density (Non-paved Side Drains)	701.08 Proj. Engr.	Accept.	Proj. Engr. S 401	*	-----	-----	-----	-----	*Visual inspection & compaction to the density of the surrounding soil with the exception of plastic pipe.	
	Granular Material*	701.02 701.08 1003.07 Dist. Lab	Accept.	Proj. Engr. S 401	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	-----	4 days	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or Type A backfill material.	
	Flowable Fill	701.08 (1)(d) Mix Design	<b>SEE SECTION 710 OF THIS MANUAL.</b>								
	Moisture Content	701.08 Contractor	Quality Control	Contractor TR 403	As needed*	-----	-----	-----	-----	*To ensure moisture requirements are met at time of compaction. DOTD to do TR 415 or TR 418.	
	Moisture Content	701.08 Proj. Engr.	Accept.	Proj. Engr. S 403	1/location*	-----	-----	-----	-----	*Test taken during or just prior to compaction.	
	Plastic Soil Blanket	701.02 Dist. Lab	Accept.	Proj. Engr. S 401	1/1,000 yd <sup>3</sup> *	1 full sample sack	-----	300 yd <sup>3</sup>	10 days	*Not required if tested & approved as required excavation or borrow pit material.	
	Selected Soil*	203.06 701.02 Dist. Lab	Accept.	Proj. Engr. S 401	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	-----	10 days	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or type A backfill material.	
BEDDING MATERIAL		701.02 701.04 1003.08 Dist. Lab	Accept.	<b>SEE SECTION 726 OF THIS MANUAL.</b>							

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**SECTION 701 CULVERTS & STORM DRAINS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
CONCRETE PIPE AND PIPE ARCH	Non-Reinforced (Concrete Sewer Pipe)	701.02	Prelim Source Approval	Const. Fab. Insp. S 601	1/160 joints/size	1 joint	-----	-----	-----	Three-edge bearing test. Each joint shall be stamped when approved.
		1006.02 Mfr. & Const. Fab. Insp.					-----	-----	-----	
	701.02	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use.</b>				CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. CD to include lot number for gasket materials.
	1006.02 Proj. Engr.									
	Reinforced	701.02	Prelim Source Approval	MFR. S 301 S 601	1/300 joints/size or 4 cyl/300 joints/size or 3 consecutive days production/size*	1 joint or 4 cyl 6 in. x 12 in. cylinder mold	CD 1	-----	-----	-----
1006.03										
	1006.04 Mfr.									
	1006.04	Verif.	Const. Fab. Insp. S 601	1/180 day production/plant	1 joint or 4 cyl 6 in. x 12 in. cylinder mold	-----	-----	-----	-----	
	1006.03									
	701.02 Const. Fab. Insp.									
	701.02	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use.</b>				CD 1	-----	-----	(QPL 77) Visual insp. by Proj. Engr. CD to include lot number for Gasket Materials.
	1006 Proj. Engr.									

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**SECTION 701 CULVERTS & STORM DRAINS (Cont'd)**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
			TESTED BY							METHOD
CONCRETE PIPE AND PIPE ARCH (Cont'd)	Absorption Test	701.02 1006.03 1006.04 Const. Fab. Insp.	Verif.	Const. Fab. Insp. S 601	*	-----	-----	-----	-----	*This test will be conducted at the discretion of the Const. Fab. Insp. Unit in cases where the pipe exhibits visual porosity.
	Admixtures	701.02 1011.02 Mat. Lab	Verif.	Const. Fab. Insp. S 601	*	1 pt friction top can	-----	-----	14 days	(QPL 58) *Visual inspection by Const. Fab. Insp. Unit. Sample only if questionable.
	Cement for Concrete Pipe	701.02 1001 Mat. Lab	Verif.*	Const. Fab. Insp. S 102	**	1 gal friction top can**	CD 6 & 7	-----	16 days	(QPL 7) *See Section 901 of this manual. **Visual inspection by Const. Fab. Insp. Unit. Sample only if questionable.
	Coarse & Fine Aggregate for Concrete Pipe	701.02 1003.02 Mat. Lab	Verif.	Const. Fab. Insp. S 101	*	1 full sample sack	-----	-----	-----	(QPL 2) *Visual inspection by Const. Fab. Insp. Unit. sample only if questionable.
	Hydrostatic Test	701.02 1006.05 Const. Fab. Insp.	<b>This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as gasket materials, etc.</b>			-----	-----	-----	-----	-----
	Mix Design	701.02 1006 Const. Fab. Insp.	Design/ Accept.	Mfr. ASTM C 76	1/plant/ source	-----	-----	-----	-----	-----
	Permeability Test	701.02 1006 Const. Fab. Insp.	Verif.	Const. Fab. Insp.	*	1 joint	-----	-----	-----	One pipe per lot of sizes up to and including 48 in. in diameter. *This test will be conducted at the discretion of Const. Fab. Insp. Unit in cases where the pipe exhibits visual porosity.
	Reinforcing Steel for Concrete Pipe	701.02 1009 Mat. Lab	Verif.	Const. Fab. Insp. S 501	1/12 months/ source	36 in. x 36 in.	-----	-----	10 days	Sample shall include an area which will have the welded splice at approximately the midpoint.
701.02 1009 Mat. Lab		Accept	Const. Fab. Insp. S 501	1/shipment*	36 in. x 36 in.	-----	-----	10 days	*Visual Inspection by Construction Fab. Inspection unit. Sample only if questionable.	

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**SECTION 701 CULVERTS & STORM DRAINS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
CONCRETE PIPE AND PIPE ARCH (Cont'd)	Water	1018.01 Mat. Lab	Accept.	Const. Fab Insp. S 303	1/source	1 qt plastic bottle	-----	-----	11 days	Drinkable water need not be sampled.
CONDUIT PLUG & COLLARS	Concrete (Class R)	701.11 Dist. Lab	Accept.	<b>SEE SECTION 901 OF THIS MANUAL.</b>						
GASKET MATERIAL (For Pipe)	Flexible Plastic Gasket	701.02 1006.06(b) Mat. Lab	Accept.	Proj. Engr.	*	3 ft length	CC** 1	-----	11 days	(QPL 4) *Visual inspection by the Proj. Engr. Sample only if questionable. **Gasket lot no. listed on pipe CC. Primer used according to gasket manufacturer's recommendation; sample not required.
	Rubber Gaskets	701.02 1006.06(a) Mat. Lab	Accept.	Proj. Engr.	*	1 gasket	CC** 1	-----	17 days	(QPL 4) *Visual inspection by the Proj. Engr. Sample only if questionable. **Gasket lot no. listed on pipe CC. Lubricant used according to gasket manufacturer's recommendation; sample not required.
GEOTEXTILE FABRIC		701.02 1019.01 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/source/shipment	3 lin ft/roll width of fabric*	CC 1	150 yd <sup>2</sup>	11 days	(QPL 61) *Sample a minimum 18 ft <sup>2</sup> . For pipe wrap visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 701 CULVERTS & STORM DRAINS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
		TESTED BY		METHOD		CONTAINER	DISTR.				
METAL PIPE		1007 Mat. Lab	Prelim. Source Approval	MFR	1/size/gage/200 lin ft	1 -3 in. triangle	CA 6	-----	-----	Connecting bands for metal pipe shall be inspected, approved and the pipe lab no. painted on the band and in the pipe by MFR.	
		1007 Mat. Lab	Verif.	Const. Fab. Insp.	1/180 day production per plant	-----	CA 6	-----	-----	-----	
	Bituminous Coated Corrugated Steel Pipe & Pipe Arch	701.02 1007.02 Mat. Lab Proj. Engr.	Accept.	<b>Inspected, approved and marked by MFR. prior to use.</b>				CD 1 & 6	-----	10 days	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Corrugated. Aluminum Pipe & Pipe Arch	701.02 1007.05 Mat. Lab Proj. Engr.	Accept.	<b>Inspected, approved and marked by MFR. prior to use.</b>				CD 1 & 6	-----	11 days	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Structural Plate For Pipe & Pipe Arch	701.02 1007.04 Mat. Lab Proj. Engr.	Accept.	<b>Inspected, approved and marked by MFR prior to use.</b>				CD 1 & 6	-----	11 days	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Bituminous Material for Metal Pipe	1007.02 Mat. Lab	Prelim. Source Approval	MFR S 601	*	1 qt friction top can	CC 6	-----	-----	*Visual inspection. Sample only if questionable.	
	Galvanizing Repair Compound	1007.01 1008.05 Mat. Lab	Accept.	Const. Fab Insp. S 601	1/type*	1 can	-----	-----	-----	(QPL 23) *Visual inspection. Sample only if questionable.	

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**SECTION 701 CULVERTS & STORM DRAINS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
METAL PIPE (Cont'd)	Hardware	1007.09(d) Mat. Lab	Prelim. Source Approval	Const. Fab. Insp. S 601	1/source/shipment	1 of each item*	CA 6	-----	-----	Visual inspection. Sample only if questionable. Includes steel rod, lugs, bolts and nuts. *One of each type of hardware used is to be
	Hydrostatic Test	701.02 1007.09 Const. Fab. Insp.	<b>This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as Gasket Materials, etc.</b>				-----	-----	-----	-----
	Steel Coils for Metal Pipe	701.02 1007 Const. Fab. Insp.	Accept.	Const. Fab. Insp.	-----	-----	CA 6	-----	-----	Const. Fab. Insp. reviews CA.
MORTAR	Cement, Sand & Water	701.02 702.02 Proj. Engr.	Accept.	-----	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. Sample only if questionable.
PLASTIC CULVERT PIPE		701.02 1006.04 MFR.	Prelim. Source Approval	MFR	1/size/lot	-----	CA 6	-----	-----	(QPL 66)
		701.02 1006.07 Proj. Engr.	Accept.	-----	-----	-----	CC 1	-----	-----	(QPL 66) Visual inspection by Proj. Engr. CC includes split coupling bands, straps and gasket material.
	Hydrostatic Test	701.02 1006 Const. Fab. Insp.	<b>The test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as Gasket Materials, etc.</b>				-----	-----	-----	-----
	Mandrel Test	701.09(a) Contractor	Accept.	Contractor	1/line of pipe	-----	-----	-----	-----	For 36 in. diameter or less. Proj. Engr. to observe and approve. For pipe larger than 36 inches in diameter deflection shall be determine by a method approved by the Engineer.
PLASTIC YARD DRAIN PIPE & JOINTS		701.02 1006.09 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/size/shipment*	6 ft length	CA 4 & 7	-----	10 days	(QPL 73) *For corrugated Polyethylene 4 pieces 5 ft. length.
FITTINGS FOR PLASTIC YARD DRAIN PIPE & JOINTS		701.02 1006.09 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/size/shipment*	1 item	CC 4 & 7	-----	10 days	* Visual Inspection by Proj. Engr. Sample only if questionable.

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**SECTION 702 MANHOLES, JUNCTION BOXES, CATCH BASINS & END TREATMENTS**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
			METHOD		CONTAINER	DISTR.				
<b>FOR DETAILS ON CONCRETE TEST, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 OF THIS MANUAL. (CLASS M)</b>										
BACKFILL	Density	702.04 701.08(c)(1) Proj. Engr	Accept.	----	1/location	<b>SEE SECTION 701 OF THIS MANUAL.</b>				
	Flowable Fill	701.08(c)(1) 702.04	<b>SEE SECTION 710 OF THIS MANUAL.</b>							
	Granular Material	702.04 701.08(c)(1) Dist. Lab	Accept.	<b>SEE SECTION 701 OF THIS MANUAL.</b>						
	Selected Soil	702.04 701.08(c)(1) Dist. Lab	Accept.	<b>SEE SECTION 701 OF THIS MANUAL.</b>						
BRICK	Sewer	702.04 1004.01 Mat. Lab	Accept.	Proj. Engr. S 601	1/25,000/ type*	5 bricks	----	----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
COVERS, FRAMES & GRATES		702.02 1018.04 Mat. Lab	Accept.	<b>When questioned by Proj. Engr.; one tension test bar, ASTM A 48, specimen B, (threaded), representing lot of material from which item is cast to be submitted to Const. Fab. Insp. See section 807 of this manual.</b>		CA 1	----	10 days	Visual inspection by Proj. Engr. Proj. Engr. to receive form 4148 and CA for physical and chemical properties, from the contractor.	
CULVERT SAFETY ENDS	Pipe Runners & Hardware	702.04(c)(3) Proj. Engr.	Accept.	----	----	----	CA 1	----	Visual inspection by Proj. Engr.	
	Epoxy Resin Systems	702.04(c)(3) 1017.02 Mat. Lab	Accept.	Proj. Engr. S 601	1/lot or shipment*	1 qt each component friction top can	CC 1	1 gal	11 days	(QPL 32) *Visual inspection by Proj. Engr. Sample only if questionable.
			Verif.	Proj. Engr. S 601	1/lot or shipment	1 qt each component friction top can	----	1 gal	11 days	(QPL 32)
Adhesive Anchor Systems	702.04(c)(3) 1017.02 Mat. Lab	Accept.	Proj. Engr. S 601	1/lot or shipment*	1 qt each component friction top can	----	1 gal	11 days	(QPL 52) *Visual inspection by Proj. Engr. Sample only if questionable.	
DRY-BATCHED SACKED CONCRETE	Compressive Strength	702.04(b)(4) 712.02(e) Dist. Lab	Accept.	Proj. Engr. S 601 TR 226 TR 230	1 set/1,000 sacks 3 cyl/set	1 sack 6 in. x 12 in. cylinder mold*	CC** 1	----	----	(QPL 48) *Cylinders made from contents of sack mixed with water to produce a slump of 2 to 5 inches. **CC should show mix proportions.
GASKET MATERIALS	Flexible Plastic Gasket	702.04 1006.06(b) Mat. Lab	Accept.	Proj. Engr.	*	3 ft length	CC** 1	----	----	(QPL 4) *Visual inspection by Proj. Engr. Sample only if questionable. **Gasket Lot no. listed on precast unit CC.
GEOTEXTILE FABRIC		702.02 1019.01 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd <sup>2</sup>	10 days	(QPL 60) *Sample a minimum of 18ft <sup>2</sup> .

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**SECTION 702 MANHOLES, JUNCTION BOXES, CATCH BASINS & END TREATMENTS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
JOINT FILLER		702.04 1005.01(c) Mat. Lab	Accept.	----	----	36 in.	----	----	10 days	Visual inspection by Proj. Engr. Sample only if questionable.
METAL WORK COATINGS	Metal Work Paint	702.04(a) 702.02 1008.05 Mat. Lab	Accept.	Proj. Engr. S 601	1/batch	1 qt friction top can	----	----	10 days	Visual inspection by Proj. Engr.
	Asphaltic Varnish	702.02 1008.03 Mat. Lab	Accept.	Proj. Engr. S 601	1/batch*	1 qt friction top can	----	----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
MORTAR	Cement, Sand & Water	702.02 Proj. Engr.	Accept.	----	----	----	----	----	----	Visual inspection by Proj. Engr. Sample only if questionable.
PRECAST REINFORCED CONCRETE UNITS		702.02 1016 MFR	Prelim. Source Approval	MFR S 301 S 601	1/300 joints/size or 4 cy/300 joints/size or 3 consecutive days production/size*	1 joint or 4 cyl. 6 in. x 12 in. cylinder mold	----	----	----	(QPL 77) Three-edge-baring test or compressive strength test. Includes concrete pipe arch. *Shall not exceed 300 joints. The use of 6 in. x 12 in. compressive strength cylinders for Source Approval or verification shall be at the discretion of the Const. Fab. Insp. Unit. Each joint shall be stamped when approved.
		702.02 1016 Const. Fab. Insp.	Verif.	Const. Fab. Insp. S 601	1/180 day/production/plant	1 joint or 4 cyl. 6 in. x 12 in. cylinder mold	----	----	----	
		702.02 1016 Proj. Engr.	Accept.	<b>Inspected approved and stamped by MFR. prior to use.</b>				CD 1	----	----
REINFORCEMENT	Bars	702.02 1009 Mat. Lab	Accept.	Proj. Engr. or Const. Fab. Insp. S 501	1/size/grade/150,000 lb/source*	48 in. length	CA 1	----	10 days	*If listed on QPL 71, materials with a CA (Distr. 1) need not be sampled. Sample for Verification if questionable.
	Chairs	702.04 805 806.06 Mat. Lab	Accept.	Proj. Engr. S 501	1/type*	1 chair	----	----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable. Chairs with plastic coated tips need not be sampled.
	Wire Fabric	702.02 702.04 1009.01(d) Mat. Lab	Accept.	Proj. Engr.* S 501	1/shipment	48 in. x 48 in.	----	----	11 days	*Sampled by Const. Fab. Insp. for precast items.
SACKS		702.04(b)(3) 1018.20 Mat. Lab	Accept.	Proj. Engr. S 501	1/type/source*	1 sack	----	----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable.
STONE		702.04(b)(5) 712.02(d) Proj. Engr.	Accept.	<b>Visual inspection and/or gradation check (at source, Proj. Site, or both, at Engineer's option).*</b>			----	----	----	(QPL 2) *Materials Lab available for assistance prior to use.

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**SECTION 703 UNDERDRAIN SYSTEMS**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
	TESTED BY		METHOD		CONTAINER	DISTR.				
<b>FOR ASPHALTIC CONCRETE BASE COURSE &amp; SURFACING SEE SECTIONS 502 AND 510 OF THIS MANUAL.</b>										
BACKFILL	Aggregate (Size 3)	703.02 1003.05 Dist. Lab	Accept.	Proj. Engr. S 101	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	-----	4 days	-----
	Granular Material	703.02 1003.07 Dist. Lab	Accept.	Proj. Engr. S 101	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	-----	4 days	-----
GEOCOMPOSITE WALL DRAINS		703.02 1019.02 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/lot*	4 ft <sup>2</sup>	CA 7	-----	11 days	(QPL 62) *Sample fittings 1 per type per shipment.
GEOTEXTILE FABRIC		703.02 1019.01 Mat. Lab	Accept.	Proj. Engr. S 614	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd <sup>2</sup>	10 days	(QPL 61) *Sample a minimum if 18 ft <sup>2</sup> .
HARDWARE CLOTH	Rodent Screen	703.02 1018.21 Mat. Lab	Accept.	Proj. Engr. S 601	1/shipment*	1 screen	-----	-----	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
METAL PIPE	Perforated Bituminous Coated Corrug. Steel	703.02 1018.22 Proj. Engr.	Accept.	<b>See Section 701 of this manual for Const. Fab. Insp. sampling.</b>			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket material and hardware.
	Perforated Corrugated Aluminum	703.02 1007.06 Proj. Engr.	Accept.	<b>See Section 701 of this manual for Const. Fab. Insp. sampling.</b>			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr. CD includes gage, diameter, coupling bands, gasket material and hardware.

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**SECTION 703 UNDERDRAIN SYSTEMS (Cond't)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
PLASTIC PIPE		703.02 1006.08 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/size/ shipment	6 ft. length*	CA 4 & 7	less than 1,000 ft	10 days	*For corrugated Polyethylene 4 pieces 5 ft. length.
PLASTIC PIPE FITTINGS		703.02 1006.08 Mat. Lab	Accept.	Proj. Engr. S 601	3/type/size/ shipment	-----	CC 4 & 7	less than 1,000 ft	10 days	Visual inspection by Proj Engr. Sample only if questionable.
PORTLAND CEMENT CONCRETE	Headwalls (Class M)	703.03(b)(5) Proj. Engr.	Accept.	<b>SEE SECTION 901 OF THIS MANUAL.</b>				10 yd <sup>3</sup>	-----	-----
PRECAST CONCRETE HEADWALLS		703.02 1016.03 Proj. Engr.	Accept.	<b>Inspected, stamped and approved by MFR prior to use. See Section 805 of this Manual.</b>			CD 1 & 6	-----	-----	Visual inspection by Proj Engr. If questionable, contact Const. Fab. Insp. Unit prior to use.
REINFORCING STEEL	Bars	1009.01 Mat. Lab	Accept.	Proj. Engr. S 501	1/source*	48 in. length	CA 1	-----	10 days	*If listed on QPL 71 material with CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Wire Fabric	1009.01(d) Mat. Lab	Accept.	Proj. Engr. S 501	1/shipment*	48 in. X 48 in.	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 704 GUARD RAIL**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
CONCRETE (Class M)	Mix Designs, Materials & Tests	704.02		<b>SEE SECTION 901 OF THIS MANUAL.</b>						Sample only if questionable.
GALVANIZING REPAIR COMPOUND		704.03(b) 811.12 Mat. Lab	Accept.	Proj. Engr. S 601	1/type*	1 can	----	----	----	(QPL 23) *Visual inspection by Proj. Engr. Sample only if questionable.
HARDWARE	Accessories, Bolts, End Anchor Rods, Fittings, Nuts and Washers	704.02 1010.10 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/type/shipment*	1 of each item	CC 1	----	12 days	*Visual inspection sample only if not listed on CC or if questionable.
METAL BEAM RAIL		704.02 1010.08 Mat. Lab	Accept.	----	----	----	CC 3	----	----	(QPL 81) Visual inspection by Proj. Engr. Rail shall be stamped with the name or brand of manufacturer, ID symbol or code for heat, no. and coating of lot, AASHTO spec. no., and class and type.
POSTS AND SPACER BLOCKS	Steel	704.02 1010.09(b) Proj. Engr.	Accept.	----	----	----	CC 1 & 6	----	----	Visual inspection by Proj. Engr.
	Timber	704.02 1010.09(a) Proj. Engr.	Accept.	----	----	----	CC 1 & 6	----	----	Visual inspection by Proj. Engr.
REINFORCEMENT	Wire Fabric	1009.01(d) Mat. Lab	Accept.	Proj. Engr. S 501	1/shipment*	48 in x 48 in.	----	----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
WIRE ROPE & FITTINGS		1010.11 Mat. Lab	Accept.	----	----	----	CC* 3	----	----	*Wire rope only. Proj. Engr. visually inspects fittings.
WELDING		704.02	<b>SEE SECTION 815 OF THIS MANUAL.</b>							

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**SECTION 705 FENCES**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
			METHOD			DISTR.				
CHAIN LINK FENCE, GATES AND APPURTENANCES	Fabric (Wire)	705.02 1010.07 Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/lot or shipment	36 in. length	-----	1,000 lin ft of fence	11 days	-----
	Fittings and Misc. Hardware	705.02 1010.07 Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/size*	1 of each item**	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable. **One piece of each type of fitting or hardware used is to be submitted.
	Gate Frames, Posts, Rails	705.02 1010.07 Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/lot or shipment	1 post or 7 ft section	-----	1,000 lin ft of fence	11 days	-----
	Hog Rings, Tension Wire, Wire Fabric Ties, & Wire Ties	705.02 1010.07 Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/lot or shipment	48 in. length or 3 pieces*	-----	1,000 lin ft of fence	11 days	*Wire ties, wire fabric ties and hog rings require only 3 precut pieces for samples.
CONCRETE (Class R)	Mix Designs, Materials & Tests	705.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>					10 yd <sup>3</sup>	-----	-----
FIELD & LINE TYPE FENCE	Barbed Wire	705.02 1010.01(a) Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/lot or shipment*	30 ft length	CC or MFR Label	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Gates	705.02 1010.06(a) Standard Plans Proj. Engr.	Accept.	-----	-----	-----	CC 1	-----	-----	Visual inspection and dimensional check by Proj. Engr.
	Gate Hardware	705.02 1010.06(c) Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type*	1 of each item	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 705 FENCES (Cont'd)**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
	TESTED BY		METHOD		CONTAINER	DISTR.				
FIELD & LINE TYPE FENCE (Cont'd)	Metal Fasteners	705.02 1010.05 Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/ shipment*	12 fasteners	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Staples & Nails	705.02 1010.04 Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/size/ shipment*	12 staples	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Braces	705.02 1010.06(b)(2) Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/lot or shipment*	1 brace	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Gate Posts	705.02 1010.06(b)(2) Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/lot or shipment*	1 post	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Gate Stops	705.02 1010.06(d)(2) Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/lot or shipment*	1 stop	-----	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Steel Posts with Anchor Plates	705.02 1010.03(b) Standard Plans Mat. Lab	Accept.	Proj. Engr. S 501	1/type/lot or shipment*	1 post with plate	CC or MFR Label 1	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Timber Posts	705.02 1010.03(a) Proj. Engr.	Accept.	-----	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
	Woven Wire	705.02 1010.02 Mat. Lab	Accept.	Proj. Engr. S 501	1/lot or shipment*	36 in. length	CC or MFR Label 1	1,000 lin ft of fence	10 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 705 FENCES (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
FIELD & LINE TYPE FENCE (Cont'd)	Timber Gate Posts, Timber Gate Stops, Timber Stop Posts	705.02 1010.06(b)(1) Proj. Engr.	Accept.	-----	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
GALVANIZING REPAIR COMPOUND		705.06(d) Proj. Engr.	Accept.	-----	-----	-----	-----	-----	-----	(QPL 23) Visual inspection by Proj. Engr. See Subsection 1008.05 of the Standard Specifications.
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	705.02 1018.05 Mat. Lab	Accept.	Proj. Engr. S 501	1/item*	1 of each item Wire 18 in. length	-----	-----	9 days	*Visual inspection by Proj. Engr. (Note: Coated steel hardware is not permitted.) Sample only if questionable.

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**SECTION 706 CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
CONCRETE (Class M)	Mix Designs, Materials & Tests	706.02		SEE SECTION 901 OF THIS MANUAL.						Air entrainment is required for slip forming.
CURING MATERIALS		706.02 1011.01 Mat. Lab	Accept.	SEE SECTION 601 OF THIS MANUAL.						
JOINT FILLER	Preformed Bituminous Type	706.02 706.03(e)(1) 1005.01(c) Mat. Lab	Accept.	----	----	36 in. length	----	----	10 days	Visual inspection by Proj. Engr. Sample if questionable
REINFORCING STEEL		706.02 1009.01 Mat. Lab	Accept.	SEE SECTION 601 OF THIS MANUAL.						
DETECTABLE WARNING SURFACE FOR HANDICAP RAMPS (Truncated Domes)		706.03 (g) Mat. Lab	Accept.	----	----	----	CC 3	----	----	Visual Inspection by Proj. Engr. Sample if questionable

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**SECTION 707 CURBS AND GUTTERS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
		TESTED BY		METHOD		CONTAINER	DISTR.				
ASPHALTIC CURB		<b>For details on Additives, Aggregates, Asphalt Cement, Asphaltic Concrete, Asphaltic Tack Coat, Asphalt Mix Release Agent and Mineral Filler, See Section 502 of this Manual.</b>						-----	-----	No requirement for density and surface tolerance.	
BACKFILL	Usable Soil	707.02 203.06(a) Proj. Engr.	Accept.	-----	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr.	
CONCRETE (Class M)	Mix Designs, Materials & Tests	707.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>								Air entrainment is required for slip forming.
CURING MATERIALS		707.02 1011.01 Mat. Lab	Accept.	<b>SEE SECTION 601 OF THIS MANUAL.</b>							
FORM RELEASE AGENT		707.02 1018.24 Mat. Lab	Accept.	Proj. Engr. S 601	1/lot	1 qt plastic bottle	-----	-----	9 days	(QPL 29) Visual inspection by Proj. Engr. Sample only if questionable.	
JOINT MATERIALS (Sealants, Filler, & Seals)		707.02 1005 Mat. Lab	Accept.	Proj. Engr. S 601	1/5,000 lin ft*	35 in. length or 1 gal	-----	-----	17 days	*Visual inspection by Proj. Engr. Sample only if questionable.	
REINFORCEMENT	Tie Bars	1009.03 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/ source*	1 bar	-----	-----	10 days	(QPL 71) *Visual inspection Proj. Engr. Sample only if questionable.	

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**SECTION 708 RIGHT-OF-WAY MONUMENTS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
RIGHT-OF-WAY MONUMENTS	Monuments, Steel Stakes & Witness Posts	708.02 Mat. Lab/ Const. Fab. Insp.	Accept.	Type as shown on plans or approved by the Location & Survey Section Administrator.			-----	-----	-----	Approval letter from Location & Survey Section Administrator required for substitutions. Visual inspection by Proj. Engr.

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**SECTION 709 STEEL CATTLE GUARDS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
BACKFILL	Density	709.03 Proj. Engr.	Accept.	Proj. Engr.	1/location	-----	-----	-----	-----	Six (6) inch layer to density of surrounding soil in the roadway see section 203.07.
CONCRETE (Class M)	Mix Designs, Materials & Tests	709.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>							
HARDWARE	Bolts, Nuts and Washers	709.02 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/type/ shipment*	1 of each item**	-----	-----	12 days	*Visual inspection by Proj. Engr. Sample only if questionable. **One piece of each size and type of hardware used is be submitted.
PAINT PROTECTIVE COATINGS		709.02	Accept.	<b>SEE SECTION 811 OF THIS MANUAL.</b>						
REINFORCING STEEL	Bars	709.02 1009.01 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/ source*	48 in. length	-----	-----	10 days	(QPL 71) *Visual inspection by Proj. Engr. Sample only if questionable.
STEEL CATTLE GUARD	Rails & Pipe Wings	709.02 1007.13 Std. Pl. KG-01 Const. Fab. Insp.	Accept.	<b>Inspected by Const. Fab. Insp. Prior to use. See Section 807 of this Manual</b>			-----	-----	-----	Proj. Engr. to receive inspection report form Const. Fab. Insp.
TREATED TIMBER		1014.01 Mat. Lab/ Const. Fab. Insp.	Accept.	-----	-----	-----	CC 1 & 6	-----	-----	Visual inspection at project site by Proj. Engr.

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**SECTION 710 FLOWABLE FILL**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
PORTLAND CEMENT		710.02 1001.01 Mat. Lab.	Prelim. Source Approval	SEE SECTION 901 OF THIS MANUAL.						
FLOWABLE FILL	Mix Design	710.02 Contractor/ Dist. Lab	Design	*	1/mix design	-----	-----	-----	3 days	*Lab Engineer to approve before work begins. Trial batch required.
FLY ASH		710.02 1018.15 Mat. Lab	Prelim. Source Approval	SEE SECTION 901 OF THIS MANUAL.						
MIX DESIGN		710.02	Design	Contractor/ Supplier	1/mix design	-----	-----	-----	28 days	Approved trial batch mix design-contractor to submit to Engr. For approval.
SAND		710.02 1003.02 Mat. Lab	Prelim. Source Approval	SEE SECTION 901 OF THIS MANUAL.						
WATER		710.02 1018.01	Prelim. Source Approval	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	11 days	*Drinkable water need not be sampled.

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**SECTION 711 RIPRAP**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
GEOTEXTILE FABRIC		711.02 1019.01 Mat. Lab.	Accept.	Proj. Engr. S 601	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd <sup>2</sup>	10 days	(QPL 61) *Sample a minimum of 18 ft <sup>2</sup> .
RECYCLED CONCRETE		711.02 1003.01 Proj. Engr.	Accept.	<b>Visual inspection and/or gradation check (at source, project site, or both, at Engineer's option.)</b>			-----	-----	-----	Gradation and unit weight provided suppliers. Must be from an approved source.
STONE		711.02 1003.01 Proj. Engr.	Accept.	<b>Visual inspection and/or gradation check (at source, project site, or both, at Engineer's option.)</b>			-----	-----	-----	(QPL 2)

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**SECTION 712 REVETMENTS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
BACKFILL	Usable Soil	712.03 Proj. Engr.	Accept.	Proj. Engr. S 401	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	-----	10 days	-----
CONCRETE (Class R)	Mix Designs, Materials & Test	712.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>							
CURING MATERIALS		1011.01 Mat. Lab	Accept.	-----	-----	-----	-----	less than 300 yd <sup>2</sup>	-----	See Section 601 of this manual.
DRY-BATCHED PREPACKAGED SACKED CONCRETE	Compressive Strength	712.02(e) Dist. Lab	Accept.	Contractor Proj. Engr. S 601 TR 226 TR 230	1 set of 3 cy/set/1,000 sacks*	1 sack 6 in. x 12 in. cylinder mold	CC 1	-----	-----	(QPL 48) *Cylinders made from contents of sack mixed by contractor. Water to produce a slum of 2 to 5 inches. CC should show mix proportions.
GEOTEXTILE FABRIC		1019.01 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd <sup>2</sup>	10 days	(QPL 61) *Sample a minimum of 18 ft <sup>2</sup> .

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**SECTION 712 REVETMENTS (cont'd)**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
	TESTED BY		METHOD		CONTAINER	DISTR.			
<b>REFER TO SPECIFICATIONS FOR DETAILS ON NCHRP 350 REQUIREMENTS FOR PORTABLE WORK ZONE DEVICES</b>									
JOINT FILLER	1005.01 Mat. Lab	Accept.	Proj. Engr. S 601	1/5,000 lin ft/ type*	36 in. length	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
RECYCLED CONCRETE & STONE	712.02(d)	<b>SEE SECTION 713 OF THIS MANUAL.</b>							
SACKS	1018.20 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/ source*	1 sack	-----	-----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable.
USABLE SOIL	712.02(F)	<b>SEE SECTION 203 OF THIS MANUAL.</b>							

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**SECTION 713 TEMPORARY TRAFFIC CONTROL**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
ADVANCE WARNING ARROW PANEL		713.04(b) Proj. Engr.	Accept.	-----	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
BARRICADE WARNING LIGHTS		713.02 1018.12 Mat. Lab	Accept.	Proj. Engr. S 601	1/type*	1 unit	CC** 1	-----	-----	(QPL 16) *Visual inspection by Proj. Engr. Sample only if questionable. **See Specification Subsection 1018.12(c) for certification requirements.
DRUMS, CONES, TUBULAR MARKERS, AND FLEXIBLE DELINEATORS		Std. Pl. TC Series Mat. Lab	Accept.	-----	-----	-----	CC 1	-----	-----	(QPL 37 for plastic drums) Visual inspection by Proj. Engr. Sample only if questionable.
	Sheeting	713.02 1015.05(f) Mat. Lab	Accept.	Proj. Engr. S 601	-----	-----	CC 1	-----	-----	(QPL 13) Visual inspection by Proj. Engr. Sample only if questionable.
GLASS BEADS FOR THERMOPLASTIC PAVEMENT MARKINGS AND TRAFFIC PAINT	Drop-on Application	713.06 1015.13 Mat. Lab	Prelim. Source Approval	Dist. Lab	1/lot	1-50 lb bag	-----	-----	10 days	-----
		713.06 1015.13 Mat. Lab	Accept.	Dist. Lab	1/lot	1-50 lb bag	CD* 1 & 7	-----	10 days	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable.
PORTABLE FLASHER SUPPORTS		Std. Pl. TC Series Proj. Engr.	Accept.	-----	-----	-----	CC 1	-----	-----	Visual inspection by Proj. Engr.
RAISED PAVEMENT MARKERS & ADHESIVES		713.02 1015.09 Mat. Lab	Accept.	<b>SEE SECTION 731 OF THIS MANUAL.</b>						
TEMPORARY PAVEMENT MARKING TAPE	Temporary Striping Tape (Type I & II)	1015.08 Mat. Lab	Accept.	Proj. Engr. S 601	1/shipment*	6 ft length	CC 1	-----	10 days	(QPL 60) *Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 713 TEMPORARY TRAFFIC CONTROL (Cont'd)**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
	TESTED BY		METHOD		CONTAINER	DISTR.			
TEMPORARY SIGNS, VERTICAL PANELS & BARRICADES	Barricades, Vertical Panels & Signs	MUTCD, Project Plans Const. Fab. Insp. 713.07*	Verif.	<b>When questioned by Proj. Engr., visual inspection by Const. Fab. Insp.</b>		CA/CC 1	-----	-----	Visual inspection by Proj. Engr. Const. Fab. Insp. to receive CA/CC when requested. *Required documentation is detailed in 713.07
	Reflective Sheeting, Paste, Paint, Overlay Fill	713.02 1015.05 1015.07 Mat. Lab	Verif.	<b>When questioned by Proj. Engr, sample from original lot of reflective sheeting, paste, paint and/or overlay film to be obtained by Const. Fab. Insp. for testing. Random sampling by Const. Fab. Insp. for Quality Assurance. See Section 729 of this Manual.</b>		CA/CC 1	-----	-----	(QPL 13) Visual inspection by Proj. Engr.
	Substrate	713.02 713.07* 1015.04 Mat. Lab	Verif.	<b>When questioned by Proj. Engr., sample from original substrate lot by the Const. Fab. Insp. for testing. Random sampling by Const. Fab. Insp. for Quality Assurance.</b>		CA/CC** 1	-----	-----	Visual inspection by Proj. Engr. *Required documentation is detailed in 713.07. **CA for aluminum, CC for wood, no certification for plastics.
THERMOPLASTIC PAVEMENT MARKINGS		713.02 Mat. Lab	Accept.	<b>SEE SECTION 732 OF THIS MANUAL.</b>					
TRAFFIC PAINT		713.02 Mat. Lab	Accept.	<b>SEE SECTION 737 OF THIS MANUAL.</b>					
BARRIERS	Precast Concrete	713.05 Const. Fab. Insp.	<b>SEE SECTION 733 OF THIS MANUAL.</b>						
	Water Filled	713.07* Std. Pl. TC Series Proj. Engr.	Accept.	-----	-----	-----	CC** 1	-----	-----

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**SECTION 714 SODDING**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGRICULTURAL LIME		714.02 1018.17 Mat. Lab	Accept.							SEE SECTION 718 OF THIS MANUAL.
FERTILIZER		714.02 1018.16 Proj. Engr.	Accept.							SEE SECTION 718 OF THIS MANUAL.
SOD		714.02* Proj. Engr.	Accept.	-----	-----	-----	-----	-----	-----	*Visual inspection by Proj. Engr. or Roadside Development personnel.
WATER		714.02 Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 715 TOPSOIL**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGRICULTURAL LIME		715.02 1018.17 Mat. Lab	Accept.	SEE SECTION 718 OF THIS MANUAL.						
TOPSOIL		715.02	Accept.	Contractor*	1/1,000 yd3	1 full sample sack	CA 3	200 yd3	-----	*Contractor to provide report from established soil testing entity.

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**SECTION 716 VEGETATIVE & FIBER MULCH**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
		TESTED BY		METHOD		CONTAINER	DISTR.				
TACKING AGENTS	Emulsified Asphalt	716.03(a) 1002.01 Mat. Lab	Prelim Source Approval							<b>SEE SECTION 506 OF THIS MANUAL.</b>	
		716.03 (a) 1002.01 Proj. Engr.	Accept.	-----	1/shipment	-----	CD* 1 & 7	No CD required if less than 500 gal	4 days	(QPL 41) Visual inspection by Proj. Engr. *Sample when not accompanied by CD or questionable.	
	Tacking Agent	713.03(a) Proj. Engr.	Accept.	-----	-----	-----	CA* 1 & 7	-----	-----	Visual inspection. *Must be an approved product for QPL 72 items.	
VEGETATIVE MULCH		716.03(a) 1018.19(a)	Accept.	-----	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. or Roadside Development personnel.	
FIBER MULCH		716.03(b) 1018.19(b)	Accept.	-----	-----	-----	-----	-----	-----	(QPL 72) Visual inspection by Proj. Engr. or Roadside Development personnel.	

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**SECTION 717 SEEDING**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGRICULTURAL LIME		717.02 1018.17 Mat. Lab	Accept.	SEE SECTION 718 OF THIS MANUAL.						
FERTILIZER		717.02 1018.16 Mat. Lab	Accept.	SEE SECTION 718 OF THIS MANUAL.						
SEED		1018.18 Proj. Engr.	Accept.	-----	-----	-----	-----	50 lb	-----	Analysis tag plus test report for LA Department of Agriculture. Seed test reports from other states are acceptable provided specification requirements are met. Consult Roadside Development personnel for seed selection.
TOPSOIL		715.02	Accept.	Contractor	1/1,000 yd3	1 full sample sack	CA 3	200 yd3	-----	Contractor to provide report from established soil testing entity.
WATER		717.02 Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 718 FERTILIZER AND AGRICULTURAL LIME**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGRICULTURAL LIME		718.03(b) 1018.17 Mat. Lab	Accept.	----	----	----	CA 1	10 tons	----	Visual inspection. Sample only if questionable.
FERTILIZER		718.03(a) 1018.16 Proj. Engr.	Accept.	----	----	----	CA* 1	----	----	For bag shipments, visual inspection of bag markings by Proj. Engr. *For bulk shipments, Proj. Engr. to receive CA.

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**SECTION 719 LANDSCAPING**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGRICULTURAL LIME		719.03 1018.17 Mat. Lab	Accept.							<b>SEE SECTION 718 OF THIS MANUAL.</b>
BACKFILL SOIL	Mortar Sand, Pine Bark, Water Management Gel, Manure, Mycorrhizal Inoculant & Topsoil	719.03(b) Proj. Engr.	Accept.	----	----	----	----	----	----	Visual inspection by Proj. Engr. of all ingredients prior to mixing.
FERTILIZER		719.03 1018.16 Proj. Engr.	Accept.							<b>SEE SECTION 718 OF THIS MANUAL.</b>
MULCHING	Other Materials	719.03 Dist. Lab	Accept.	Proj. Engr. S 601	1/source*	3 full sample sacks	----	----	----	*Visual inspection by Proj. Engr. Sample only if questionable.
	Pine Bark	719.03 Dist. Lab	Accept.	Proj. Engr. S 601	1/source*	3 full sample sacks	----	----	----	*Visual inspection by Proj. Engr. Sample only if questionable.
PLANTS	Containered	719.05(e) Landscape Architect	----	<b>Documented visual determination of specification compliance by DOTD Landscape Architect at nursery source. All plants shall be legibly tagged. Acceptance is based on inspection at the end of one full growing season.</b>						
	Native Stock	719.05(e) Landscape Architect	----	<b>Documented visual determination of specification compliance by DOTD Landscape Architect at nursery source. All plants shall be legibly tagged. Acceptance is based on inspection at the end of one full growing season.</b>						
SOIL	Planting Area	719.06(c)	Accept.	Contractor*	1/planting area	1 full sample sack	CA 3	----	----	*Contractor to provide report from established soil testing entity.
TOPSOIL		719.03(e)	Accept.	Contractor*	1000 yd 3	1 full sample sack	CA 3	200 yd2	----	*Contractor to provide report from established soil testing entity.
WATER		719.03 719.06(i) Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	----	----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.

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**SECTION 720 EROSION CONTROL SYSTEMS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
EROSION CONTROL SYSTEMS	Rolled Products	720.02(b) 1018.23 Mat. Lab	Prelim. Source Approval	Dist. Lab. S 613	1/200 rolls/ Mfr.'s Lot	3 yd <sup>2*</sup>	-----	-----	10 days	(QPL 72) *When sampling moisture sensitive material use moisture proof bag.
		720.02 (b) 1018.23 Mat. Lab	Accept.	Proj. Engr. S 613	1/200 rolls/ Mfr.'s Lot	3 yd <sup>2*</sup>	CD** 1 & 7	-----	10 days	(QPL 72) *When sampling moisture sensitive material use moisture proof bag. **Sample when not accompanied by a CD or questionable.
	Bagged Products	720.02(b) 1018.23 Mat. Lab	Prelim. Source Approval	Dist. Lab. S 613	1/200 bags/ Mfr.'s Lot	1 bag	-----	-----	10 days	(QPL 72)
		720.02(b) 1018.23 Mat. Lab	Accept.	Proj. Engr. S 613	1/200 bags/ Mfr.'s Lot	1 bag	CD* 1 & 7	-----	10 days	(QPL 72) *Sample when not accompanied by a CD or questionable.
	Hardware	720.02(b) 1018.23 Mat. Lab	Accept.	Dist. Lab S 601	1/item/type/ size	1 item	-----	-----	10 days	(QPL 72) Visual inspection by Proj. Engr. Sample only if questionable.
	Additives	720.02 1018.23 Mat. Lab	Accept.	Proj. Engr. S 601	1 quart/mfr's lot	1 item or 1 quart	CD* 1 & 7	-----	10 days	(QPL 72) *Sample when not accompanied by a CD or questionable.

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**SECTION 721 MOWING, TRIMMING & DEBRIS COLLECTION**

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MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
HERBICIDES		721.03(e) Mat. Lab	Accept.	Dist. Roadside Development Coordinator	----	----	----	----	----	Approval of the District's Roadside Development Coordinator for use, type & rate of application.



**SECTION 723 GRANULAR MATERIAL**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
GRANULAR MATERIAL		723.02 1003.07 Dist. Lab	Design/ Accept.	Proj. Engr. S 101	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	50 yd <sup>3</sup>	4 days	-----
		723.02 1003.07 Dist. Lab	IA	Dist. Lab S 101	<b>SEE INDEPENDENT ASSURANCE PROGRAM S 701.</b>					
MATERIAL ON ROADWAY	Density	723.03 Proj. Engr.	Accept.	Proj. Engr. TR 401	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft/ shoulder	-----	-----	-----	1/2 hr.	-----
	Thickness & Width	723.04 Dist. Lab	Accept.	Dist. Lab TR 602	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft/ shoulder*	-----	-----	300 lin ft per location	3 days	*See DOTD TR 602. For small quantity, Proj. Engr. documents in field book.

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**SECTION 725 TEMPORARY DETOUR ROADS AND BRIDGES**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
	TESTED BY		METHOD			CONTAINER				DISTR.
For details on Temporary Signs, Barricades and Pavement Markings, see Section 713 of this Manual. For details on Gard Rail, see Section 704 of this Manual. For details on Median Roadway Barriers, see Section 733 of this Manual. For details on Seed, see Section 717 of this Manual. For details on Fertilizer, see section 718 of this Manual.										
BASE COURSE (Roadway)			SEE PART III OF THIS MANUAL.							
PILES & TIMBER	752.02 1014.01 Proj. Engr.	Accept.	----	----	----	----	----	----	Visual inspection by Proj. Engr.	
SURFACE COURSE (Roadway)			SEE PARTS IV, V OR VI OF THIS MANUAL.							
TEMPORARY CULVERT PIPE	752.02 Proj. Engr.	Accept.	----	----	----	----	----	----	Visual inspection by Proj. Engr.	

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**SECTION 726 BEDDING MATERIAL**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGGREGATES	Bedding Material	726.02 1003.01 1003.08 Dist. Lab	Accept.	Proj. Engr. S 101	1/1,000 yd <sup>3</sup> stockpile*	1 full sample sack	-----	50 yd <sup>3</sup>	4 days	(QPL 2 for stone, expanded clay, gravel and slag) *Each ingredient may be sampled and approved prior to mixing. Recycled PCC must be from an approved source.
GEOTEXTILE FABRIC		726.02 1019.01 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/source/ shipment	3 lin ft/roll width of fabric*	-----	150 yd <sup>2</sup>	10 days	(QPL 61) *Sample a minimum of 18 ft <sup>2</sup> .
PLASTIC SOIL BLANKET		726.02 203.10 Dist. Lab	Accept.	Proj. Engr. S 401	1/1,000 yd <sup>3</sup> *	1 full sample sack/sample	-----	300 yd <sup>3</sup>	10 days	*Not required if tested and approved as required excavation or borrow material.

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**SECTION 728 JACKED OR BORED PIPE**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
GROUT		728.03 Proj. Engr.	Accept.							SEE SECTION 901 OF THIS MANUAL.
PIPE & JOINTS		701.02 Mat. Lab	Accept.							SEE SECTION 701 OF THIS MANUAL.

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**SECTION 729 TRAFFIC SIGNS AND DEVICES**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
BACKFILL (Soil)		701.08 802.09 Proj. Engr.	Accept.	----	----	----	----	----	----	Visual inspection by Proj. Engr.
CONCRETE	Mix Designs, Materials & Tests	729.02(g)	<b>SEE SECTION 901 OF THIS MANUAL.</b>							
DELINEATORS		713.07* 729.02(a) 1015.05 Mat. Lab	Accept.	Proj. Engr. S 601	1/type/ shipment	2 pieces	CC 1	----	10 days	*Required documentation is detailed in 713.07.
GALVANIZING REPAIR COMPOUND	Ferrous Metal	729.02(b) Proj. Engr.	<b>SEE SECTION 811 OF THIS MANUAL.</b>							(QPL 23)
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	Traffic Sign Plan Details Mat. Lab	Accept.	Proj. Engr. S 501	1/item	1 of each item wire-10 in. length	----	----	9 days	Visual inspection by Proj. Engr. Sample only if questionable. Coated steel hardware is not permitted.
DEAD END ROAD INSTALLATION	Hardware (Guard Rail)	729.02(e) 729.06 1010.10 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/type/ shipment	1 of each item**	CC* 3	----	10 days	*Sample not required if listed on CC for metal beam rail. **One piece of each size and type of hardware used is to be submitted.
	Guard Rail	729.02(e) 729.06 1010.08 Mat. Lab	Accept.	----	----	----	CC 3	----	----	Fabricator must file Brand Registration and guarantee with Mat. Lab. Visual inspection by Proj. Engr.
	Steel Posts & Spacer Blocks	729.02(i) 1010.09(b) Mat. Lab	Accept.	----	----	----	CC 3	----	----	Visual inspection by Proj. Engr.
	Timber	729.02(f) 1014.01 Mat. Lab/ Const. Fab. Insp.	Accept.	----	----	----	CC 1 & 6	----	----	Visual inspection by Proj. Engr.

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**SECTION 729 TRAFFIC SIGNS AND DEVICES (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
DEAD END ROAD INSTALLATION (Cont'd)	Wood Posts & Spacer Blocks	729.02(e) 1010.09(a) Mat. Lab/ Const. Fab. Insp.	Accept.	----	----	----	CC 1	----	----	Visual inspection by Proj. Engr.
HARDWARE	Bolts, Nuts & Washers	729.02(d) 1015.02(c) Const. Fab. Insp.	Accept.	----	----	----	CC 4	----	----	Smaller than 3/8 in.
		729.02(d) 1015.02(c) Mat. Lab	Accept.	Const. Fab. Insp.	1/size/source	2 of each item*	CC 6	----	11 days	Larger than 3/8 in. *Two bolts, two nuts and two washers are to be submitted.
	Mounting Bracket, Strap, Seal	729.02(d) 1015.02(c) Const. Fab. Insp.	Accept.	----	----	----	CC 4	----	----	Visual inspection by Proj. Engr. Sample only if questionable.
	Rivets	729.02(d) 1015.02(c) Const. Fab. Insp.	Accept.	----	----	----	CC 4	----	----	----
PILING	Timber	729.02(f) 1014 Mat. Lab	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this Manual.</b>			CD 1 & 6	----	----	Visual inspection by Proj. Engr.
POSTS (Sign, Marker & Delineator)	Flexible	729.02(h) 1015.03 Mat. Lab	Accept.	Proj. Engr. S 501	1/shipment* (not to exceed 500)	1 post	CC 1	----	10 days	(QPL 39 for delineator posts) *Visual inspection by Proj. Engr. Sample only if questionable.
	Steel, U-Channel & Square Post for small signs	729.02(j) 1015.02(a)(3) Mat. Lab	Accept.	Proj. Engr. S 501	One/ shipment* (not to exceed 500 tons)	1 post	CC 1	----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
	Aluminum, Steel, other than U-Channel & Square posts	1015.02(a)(1) 1015.02(b) 729.02(b) 729.02(c)	Accept.	<b>SEE STRUCTURAL STEEL &amp; ALUMINUM IN SECTION 807 OF THIS MANUAL.</b>						

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**SECTION 729 TRAFFIC SIGNS AND DEVICES (Cont'd)**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
			METHOD							CONTAINER
OBJECT MARKERS	1015 Mat. Lab	Accept.	----	----	----	CC 1	----	----	Visual inspection by Proj. Engr. Sample only if questionable.	
REINFORCEMENT	Bars	729.02(b) 1009 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/source*	48 in. length	CA 1	----	10 days	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Stirrups	729.02(b) 1009.03 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/source*	2 stirrups	CA 1	----	10 days	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SIGN MOUNTING	729.02 Const. Fab. Insp.	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use. See Section 807 of this manual.</b>			CA 4	----	----	Proj. Engr. receives report form Const. Fab. Insp.	
TRAFFIC SIGNS & MILEPOST MARKERS	All Permanent Signs	729.07 Proj. Engr.	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use. See Section 807 of this manual.</b>			CC 1	----	10 days	Visual inspection of all incidental Permanent Signs and Markers by Proj. Engr.
	Sign & Marker Sheeting, Paste, Paint and Overlay Film	729.02(a) 1015.05 1015.07 Mat. Lab	Accept.	Const. Fab. Insp. S 501	1/lot/type/ color	5 ft <sup>2</sup>	CA 6	----	10 days	(QPL 13) For reflective sheeting. When questioned by Const. Fab., sample form original lot of reflective sheeting, paste, paint and/or overlay film to be obtained for testing.
		729.02(a) 1015.05 1015.07 Mat. Lab	Verif.	Const. Fab. Insp. S 501	1/color/180 days	5 ft <sup>2</sup>	----	----	10 days	QPL 13 for reflective sheeting.
	Aluminum Panels & Structural Shapes	729.02(c) 1015.02(b) 1015.04(a) Mat. Lab	Accept.	Const. Fab Insp. S 501	1/thickness	1 ft x 2 ft or 2 ft. for Structural Shape	CA 6	----	10 days	When questioned by Const. Fab., sample from original lot of aluminum panel and or Structural Shape shall be obtained for testing.
		729.02(c) 1015.02(b) 1015.04(a) Mat. Lab	Verif.	----	1/year/source	1 ft x 2 ft or 2 ft. for Structural Shape	----	----	----	----
WELDING	<b>SEE SECTION 815 OF THIS MANUAL.</b>									

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**SECTION 730 ELECTRICAL SYSTEMS**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
			METHOD						
<b>ALL ELECTRICAL COMPONENTS &amp; MATERIALS NOT SPECIFICALLY MENTIONED IN THIS SECTION SHALL BE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS FOR ELECTRICAL EQUIPMENT BELOW.</b>									
ANCHOR BOLTS, NUTS AND WASHERS	730.02 1018.08(c) Mat. Lab	Accept.	Proj. Engr. S 501	1/size/type	1 of each item*	CA 7	-----	11 days	*One of each size and type of bolt, nut and washer is to be submitted.
BACKFILL	Soil or Granular Material 730.02 Dist. Lab	<b>SEE SECTION 701 OF THIS MANUAL.</b>							
CONCRETE	Mix Designs, Materials & Tests 730.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>							
CONDUIT	730.02 1018.09 Bridge Design	Accept.	<b>BRIDGE DESIGN APPROVES AND DISTRIBUTES TO PROJ. ENGR.</b>						
ELECTRICAL CONDUCTORS	730.02 Proj. Engr.	Accept.	-----	-----	-----	CA 1	-----		Visual Inspection by Proj. Engr.
ELECTRICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Description Data 730.04 801.03 Bridge Design	Accept.	<b>BRIDGE DESIGN APPROVES AND DISTRIBUTES TO PROJ. ENGR.</b>						
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp 730.02 1018.05 Mat. Lab	Accept.	Proj. Engr. S 501	1/item	1 of each item Wire - 18 in. length	-----	-----	9 days	Visual inspection by Proj. Engr. Sample only if questionable. Coated steel hardware is not permitted.
GUARANTY	Contractor's Guaranty 104.05 Proj. Engr.	Accept.	<b>PROJ. ENGR. AND BRIDGE DESIGN APPROVES AND FILES.</b>						
	Manufacturer's Standard Warranty 104.05 Proj. Engr.	Accept.	<b>PROJ. ENGR. AND BRIDGE DESIGN APPROVES AND FILES</b>						

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**SECTION 730 ELECTRICAL SYSTEMS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
HIGH MAST POLES		730.02 Const. Fab. Insp.	Accept.	<b>Inspected and stamped by Const. Fab. Insp. Prior to use. See section 807 of this Manual.</b>			CA 6	-----	-----	Inspection report from Const. Fab. Insp. shall be sent to the Proj. Engr.
LIGHT POLES	Brochures, Certified Dimension Sheets & Description Data	730.04 801.03 Bridge Design	Accept.	<b>Bridge Design Approves and distributes to Proj. Engr.</b>				-----	-----	-----
REINFORCING STEEL	Bars	730.02 1009.01 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/ source*	48 in. length	CA 1	-----	11 days	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SYSTEM TESTS		730.06 Contractor	Accept.	-----	-----	-----	-----	-----	-----	Proj. Engr. to observe tests and receive report of test results
TIMBER		730.02 1014 Mat. Lab/ Const. Fab. Insp.	Accept.	<b>Inspected stamped by Const. Fab. Insp. Prior to use. See section 812 of this Manual.</b>			CD 1 & 6	-----	11 days	Visual inspection by Proj. Engr.

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**SECTION 731 RAISED PAVEMENT MARKERS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
ADHESIVE (For Pavement Markers)	Bituminous	731.02(b)(2) 1015.09 Mat. Lab	Prelim. Source Approval	Dist. Lab S 606	1/lot	0.5 gal friction top can	-----	-----	21 days	(QPL 59)
		731.02(b)(2) 1015.09 Mat. Lab	Accept.	Proj. Engr. S 606	*	0.5 gal friction top can	CD 1 & 7	-----	11 days	(QPL 59) *When not accompanied by CD. See S 606 for details.
	Epoxy	731.02(b)(1) 1017.02 Mat. Lab	Prelim. Source Approval	Dist. Lab S 606	1/lot/ component	0.5 gal friction top can	-----	-----	21 days	(QPL 32)
		731.02(b)(1) 1017.02 Mat. Lab	Accept.	Proj. Engr. S 606	*	0.5 gal friction top can	CD 1 & 7	-----	11 days	(QPL 32) *When not accompanied by CD. See S 606 for details.
RAISED PAVEMENT MARKERS		731.02(a) 1015.09 Mat. Lab	Prelim. Source Approval	Dist. Lab S 607	1/10,000/ type/source	20 markers	-----	-----	10 days	(QPL 9)
		731.02(a) 1015.09 Mat. Lab	Accept.	Proj. Engr. S 607	*	20 markers	CD 1 & 7	-----	10 days	(QPL 9) *When not accompanied by CD. See S 607 for details.

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**SECTION 732 PLASTIC PAVEMENT MARKINGS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
SURFACE PRIMER		732.02(c) Proj. Engr.	Accept.	-----	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. to ensure that manufacturer recommendations are being followed.
GLASS BEADS		732.02(d) 1015.13 Mat. Lab	Prelim. Source Approval	Dist. Lab	1/lot	1 - 50 lb bag	-----	-----	10 days	-----
		732.02(d) 1015.13 Mat. Lab	Accept.	Proj. Engr. S 608	1/lot	1 - 50 lb bag 1 gal can	CD*&CA CD (Physical) CA (Chemical) 1 & 7	-----	10 days	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags. Use AASHTO TP 97-11 Section 4 when glass beads are shipped in bulk containers.
PREFORMED PLASTIC MARKING TAPE		732.02(b) 1015.11 Mat. Lab	Prelim. Source Approval	Dist. Lab	1/lot	2-6 ft lengths*	-----	-----	10 days	(QPL 64) *Coiled and placed in gallon can.
		732.02(b) 1015.11 Mat. Lab	Accept.	Proj. Engr. S 609	1/lot	2 - 6 ft lengths*	CD** 1 & 7	-----	10 days	(QPL 64) *Coiled and placed in a gallon can. **CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable.
THERMOPLASTIC MARKING (Hot Applied)		732.02(a) 1015.10 Mat. Lab	Prelim. Source Approval	Dist. Lab S 610	1/lot	1 gal can (app. 9 -12 lbs.)	-----	-----	10 days	(QPL 63)
		732.02(a) 1015.10 Mat. Lab	Accept.	Proj. Engr. S 610	1/lot	1 gal can (app. 9 -12 lbs.)	CD* 1 & 7	-----	10 days	(QPL 63) *CD issued when presampled by District Lab. and preapproved. Sample only if questionable.

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**SECTION 733 CONCRETE ROADWAY BARRIERS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
BARRIER (Precast)		733.01 733.02 Proj. Engr.	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use.</b>			CD 1 & 6	-----	-----	Visual inspection by Proj. Engr.
<b>FOR BARRIERS FABRICATION INSPECTION BY PROJECT ENGINEER, SEE BELOW</b>										
CONCRETE	Mix Designs, Materials & Tests	733.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>						Air entrainment is required for slip forming.	
CURING MATERIALS		733.02 1011.01 Mat. Lab	<b>SEE SECTION 805 OF THIS MANUAL.</b>							
JOINT MATERIALS		733.02 1005 Mat. Lab	Accept.	<b>SEE SECTION 805 OF THIS MANUAL.</b>					17 days	-----
REINFORCING STEEL	Deformed Steel Bars	733.02 1009.01 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/ source*	48 in. length	CA 1	-----	10 days	*If listed on QPL 71, materials with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
SPECIAL SURFACE FINISH	Masonry Finish	733.02 1011.03 Mat. Lab	Accept.	Proj. Engr. S 601	1/lot or shipment	1 qt friction top can	CC 1	-----	11 days	(QPL 14) Sample if not accompanied by CC or if questionable.

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**SECTION 734 RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
BACKFILL MATERIAL	Base Course Aggregate	1003.03	Accept.	Proj. Engr.	1/1,000 yd <sup>3</sup>	1 full sample sack	-----	50 yd <sup>3</sup>	4 days	-----
TEST PIT		734.03 Proj. Engr.	Accept.	Proj. Engr.	-----	-----	-----	-----	-----	For purpose of approving equipment and pattern. Document in Field Book.

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**SECTION 735 MAILBOXES AND MAILBOX SUPPORTS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
MAILBOXES AND MAILBOX SUPPORTS										VISUAL INSPECTION BY PROJECT ENGINEER.

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**SECTION 736 TRAFFIC SIGNALS**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
ANCHOR BOLTS (Pedestal)		736.02 1020.03(c) Mat. Lab	Accept.	Proj. Engr. S 50l	1/type/lot or shipment	1 bolt	-----	-----	11 days	-----
BACKFILL	Usable Soil	736.02 203.06(a)	<b>SEE SECTION 701 OF THIS MANUAL.</b>							
CONCRETE	Mix Designs, Materials & Tests	736.02	<b>SEE SECTION 901 OF THIS MANUAL.</b>							
ELECTRICAL CONDUCTORS		736.02 1018.10 Proj. Engr.	Accept.	-----	-----	-----	CA 1	-----	-----	Visual inspection by Proj. Engr.
ELECTRICAL JUNCTION BOX		736.02 1020.03(g) Mat. Lab	Accept.	-----	-----	-----	CC 1*	-----	10 days	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
GROUND RODS		736.02 1018.05 Mat. Lab	Accept.	Proj. Engr. S 50l	1/item*	1 of each item Wire - 18 in. length	-----	-----	9 days	*Visual inspection by Proj. Engr. Sample only if questionable. Coated steel hardware is not permitted.
GUY COMPONENTS (Hardware)		736.02 1020.03(e) Mat. Lab	Accept.	Proj. Engr. S 50l	1/type/lot or shipment	1 of each item*	-----	-----	12 days	*One piece of each type of hardware used is to be submitted.
MANHOLE FRAMES AND COVERS		736.02 1018.04 Const. Fab. Insp.	<b>SEE SECTION 807 (CASTINGS) OF THIS MANUAL.</b>							
METAL POLES FOR TRAFFIC SIGNAL SYSTEMS		736.02 1020.04 Traffic Services and Operations Engineer	Accept.	-----	-----	-----	CA 1 & 6*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.

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**SECTION 736 TRAFFIC SIGNALS (Cont'd)**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
PRECAST REINFORCED CONCRETE JUNCTION BOXES & MANHOLES		736.02 1016.03 Mat. Lab	Accept.	----	----	----	CC 1*	----	----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
REINFORCING STEEL	Bars	736.02 1009.01 Mat. Lab	Accept.	Proj. Engr. S 501	1/size/ source*	48 in. length	CA 1	----	10 days	*If listed on the QPL 71 materials with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
RIGID METAL ELECTRICAL CONDUIT	Brochures, Drawings, Equipment Submittals	736.02 1018.09 Traffic Services and Operations Engr.	Accept.	----	----	----	CA 1*	----	----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
STEEL STANDARDS & MAST ARMS		736.02 1020.04(C) Traffic Services and Operations Engr.	----	----	----	----	CC 1*	----	----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
SUPPORT CABLE		736.02 1020.03(d) Mat. Lab	Accept.	----	----	----	CC 1*	----	----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.
TIMBER POLES		736.10 1014 1020.04 Mat. Lab	Accept.	<b>Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this Manual.</b>			CD 1 & 6	----	----	Visual inspection by Proj. Engr.
TRAFFIC SIGNAL CABLE, SIGNAL HEADS, DETECTORS, SIGNAL HARDWARE AND EQUIPMENT	Brochures, Drawings, Equipment Submittals	736.02 1020 Traffic Services and Operations Engr.	----	----	----	----	CC 1*	----	----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by Proj. Engr.

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**SECTION 737 PAINTED TRAFFIC STRIPING**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
GLASS BEADS		737.02 1015.13 Mat. Lab	Prelim. Source Approval	Dist. Lab	1/lot	1 - 50 lb bag	-----	-----	10 days	-----
		737.02 1015.13 Mat. Lab	Accept.	Proj. Engr. S 608	1/lot	1 - 50 lb bag 1 gal can	CD*&CA CD (Physical) CA (Chemical) 1 & 7	-----	10 days	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags. Use AASHTO TP 97-11 Section 4 when glass beads are shipped in bulk containers.
TRAFFIC PAINT	Water-based	737.02 1015.12(b) Mat. Lab	Prelim. Source Approval	Dist. Lab S 608	1/lot	1 pt friction top can	-----	-----	11 days	(QPL 36)
		737.02 1015.12(b) Mat. Lab	Accept.	Proj. Engr. S 608	1/lot	1 pt friction top can	CD* 1 & 7	-----	11 days	(QPL 36) *CD issued when presampled by the Dist. Lab and preapproved. Sample only if questionable.

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**SECTION 738 MULCH SODDING**

MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
AGRICULTURAL LIME		738.02 1018.17 Mat. Lab	Accept.	SEE SECTION 718 OF THIS MANUAL.						
FERTILIZER		738.02 1018.16	SEE SECTION 718 OF THIS MANUAL.							
MULCH SOD		738.02* Roadside Development Personnel	Accept.	----	----	----	----	----	----	*Visual inspection by Roadside Development personnel prior to mulching.
WATER		738.02 Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	----	----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.
TOPSOIL		SEE SECTION 715 OF THIS MANUAL								

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**SECTION 739 HYDRO-SEEDING**

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
			METHOD							CONTAINER
AGRICULTURAL LIME	739.02 1018.17 Mat. Lab		SEE SECTION 718 OF THIS MANUAL.							
FERTILIZER	739.02 1018.16 Mat. Lab		SEE SECTION 718 OF THIS MANUAL.							
MULCHING	Other Materials	739.03 Mat. Lab	Accept.	Proj. Engr. S 601	1/source*	3 full sample sacks	-----	-----	-----	*Visual inspection by Proj. Engr. Sample only if questionable.
	Wood Fiber	739.03 Mat. Lab	Accept.	Proj. Engr. S 601	1/source*	3 full sample sacks	-----	-----	-----	*Visual inspection by Proj. Engr. Sample only if questionable.
SEED	739.03 Proj. Engr.		SEE SECTION 717 OF THIS MANUAL.							
WATER	739.03 Mat. Lab	Accept.	Proj. Engr. S 303	1/source*	1 qt plastic bottle	-----	-----	11 days	*Visual inspection by Proj. Engr. Sample only if questionable.	
WATER MANAGEMENT GEL, POLYACRYLAMIDE TACKIFIER, AND MYCORRHIZAL INOCULUM	739.03 Proj. Engr.	Accept.	-----	-----	-----	-----	-----	-----	Visual inspection by Proj. Engr. of all ingredients prior to mixing.	

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