

# SALT Schedule of Materials Control - Local Government Agency

This Schedule of Materials Control (SMC) outlines the minimum testing requirements for State Aid Funded and/or Federal Aid Projects off the National Highway and Trunk Highway System. Optional to this SMC is the MnDOT Materials Control Schedule. Usage of either schedule must be defined in the project proposal.

## 1603.2 SAMPLING AND TESTING - INSERT INTO SPECIAL PROVISIONS

The first paragraph is hereby deleted and replaced with the following:

**Sampling and testing of materials for this project will be in accordance with the State Aid for Local Transportation (SALT) "Schedule of Materials Control – Local Government Agency" (SMC-LGA). The SMC-LGA establishes the size of samples and the minimum rate of testing. The SMC-LGA references the 2014 MnDOT Standard Specifications for Construction and does not set contract requirements for the material.**

The SMC - LGA serves as a guide for material testing with allowable acceptance "as directed by the Engineer" detailed in Specification 1501.1(1) - Authority of the Engineer. These testing rates are a minimum and additional tests may be taken at the Engineer's discretion. A minimal testing rate does not always ensure a quality product; field observations and attention to detail is crucial. Materials not listed on an approved products list may be sampled and tested as directed by the Engineer. Materials listed on a Qualified Products list may be accepted or tested at the discretion of the Engineer.

Federal Aid projects require Independent Assurance Inspection. Contact the MnDOT District IA Inspector when the job starts to provide the proper servicing of your project.

### Definitions

#### [SALT Construction Website](#)

MnDOT Office of State Aid for Local Transportation. The SMC - LGA is located at the construction page under "Information & Resources - Manuals".

#### [MnDOT Schedule of Materials Control](#)

Schedule of Materials Control (SMC) are inserted into project proposals to direct how materials are to be sampled. The SMC is updated yearly. Each SMC is project specific. Therefore, one needs to refer to their specific proposal.

#### [Approved Products List](#)

Products are "approved" when they have been found to routinely meet all applicable standards and specifications. The product is placed on the list based upon established successful manufacturer's quality control and warranties, but the listing may expire or require periodic renewal to verify the product has not changed over time. The approval process for the individual product should specify any expiration requirement.

#### [Qualified Products List](#)

Products are predicted to meet all applicable standards and specifications, but random sample testing is required to verify specific product lots meet specifications prior to usage. These products are generally considered to be "qualified" but not approved until tested for compliance. Successfully tested products lots are considered to be "approved". The approval process for the individual product should specify any further testing requirements for the product.

#### [Certified Sources](#)

Certified Sources must comply with each individual product's defined "certification procedure". Acceptance of products from certified sources follows the same sampling and testing as "qualified" products.

**Quality assurance (QA)** is a process-centered approach to ensuring that the best possible products or services are provided. Related to quality control, quality assurance focuses on enhancing and improving the process that is used to create the end result, rather than focusing on the result itself. Among the parts of the process that are considered in QA are planning, design, development, production and service.

**Quality control (QC)** is a process that is used to ensure a certain level of quality in a product or service. It includes actions deemed necessary to provide for the control and verification of certain characteristics of a product or service. It involves thoroughly examining and testing the quality of products or the results of services. The basic goal of quality control is to ensure that the products or services that are provided meet specific requirements and characteristics.

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**GRADING AND BASE CONSTRUCTION ITEMS 1 of 3**

	Material Type	Materials Spec.*	Minimum Required Agency Acceptance Testing - QA	QC Testing Rates**	Lab Sample
Gradation Testing ( See Notes 2 & 3 )	Aggregate Surfacing	3138	500 to 4000 = 1/1000 Tons, 4000 to 10,000 Tons = 4 tests/Lot	1/1,000 tons stockpile	1/source 30 lb.
	Aggregate Base				
	Aggregate Shoulders				
	Drainable Aggregate Base (OGAB & DSB)	3136		None	
	Granular Borrow/Embankment	3149.2B1	1/20,000 Cubic Yards - Compacted Volume - CV	1/10,000 Cubic Yards - Compacted Volume - CV	1/source 30 lb.
	Select Granular Borrow/Embankment				
	Modified Granular Borrow/Embankment				
	Stabilizing Aggregate	3149			
	Full Depth Reclamation	3135	1/12,000 yd <sup>2</sup> unless directed by Engineer	1/6,000 yd <sup>2</sup> & depth check	None
	Granular Filter	3601	1/ source unless directed by Engineer	1/source	1/source 30 lb.
	Granular Backfill	3149		2/source before delivery	
	Aggregate Backfill				
	Granular Bedding				
	Aggregate Bedding				
	Coarse Filter				
Fine Filter					
Proctor Test *(Required for Specified Density)	Aggregate Base	3138	1/source	None	1 sample 25 lb.
	Aggregate Shoulders				
	Granular Borrow/Embankment	3149.2B1	1 per major soil, subgrade preparation specified density requires 100% of proctor density.		
	Select Granular Borrow/Embankment				
Modified Granular Borrow/Embankment					
Specified Density Test* or Nuclear Density Testing	Aggregate Base	3138	1/1,800 Tons	None	None
	Aggregate Shoulders				
	Granular Borrow/Embankment	3149.2B1	Roadway Embankment: One test/4000 yd <sup>3</sup> (CV), Structures Trenches: One test/500 feet of each structure length at various depths.		
	Select Granular Borrow/Embankment				
Modified Granular Borrow/Embankment					
Penetration Index Method (DCP) Index *	Aggregate Base	3138	1 DCP tests/500 yd <sup>3</sup> (CV) or 1/900 Tons	None	None
	Aggregate Shoulders				
	Full Depth Reclamation	3135	1 DCP tests/3,000 yd <sup>2</sup>		
	Granular Borrow/Embankment	3149.2B1	Roadway Embankment: One test/4000 yd <sup>3</sup> (CV), Structures Trenches: One test/500 feet of each structure length at various depths.		
	Select Granular Borrow/Embankment				
Modified Granular Borrow/Embankment					

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## GRADING AND BASE CONSTRUCTION ITEMS 2 of 3

	Material Type	Materials Spec.*	Minimum Req'd Agency Acceptance Testing - QA	QC Testing Rates**	Lab Sample
Moisture Content Test During Compaction	<i>(Required for Quality Compaction or DCP Method)</i>				
	Aggregate Base	3138	1/1,800 Tons or 10 tests whichever is less unless directed by the Engineer	None	None
	Aggregate Shoulders				
	Full Depth Reclamation	3135	1/6000 yd <sup>2</sup> unless directed by Engineer	None	
Embankment Soil; Excavation & Borrow	3149	1/18,000 Tons <i>Required for Specified Density</i>	None	None	
Percent Crushing	Particle Count ( note 1 )	1/ source unless directed by Engineer, (required for 3138.2B & C, 3149.2C & G1, 3136.2B Drainable Bases).		1 / Day	1/source 30lb
Quality	Aggregate Quality Tests	3138 3149 3601	1/ source unless directed by Engineer	None	1/source 30lb

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

\* Review the Special Provisions. Aggregate compaction will be by the "Penetration Index Method" unless otherwise designated in the Special Provisions. Other compaction methods include the "Specified Density Method (sand cone), or the "Quality Compaction Method". See 2211.3.D.2 Compaction. Nuclear Density may be used by change order.

\*\* QC testing is a requirement of 2211, these rates are for informational purposes.

Laboratory Samples are companion split samples to the QA sample:

1. Samples are not required for 1,000 tons or less.
2. Include the laboratory companion with the first field sample.
3. Include the field sample results with the laboratory sample.
4. Laboratories with AMRL Accreditation are not required to submit laboratory companion samples.
5. Carbonate aggregate materials require 50 lb. samples for the laboratory testing.

NOTE 1: Percent crushing test is not required when the material is crushed from a quarry or contains 25% or greater recycled materials.

NOTE 2: Submit a laboratory companion to the first Acceptance Gradation sample for a bituminous extraction, see 3138.2C. Full Depth Reclamation samples are not required.

NOTE 3: The Certification of Aggregates and Granular Materials procedure and documentation of testing locations is at the discretion of the Engineer.

Samples are not required for less than 500 tons (275 yd<sup>3</sup>).

Conversions: 1 ton = 0.55 yd<sup>3</sup> (CV), 1 ton = 0.7 yd<sup>3</sup> (LV), 1 yd<sup>3</sup> (CV) = 1.8 tons.

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GRADING AND BASE CONSTRUCTION ITEMS 3 of 3**

**Guidelines for Required Crushing & Aggregate Quality Tests**

	<b>3149 Granular Materials</b>	<b>3138 Aggregate for Surface and Base</b>	<b>3136 Drainable Bases</b>
Crushing	<p><b>Yes</b>, for Stabilizing Aggregate, Fine Aggregate Bedding and Medium Filter Aggregate.</p> <p>Test waived if material contains recycled at twice the minimum crushing requirement.</p> <p>Not required for quarried sources.</p>	<p><b>Yes</b>, for Class 5, 5Q &amp; 6. Test waived if material contains recycled at twice the minimum crushing requirement.</p> <p>Not required for quarried sources. Class 2 must contain 100% crushed quarry rock.</p>	<p><b>Yes</b>. Not required for quarried sources.</p>
Bitumen Content	<b>Yes</b> , if it contains Bitumen	<b>Yes</b> , if it contains Bitumen	Not applicable
LAR	Not applicable	<b>Yes</b> , if source is carbonate quarry and does not contain bitumen.	<b>Yes</b>
Insoluble Residue	<b>Yes</b> , if source is carbonate quarry and does not contain bitumen.	<b>Yes</b> , if source is carbonate quarry and does not contain bitumen.	<b>Yes</b> , if source is carbonate quarry.
Litho Exam & Shale Float Test	<b>Yes</b> , for Medium Filter Aggregate	<b>Yes</b> , for Class 3, 4, 5, 5Q & 6, when not from quarried rock, and does not contain bitumen.	<b>Yes</b> , when not from a quarried source.

[Click here for testing procedures in the Grading & Base Manual.](#)

[Forms and worksheets at the Grading & Base Website.](#)

[Gradation worksheets at the SALT Construction Website](#)

# SALT Schedule of Materials Control - Local Government Agency

## BITUMINOUS QUALITY MANAGEMENT

The Contractor shall provide and maintain a quality control program as detailed in Specification 2360.2.G.  
The Engineer shall review the quality control program for compliance.

	Type of Test	Spec Section *	Contractor - QC Testing Rates	Agency - Testing Rates	
Start-Up Testing Rates for the 1st 2000 tons **	Bulk Specific Gravity	2360.2.G.7.b	1 per 500 tons 55 lb. sample 3 full cylinder molds	1 Verification Mixture Sample per day, all Verification samples are from a split (QC/QA) sample.	
	Maximum Specific Gravity	2360.2.G.7.c			
	Air Voids (calculated)	2360.2.G.7.d			
	Asphalt Content	2360.2.G.7.a			
	Adj. Asphalt Film Thickness (AFT)	2360.2.E.7.e			
	Gradation	2360.2.G.7.f			
	Fines to Effective Asphalt Ratio calc'd	2360.2.G.7.a/f			
	Coarse Aggregate Angularity (CAA)	2360.2.G.7.g	1 per 1000 tons		
	Fine Aggregate Angularity (FAA)	2360.2.G.7.h			
	Added AC/Total AC Ratio (calc'd)	2360.2.G.7.a			
Production Testing Rates	Bulk Specific Gravity	2360.2.G.7.b	1 per 1000 tons 55 lb. sample 3 full cylinder molds	1 Verification Mixture Sample per day/ mix type, submit companion to the QC - CAA & FAA test results.	
	Maximum Specific Gravity	2360.2.G.7.c			
	Air Voids (calculated)	2360.2.G.7.d			
	Asphalt Content	2360.2.G.7.a			
	Adj. Asphalt Film Thickness (AFT)	2360.2.E.7.e			
	Gradation (minimum of 1 per day)	2360.2.G.7.f			
	Added AC/Total AC Ratio (calculated)	2360.2.G.7.a			
	Coarse Aggregate Angularity (CAA)	2360.2.G.7.g	NOTE 1		
	Fine Aggregate Angularity (FAA)	2360.2.G.7.h	NOTE 2		
	TSR	2360.2.G.7.i	When directed by the Materials Engineer		
	Aggregate Specific Gravity	2360.2.G.7.j	As directed by the Engineer		
	Mixture Moisture Content	2360.2.G.7.k	As directed by the Engineer		
	<a href="#">Asphalt Binder Certified Supplier</a>	2360.2.G.7.l	NOTE 3 (1qt. Steel container for asphalt binder. 1/2 gal. plastic container with wide screw top for emulsion)		
	<a href="#">Asphalt Emulsion Certified Supplier</a>	2357			
Compaction / Density Requirements	2360.3.D	Review special provisions			
Small Quantity Requirements	See 2360.2G.5 & 2360.3G				

Testing rates are minimums, additional testing is encouraged to ensure a quality product.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

\* Review Special Provisions & 2360.2.G Mixture Quality Management.

\*\* The testing rates apply only to mixtures that have not been tested on previous projects.

Mixtures from previous years should use the start- up testing rates.

NOTE 1: 2 tests/day for a minimum of 2 days, then 1 per day if CAA is met. If CAA > 8% of requirement, 1 sample/day but test 1/week. No testing required for Class A and or B Aggregates.

NOTE 2: 2 tests/day for a minimum of 2 days, then 1 per day if FAA is met. If FAA > 5% of requirement, 1 sample/day but test 1/week.

NOTE 3: Shall be a Certified Supplier - No Samples Required unless otherwise directed by the Engineer. Agencies using MnDOT Metro Inspection Services will be sampled at the current MnDOT Schedule of Materials Control rates and will be billed accordingly.

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**BITUMINOUS SPECIALTY ITEMS**

Type of Test	Spec	Contractor - QC Testing Rates	Agency - Testing Rates
<b>Gradation</b>	2363	1 per 1,000 Ton with a minimum 1 per day.	1 per day. 35 lbs.
PASSRC & PASB	3139.3		
Micro-Surfacing	2354 3139.5	Stockpile: 1/1,500 Tons (min 1/day) Machine Hopper: 1/500 Ton (min 1/day)	Stockpile & Machine Hopper: 1/day 30 lbs.
Seal Coat & Otto Seal	2356 3137.2 B	Stockpile: 1/1,500 Tons (min 1/day) Chip Spreader Hopper: 1/day	1/day from Hopper. 30 lbs.
<b>% Crushing - CAA</b>	2363	1 per 1,000 Ton with a minimum 1 per day.	1 per day from gradation test. 35 lbs.
PASSRC & PASB	3139.3		
<b>Moisture / Aggregate</b>	2354	Machine Hopper: 1/500 Tons (min 3/day)	1/day 2lbs
Micro-Surfacing	3139.5		
<b>Sand Equivalence</b>	2354	Stockpile or Machine Hopper: 1/500 Tons (min 1/day)	1/day, test at Engineer discretion, 25 lbs.
Micro-Surfacing			
<b>Flakiness Index</b>	2356	Sample taken from first load on first day, submit to Agency: 30 lbs.	Agency will test at their discretion, see Lab Manual 1223
Bituminous Seal Coat			
<b>Bituminous Mixture</b>	2356	1/300 Tons, min 1/day. %AC, Gradation, Max SpG, Adj.AFT	1/day, 20 lbs. 1 cylinder from truck box.
UTBWC	3151.2G		
PASSRC & PASB	3151 2350	Asphalt spot check: min 1/day	-
Stone Matrix Asphalt - SMA  Lab Manual 1203, 1204, 1205, 1211, 1214, 1806, 1807, 1808, 1813, 1853, 1854, 1855, AI SP-2 AASHTO T305	2365	<b>Tests</b> , %AC, gradation, Gmm, Gmb, Voids, VMA, CAA, Draindown, VCA, fines/effective asphalt. Rate, (1/1000 tons, min. 1/day) Agg SpG, mix moisture, TSR to be tested as directed by Engineer.  Submit companion 1 per day to agency: 3 full 6" by 12" cylinders	Tests: %AC, Gradation, Gmm, Gmb, Voids, VMA, CAA, VCA, fines/effective asphalt. Agency is not required to do draindown. Copy MDR to Project Engineer and Grading & Base Engineer.
<b>Asphalt Binder Tests</b>		<a href="#"><u>Asphalt Emulsion List</u></a>	<a href="#"><u>Asphalt Binder List</u></a>
UTBWC	2353 3151	Shall be a Certified Supplier - No Samples Required unless otherwise directed by the Engineer :  <b>Asphalt Binder:</b> First load, then 1/250,000 gallons. Sample size of 1 quart metal container. <b>Emulsified Asphalt:</b> First load, then 1/50,000 gallons. Sample size of 1/2 gallon wide screw top plastic container.	
Micro-Surfacing	2354		
Seal Coat & Otto Seal	2356		
Tack Coat	2357		
PASSRC & PASB	3151		
<b>Asphalt Binder Rate</b>	2354	Verify Application Rate 3/day	Verify Application Rate 1/day
Micro-Surfacing			
Fog Seal	2355	Verify Application Rate 1/day	Verify Application Rate 1/day
Seal Coat & Otto Seal	2356		
Bit Tack Coat	2357		

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# SALT Schedule of Materials Control - Local Government Agency

## CERTIFIED READY - MIX CONCRETE

The Prime Contractor is responsible to assure that all ready-mix concrete used is produced by an annually Certified Ready-Mix plant. The requirements for Certified Ready-Mix Concrete are detailed in Specification 2461.3F3 and are subject to compliance inspections by the Engineer.

Test Type	MnDOT Spec	Producer Testing 2461.3F3	Agency Testing**	Form
Gradation	3126, 3137	When over 20 yd <sup>3</sup> per week: Coarse 1 per 200 yd <sup>3</sup> , Fine 1 per 200 yd <sup>3</sup>	Minimum 1 per project.	24143
Moisture Content	2461	1 every four hours	At the Engineer's discretion	2449
Aggregate Quality	3126 3137	Test at Contractor's discretion.	Minimum of 1 per project - use of MnDOT test results for the same 30 day time period is acceptable	21763
Coarse Aggregate Minus 200 sieve				

Test Type	MnDOT Spec	Agency Testing**	Form
Air Content - Type 3 Concrete *	2461	Test first load each day per mix, then 1 test per 100 yd <sup>3</sup>	2448 Weekly Concrete Report
Slump *		Test first load each day per mix, then 1 test per 100 yd <sup>3</sup> <b>Slump test not required for slip form placement.</b>	
Air and Concrete Temperature		Record temperature each time air content, slump or strength test specimen is performed/fabricated.	
Compressive Strength	2519	1 (set of 3) per 100 yd <sup>3</sup> Record slump, temperature, and air content for each cylinder. Cellular Concrete: 1 set of 4 cylinders (28 days) per day, fill in 2 equal lifts, do not rod, lightly tap the sides, cover and move to area with no vibration. Do not disturb for 24 hours.	2409 Concrete Cylinder Card

\* The first load of concrete must have **passing** air content and slump **prior to placement**.

\*\* Agencies using MnDOT Metro Inspection Services will be sampled at the current MnDOT Schedule of Materials Control rates and will be billed accordingly. Small quantity is 25 yd<sup>3</sup> or less per **week** with no gradation testing or plant monitoring required.

Test	Minimum Sample Size	
Gradation	25 lb. for 3/4" Plus Coarse Aggregate.	6 lb. for CA-70
	10 lb. for 3/4" Minus Coarse Aggregate	1.1 lb. for CA-80 & Sand
Quality	50 lb. for 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. for 3/4" minus Coarse Aggregate	
Moisture	500 g for Fine Aggregate	2000 g for Coarse Aggregate

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

## LOW SLUMP CONCRETE FOR BRIDGE DECK OVERLAYS

Test Type	Spec.	Contractor Testing	Agency Testing	Form
Gradation, Quality, Coarse Agg -200	3126 3137	Prior to production, provide the Agency with: Aggregate pit numbers, 1 passing gradation result per fraction per source. No quality test results are required. Test Agency companion samples are Contractor's discretion.	1 per fraction prior to production and each time aggregate is delivered to the site.	2410 Sample ID Card
Air Content - Type 3 Concrete	<a href="#">Review Concret Manual Website</a>	None	1 per 15 yd <sup>3</sup> , Test at beginning of pour each day.	Weekly Report of Low Slump Concrete
Slump		None	1 per 15 yd <sup>3</sup> , Test at beginning of pour each day. Allow mix to hydrate 5 minutes before slump test to assure all cement is saturated.	
Compressive Strength		None	1 cylinder (28 day) per 30 yd <sup>3</sup>	
Thickness (QC/Verification)	2301	The Contractor drills concrete cores or probes the plastic concrete at locations determined by the Agency	Determine locations using random numbers.	24327

Test	Minimum Sample Size	
Gradation	25 lb. for 3/4" Plus Coarse Aggregate.	6 lb. for CA-70
	10 lb. for 3/4" Minus Coarse Aggregate	1.1 lb. for CA-80 & Sand
Quality	50 lb. for 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. for 3/4" minus Coarse Aggregate	
Moisture	500 g for Fine Aggregate	2000 g for Coarse Aggregate

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.



**CONCRETE PAVEMENT REPAIR - CPR for 3U18**

Test Type	Spec.	Contractor Testing	Agency Testing	<a href="#">Form</a>
Gradation, Quality, Coarse Agg -200	3126 3137	Prior to production, the Contractor shall provide the Agency with: Aggregate pit numbers, 1 passing gradation result per fraction per source. No quality test results are required. Test companion samples at Contractor's discretion.	Gradation: 1 per aggregate fraction prior to production and each time aggregate is delivered to the site. Quality Testing & Course Agg - 200: 1 test per aggregate fraction per source. The Agency may use the gradation results for the Quality Samples as a substitute for 1 required field gradation.	2410 Sample ID Card
Air Content - Type 3 Concrete	<a href="#">Review Concrete Manual Website</a>	None	1 per 15 yd <sup>3</sup> , Test at beginning of pour each day.	21412 Weekly Report of "Low Slump Concrete".
Slump		None	1 per 15 yd <sup>3</sup> , Test at beginning of pour each day. Allow mix to hydrate 5 minutes before slump test to assure all cement is saturated.	
Compressive Strength		None	1 cylinder (28 day) per 30 yd <sup>3</sup>	2409 Cyl. ID Card

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# SALT Schedule of Materials Control - Local Government Agency

## CONCRETE PAVEMENT - PRODUCER / CONTRACTOR 1 of 2

Test Type	Spec.	Concrete Paving Batch Plant	Certified Ready-Mix Plant
Gradation (1)	3126 3137	When over 250 yd <sup>3</sup> produced per day: 1 per 1500 yd <sup>3</sup> , or completed 1 per 1/2 day, whichever is the higher sampling rate.	When over 20 yd <sup>3</sup> produced per day: 1 per 400 yd <sup>3</sup> , or completed every 4 hours, whichever is the higher sampling rate.
Coarse Aggregate, 200 sieve (2)	3137	1 per day at the plant thereafter.	1 per day at the plant thereafter.
Aggregate Moisture QC Verification (3)	3126 3137	If w/c incentives do not apply: 1/1000 yd <sup>3</sup> , or 1 completed every 4 hours, whichever is the higher sampling rate.	If w/c incentives do not apply: 1 completed every 4 hours.
Water Content, Microwave Oven Verification	<a href="#">Review Concrete Manual</a>	If w/c incentives apply: Obtain the plastic concrete sample at the plant.	
Unit Weight QC		Test one load of concrete per day at the plant. See Concrete Manual (5-694.542)	
Air Content QC		Test the first load of concrete at the plant	
Coarse and Fine Aggregate Quality	3126 3137	Prior to concrete production: Test the Agency's pre-production sample at the Contractor's discretion. During concrete production: Test the -200 on the quality companion sample the day it was sampled. All other testing is at the Contractor's discretion.	
Coarse Aggregate Quality Testing for Incentive / Disincentive	3137	Test at the Contractor's discretion.	

NOTE (1): Performing testing on representative material at the end of the most recent day of production is allowed. If well-graded aggregate incentives apply: Use the Contractor's gradation results for well-graded aggregate incentive calculations as verified by Agency testing.

NOTE (2): Sample and test Coarse Aggregate -200 testing at the same rates as gradation testing. Test the first sample and then at least 1 of the next 3 samples on the first day of production and each time the Contractor mobilizes the plant, changes the aggregate sources, or the cleanliness of the coarse aggregate is in question. Test these samples at the plant.

NOTE (3): Complete the initial moisture content and adjust the batch water prior to the start of concrete production each day. If weather conditions allow, performing moisture testing on representative material at the end of production the prior evening is allowed.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

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## CONCRETE PAVEMENT - PRODUCER / CONTRACTOR 2 of 2

Test Type	Spec.	Concrete Field Testing - Contractor
Air Content before consolidation for Type 3 concrete	<a href="#">Review Concrete Manual Website</a>	1 per 300 yd <sup>3</sup> or 1 per hour, whichever is less. Test first load each day per mix.
Air Content after consolidation for Type 3 concrete		Test 1 air content per 1/2 day of slip form paving to establish an air loss correction factor (ACF). See Special Provisions for additional information.
Slump		<b>For fixed form placement:</b> 1 per 300 yd <sup>3</sup> and as directed by the Engineer. Test first load each day per mix. <b>For slip form placement:</b> No slump testing required.
Concrete Temperature		Record temperature each time air content, slump or strength test specimen is performed/fabricated by the Contractor.
Flexural Strength		1 beam (28 day) per day. Make additional control beams as necessary. Control beams shall be made within the last hour of concrete poured each day. Fabricate beams, deliver beams to curing site, and clean beam boxes. Cylinders may be substituted for beams at the discretion of the Engineer.
Concrete Pavement Texture		1 per 1000 lineal feet per lane of concrete pavement at locations determined by the Agency. The Contractor supplies all materials necessary to perform the required testing.
Thickness		The Contractor drills concrete cores at locations determined by the Agency. The Contractor probes the plastic concrete at locations determined by the Agency.
Surface Smoothness		Contractor provides MnDOT certified inertial profiler results for the entire project as required by the contract. Check for current certification.

Test	Minimum Sample Size	
Gradation	25 lb. for 3/4" Plus Coarse Aggregate.	6 lb. for CA-70
	10 lb. for 3/4" Minus Coarse Aggregate	1.1 lb. for CA-80 & Sand
Quality	50 lb. for 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. for 3/4" minus Coarse Aggregate	
Moisture	500 g for Fine Aggregate	2000 g for Coarse Aggregate

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**CONCRETE PAVEMENT - AGENCY 1 of 2 \***

Test Type	Spec.	Concrete Paving Batch Plant	Certified Ready-Mix Plant	Form
Gradation (1)	3126 3137	1 per day randomly thereafter.	1 per 1000 yd <sup>3</sup> or 1 per week whichever is higher, randomly.	21764 Agg Worksheet
Coarse Aggregate, -200 sieve (2)	3137	1 per week randomly thereafter.	1 per 1000 yd <sup>3</sup> or 1 per week whichever is higher, randomly.	
Aggregate Moisture - QC Verification (3)	3126 3137	If w/c incentives apply: 1 per 1000 yd <sup>3</sup> or every 4 hours, whichever is greater. Take initial sample within the first 250 yd <sup>3</sup> .	If w/c incentives apply: 1 per 200 yd <sup>3</sup> or every 4 hours, whichever is greater. Take initial sample within the first 100 yd <sup>3</sup> .	Concrete W/C Ratio Calculation Worksheet
Water Content, Microwave Oven Verification (4)	<a href="#">Concrete Manual</a>	Take initial sample within the first 250 yd <sup>3</sup> . At least one additional verification test should be taken if more than 1000 yd <sup>3</sup> is produced in a day.	Take initial sample within the first 100 yd <sup>3</sup> . At least one additional verification test should be taken if more than 400 yd <sup>3</sup> is produced in a day.	
Coarse and Fine Aggregate Quality (5)	3126 3137	During concrete production: 1 randomly selected test each fraction every 20,000 yd <sup>3</sup> of production. Split the Quality sample 4 ways: 1) Provide 2 quarters of the sample to the producer/contractor. 2) Test the -200 on the coarse aggregate at the plant the day it was sampled. 3) Submit the remaining sample to the lab for quality testing including testing the -200 sieve on the coarse aggregate.		2410 Sample ID Card
Coarse Aggregate Quality Testing of Incentive / Disincentive	3137	<b>If coarse aggregate quality incentives apply:</b> Test the Class B aggregates for % absorption and Class C aggregates for % carbonate including any other test necessary to make those determinations. Sample the 2 largest fractions in accordance with the following table and 2301:		Coarse Agg Quality Incentive / Disincentive Worksheet
		Coarse Aggregate Quality Incentive/Disincentive Sampling Rates		
		Plan Concrete Cubic Yards	Samples per fraction	
		3,500 - 7,500	3	
		7,501 - 10,000	5	
		10,001 - 25,000	10	
		25,001 - 50,000	15	
50,001 +	20			

\* Agencies using MnDOT Metro Inspection Services will be sampled at the current MnDOT Schedule of Materials Control rates and will be billed accordingly.

NOTE (1): Test the first 4 QA samples of production each time the Contractor mobilizes the plant in a calendar year or changes aggregate sources. If Coarse Aggregate Quality Incentive / Disincentives apply: The Agency may also use the QA samples for incentive / disincentive testing. Notify the producer to double the QC/QA sample size. **If well-graded aggregate incentives apply:** Use the Contractor's gradation results for well-graded aggregate incentive calculations as verified by Agency testing. Use the Well-graded Concrete Agg Worksheet.

NOTE (2): Sample and Test Coarse Aggregate -200 testing at the same rates as gradation testing. 1 randomly selected sample on the first day of production and each time the Contractor mobilizes the plant, changes the aggregate sources, or the cleanliness of the coarse aggregate is in question. Test these samples at the plant.

NOTE (3): **If w/c incentives apply:** Use aggregate moisture results for determining the water content to calculate the w/c incentive / disincentive. Use the Concrete W/C Ratio Calculation Worksheet and do not leave sample unattended.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

SALT Schedule of Materials Control - Local Government Agency

**CONCRETE PAVEMENT - AGENCY 2 of 2**

Test Type	Spec.	Concrete Field Testing - Agency	Form
Air Content before consolidation for Type 3 concrete	<a href="#">Review Concrete Manual Website</a>	I correlation air test per day	2448 Weekly Concrete Report
Air Content after consolidation for Type 3 concrete		1 air test per day	
Slump		<b>For fixed form placement:</b> 1 slump test per day. <b>For slip form placement:</b> No slump testing required.	
Concrete Temperature		Record temperature each time air content, slump or strength test specimen is performed/fabricated by the Agency.	
Flexural Strength		Supply beam boxes, cure, and test beams. MnDOT standard beam box size is 6" x 6" x 20" unless other sizes or types are approved by the Concrete Engineer.	Z162 Test Beam Data
Concrete Pavement Texture		Determine texture testing locations using random numbers.	Texture Work sheet
Thickness		Determine probing and coring locations using random numbers. Initial pavement at core locations and re-initial the sides of specimens after coring to clearly verify their authenticity.	24327 Core Report
Surface Smoothness		None	Profile Sheet

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

NOTE(4): **If w/c incentives apply:** Microwave oven verification testing to verify the w/c ration is completed in conjunction with Agency aggregate moisture testing. Do not leave samples unattended.

NOTE (5): Prior to concrete production: Obtain pre-production samples for quality testing at least 16 hours prior to concrete production. Samples may be taken from the stockpile and -200 test may be performed at the lab instead at the plant at the discretion of the Engineer. If the entire project is <3,500 yd<sup>3</sup>, pre-production sampling is not required.

Test	Minimum Sample Size	
Gradation	25 lb. for 3/4" Plus Coarse Aggregate.	6 lb. for CA-70
	10 lb. for 3/4" Minus Coarse Aggregate	1.1 lb. for CA-80 & Sand
Quality	50 lb. for 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. for 3/4" minus Coarse Aggregate	
Moisture	500 g for Fine Aggregate	2000 g for Coarse Aggregate

## DOWEL BAR RETROFIT - DBR

Test Type	Spec.	Contractor Testing	Agency Testing	Form
Gradation, Quality, Coarse Agg -200	3126 3137	Prior to production, the Contractor shall provide the Agency with: Aggregate pit numbers, 1 passing gradation result per fraction per source. No quality test results are required. Test companion samples are Contractor's discretion.	1 per fraction prior to production and each time aggregate is delivered to the site.	2410 Sample ID Card

Test Type	Spec.	Testing	Form
DBR Material Compressive Strength	<a href="#">Review Concrete Manual</a>	<b>Contractor Testing: None</b>	2409 Cylinder ID Card
		<b>Agency Testing:</b> During the pre-production test operations: 1 set of 3 cylinders tested at a rate as directed by the Engineer. Testing may need to be repeated if any problems with the dowel bar retrofit material are encountered. <b>First day of production:</b> 1 set of 3 cylinders at a rate directed by the Concrete Engineer. <b>After the first day of production:</b> 1 cylinder per day during production tested at a rate determined by the Engineer to determine traffic strength.	

Test	Minimum Sample Size	
Gradation	25 lb. for 3/4" Plus Coarse Aggregate.	6 lb. for CA-70
	10 lb. for 3/4" Minus Coarse Aggregate	1.1 lb. for CA-80 & Sand
Quality	50 lb. for 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. for 3/4" minus Coarse Aggregate	
Moisture	500 g for Fine Aggregate	2000 g for Coarse Aggregate

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

# SALT Schedule of Materials Control - Local Government Agency

## LANDSCAPING AND EROSION CONTROL ITEMS

Kind of Material	Spec. #	Min. Required Acceptance Testing (Field Testing Rate)
Manufactured Topsoil Borrow, Salvaged Topsoil (stockpiled)	3877.2	As directed by the Engineer
<a href="#"><u>Plant Stock &amp; Landscape Materials</u></a>	3861 and 2571.2A1	Certificate of Compliance, Nursery stock certificate registered with Mn Dept. of Agriculture. Out of state products subject to pest quarantines must accompanied by documentation certifying all products are free of regulated pests.
<a href="#"><u>Erosion Control Blanket</u></a>	3885	Visual Inspection and Check approved products or approved vendors list - As directed by the Engineer.
<a href="#"><u>Erosion Control Netting</u></a>	3885	
<a href="#"><u>Silt Fence</u></a>	3886	
<a href="#"><u>Erosion Stabilization Mat</u></a>	3885	
Flotation Silt Curtain	3887	Accepted, based on manufacturers certification of compliance. Check weight of fabric.
Filter Logs	3897	None
Flocculants	3898	Obtain copy of Certificate of Compliance and MSDS
Fertilizer	3881	Obtain copy of invoice of blended material stating analysis.
Agricultural Lime	3879	Contractor must supply amount of ENP (Equivalent Neutralizing Power) for each shipment.
<a href="#"><u>Mulch - Type 3</u></a>	3882	Certified Weed Free (Certified sources only) Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA).
Mulch - Type 6 - Woodchips		All wood chips supplied by a supplier outside the Emerald Ash Borer quarantine area or have an Emerald Ash Borer Compliance Agreement with the MDA
Seeds	3876	(Certified Vendors Only) (Mixes 100-299) Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA).
Native Seed		(Mixes 300-399) certified seed only. Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA).
<a href="#"><u>Sod</u></a>	3878	Visual Inspection - Check approved products list - As directed by the Engineer. Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA) for salt tolerant sod.
<a href="#"><u>Compost (from Certified Source)</u></a>	3890	
Compost (from Non-Certified Source)		
<a href="#"><u>Hydraulic Soil Stabilizer</u></a>	3884	Check Approved/Qualified Products List - As directed by the Engineer.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

# SALT Schedule of Materials Control - Local Government Agency

## CHEMICAL ITEMS

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Asphalt Plank	3204	Visual Inspection - As directed by the Engineer.
Calcium Chloride	3911	Review the percentage required as per specification.
Magnesium Chloride	3912	
Hot-Pour Crack Sealant (for Crack Sealing/Filling)	3719 3723 3725	Retain Certification of Compliance
Pavement Joint Adhesive	Special Provisions	
<b>Waterproofing Materials</b>		
<a href="#">Membrane Waterproofing System</a>	3757	Visual Inspection - Check qualified products list.
<b>Waterproofing Materials - Three Ply System</b>		
Asphalt Primer	3165	Visual Inspection - As directed by the Engineer.
Waterproofing Asphalt	3166	
Fabric	3201	
<b>Paints</b>		
<a href="#">Waterborne Latex - Traffic Paint</a>	3591	Visual Inspection - Check qualified products list - retain Certificate of Compliance.
<a href="#">Epoxy Traffic Paint</a>	3590	
<a href="#">Traffic Marking Paint</a>	Special Provisions	
<a href="#">Non-Traffic Striping Paints</a>	3500 Series	Retain Certification of Compliance
<a href="#">Bridge Structural Steel Paint</a>	3520	Visual Inspection - Check approved products list - retain Certificate of Compliance.
<a href="#">Exterior Masonry Paint</a>	3584	
<a href="#">Noise Wall Stain</a>	Special Provisions	
<a href="#">Drop-on Glass Beads</a>	3592	Visual Inspection - Check qualified products list. Retain Certificate of Compliance.
<a href="#">Pavement Marking Tape</a>	3354	Visual Inspection - Check qualified products list. Retain Certificate of Compliance.
	3355	
	Special Provisions	
<a href="#">Signs and Markers</a>	3352	Visual Inspection - Check qualified products list.



# SALT Schedule of Materials Control - Local Government Agency

## Metals 1 of 2

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)*
<b>Guard Rail</b>		
Fittings - Splicers, Bolts, Posts etc.	3381	Visual Inspection - Materials shall be approved before use. Call MnDOT inspector at 218-846-3613 to see if material has been approved.
Structural Plate Beam	3382	
Non-High Tension Guard Rail Cable	3381	
High Tension Guard Rail Cable	Special Provisions	
<b>Steel Posts</b>		
Steel Sign Posts	3401	Visual Inspection - As directed by the Engineer. Retain Certificate of Compliance in Project file.
Fence Posts, Brace Bars, Rails and others	3403	Visual Inspection - As directed by the Engineer. Retain Certificate of Compliance and certified mill analysis in project file.
	3406	
	3379	
<b>Fence</b>		
Barbed Wire	3376	Visual Inspection Retain Certification of Compliance, As directed by the Engineer.
Woven Wire		
Chain Link Fabric		
Components: cup, cap, nut, bolt, end clamp, tension band, truss rod tightener, hog ring, tie wire, tension stretcher bar, truss rod, clamp & tension wire		
Gates	3379	
<b>Pipe</b>		
Water Pipe and other Piping Materials	3364, 3365, 3366 & Special Provisions	Visual Inspection - As directed by the Engineer.
<b>Reinforcing Steel - Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>		
Uncoated Bars	3301	Retain Certificate of Compliance & Certified Mill Analysis
Epoxy Coated Bars	3301	For Epoxy-Coated bars, steel will be tagged "Inspected" when it has been sampled and tested by Mn/DOT prior to shipment, & it will be tagged "Sampled" when testing has not been completed prior to shipment. If the Epoxy-Coated bars are not tagged "Sampled" or "Inspected", submit samples, Certificate of Compliance, & Certified Mill Analysis for testing. Maintain original Cert. of Compliance & Certified Mill Analysis in project file.
Spirals	3305	
Stainless Steel Bars	Special Provisions	Visual Inspection Testing as directed by the Engineer. Certified Mill Test Reports to be kept in file.

# SALT Schedule of Materials Control - Local Government Agency

## Metals 2 of 2

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)*
<b>Reinforcing Steel - Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>		
Steel Fabric	3303	Visual Inspection - Retain Certificate of Compliance.
Dowel Bars	3302	
Prestress/Post Tension Strands	3348 Spec.Prov.	
<b>Castings</b>		
<u>Drainage Castings</u>	3321	Visual Inspection - Check approved foundries list.
	2471	
<u>Electrical</u>	2565	
Anchor Rods (Cast in Place) and Structural Fasteners	3385 3391	Visual Inspection - Testing as directed by the Engineer, (see Notes below)
<p>Notes: Manufacturer must have one yearly passing test from the Department for each anchor rod or bolt type. Prior to installation, obtain copy of Mn/DOT passing test report from supplier. Specs 3385.2 A, B, &amp; C require anchor rod markings per ASTM F 1554 S3. The end of each anchor bolt intended to project from the concrete must be die stamped with the grade identification as follows: Grade 36 = AB36, Grade 55 = AB55, Grade 105 = AB105.</p>		
<u>Anchorage (Drilled In)</u>	Special Provisions	Visual Inspection - Check qualified products list.
<u>Structural Steel</u>	<b>Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>	
Steel Bridge - Beams, Girders, Diaphragms, etc.	2471	Structural Metals Inspection Tag and field inspection for damage/defects, check dimensions for contract compliance. Review approved products list as directed by the Engineer.  Note: Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: <a href="http://www.dot.state.mn.us/bridge/">http://www.dot.state.mn.us/bridge/</a>
Concrete Girders-Diaphragms and sole plates		
Expansion Joints		
Steel Bearings		
Railing-Structural tube and ornamental		
Drainage Systems		
Protection Angles		
Overhead Sign structures	2564 2471	
High Mast Lighting Structures	2545 2471	
Monotube Signal Structures	2565 2471	

\* Check domestic steel requirement under 1601 Special Provision.

# SALT Schedule of Materials Control - Local Government Agency

## Geosynthetics, Pipe, Tile, Precast/Prestressed Concrete

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
<b>Corrugated Metal Products</b>		
Culvert Pipe Under drains Erosion control Structures	3225 thru 3229, 3351, 3399	Visual Inspection: Check for good construction, workmanship, finish requirements and shipping
Structural Plate	3231	Visual Inspection: Invoice shall include notation that material described is in accordance with fabricator's Certificate and Guarantee
Aluminum Structural Plate	3233	
REMARKS: Retain the Certificate of Compliance and certified mill analysis in project file.		
<b>Pipe</b>		
Clay Pipe	3251	Visual Inspection
Reinforced Concrete Pipe and Arches, Precast Cattle Pass Units, Sectional Manhole Units	3236	Field Inspection: Check for damage and defects. Check dimensions and class as required.
Non-Reinforced Concrete Pipe	3253	
Drain Tile (Clay or Concrete)	3276	Visual Inspection - Acceptance as directed by the Engineer.
Thermoplastic (TP) Pipe ABS and PVC	3245	Obtain Certificate of compliance. Check for approved marking printed on pipe. Field Inspect for damage or defects.
Corrugated Polyethylene Pipe	3278	Check for markings (AASHTO M 252) Certificate of Compliance. Field Inspect for damage or defects.
<u>Corrugated Polyethylene Pipe - Dual Wall 12"-48"</u>	3247	Visual Inspection - Check approved products list. Obtain Certificate of Compliance.
<b>Precast/Prestressed Concrete Structures - Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>		
Reinforced Precast Box Culvert	3238	Field Inspection: Check for damage and defects. Check dimensions as required. Check for the "MnDOT" stamp and signature on the certification document.
Precast/Prestressed Concrete Structure (beams, posts, etc.)	2405	
Manholes and Catch Basins (Construction)	2506 3622	
<b>Pipe Joint Sealer</b>		
Sewer Joint Sealing Compound	3724	Visual Inspection - Acceptance as directed by the Engineer.
Preformed Plastic Sealer for Pipe	3726 Type b	Visual Inspection - Acceptance as directed by the Engineer.
Bituminous Mastic Joint Sealer for Pipe	3728	
EPS Geofoam	Special Provisions	Visual Inspection - Acceptance as directed by the Engineer. Check for yellow aged material, uniformity and dimensions.
<u>Geotextile Fabric</u>	3733 and Special Provisions	Obtain Certificate of Compliance stating minimum average roll values (MARV). MARV must meet Project requirements. Fabric must be listed on Geotextile Small Quantity Acceptance List available at <a href="http://www.dot.state.mn.us/materials/aggregatedocs/gtxlist.pdf">http://www.dot.state.mn.us/materials/aggregatedocs/gtxlist.pdf</a>
<u>Silt Fence</u>	3886	Visual Inspection - Check approved products list.

# SALT Schedule of Materials Control - Local Government Agency

## ELECTRICAL AND SIGNAL EQUIPMENT ITEMS 1 of 2

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Lighting Standards (Aluminum or Steel)	3811	Visual Inspection - Obtain Certificate of Compliance. The Fabricator will submit "Certificate of Compliance", on a per project basis, to the Project Engineer.
<a href="#">Hand Holes (Precast, PVC, and LLDPE)</a>	2545	Visual Inspection - Check approved/qualified products list. Traffic signal and street lighting projects require hand holes to be listed on the Mn/DOT Signals Approved Products List (APL). For cast iron frame and cover: see Metals - Drainage and Electrical Castings
	2550	
	2565	
Foundation	2545	Check Contract Documents and Special Provisions.
<b>Conduit and Fittings</b>		
Metallic	3801	Visual Inspection - Conduit shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL). For traffic signal and street lighting projects, specific requirements are contained in the Special Provisions for each project.
	3802	
Non-Metallic (Rigid and HDPE)	3803	
	Special Provisions	
Anchor Rods and Bolts (Cast in Place)	3385	
<a href="#">Anchorages (Drilled In)</a>	Special Provision	Visual Inspection - Check qualified products list.
<a href="#">Miscellaneous Hardware</a>	2545 2565	Visual Inspection - Check approved products list. Will carry "Inspected" tag if sampled and tested prior to shipment. No sample necessary if "Inspected". Do not use if not tested. Field sample at sampling rate for laboratory testing. For traffic signal and street light lighting projects, various miscellaneous hardware is required to be listed on the Mn/DOT Signals and Lighting Approved Products Lists (APL). The Contract documents indicate, which items must be on the Signals and/or Lighting APL.
<b>Cable and Conductors</b>		
Power Conductors	3815.2B1	Visual Inspection - Make certain the conductors are the type specified. Submit Field Inspection report showing type and quantities used. Shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL) and type where applicable.
Loop Detector Conductors (No Tubing)	3815.2B2 (a)	
Electrical Cables and Single Conductors with Jacket	3815.2B2(b) 3815.2B3	Visual Inspection - Usually inspected at the distributor. Documentation showing project number, reel number(s), & Mn/DOT test number(s) will be included with each project shipment. If such documentation is not received from Contractor, submit sample for testing along with material certification from manufacturer. Do not use if not tested. Pre-inspected materials will not be tagged; an inspection report will be sent by the Mn/DOT inspector for each shipment. Project inspectors should verify that the shipping documents agree with this inspection report. Call Steve Grover at 651-366-5540 or Cindy Schellack at 651-366-5543 with questions. For traffic signal and street lighting projects, the Special Provisions for each project contain electrical cable and conductor specifications.
	3815.2B5	
	3815.2C1 thru .2C8	
	3815.2C14	
	Special Provisions	
Fiber Optic Cables	3815.2C13	Visual Inspection - Check approved products list for Traffic Management Systems.

SALT Schedule of Materials Control - Local Government Agency

**ELECTRICAL AND SIGNAL EQUIPMENT ITEMS 2 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Ground Rods	2545	Visual Inspection - Check approved products list. Shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL). Detail materials on Materials Acceptance Summary.
	2565	
Luminaires and Lamps	3810	Visual Inspection - Check approved products list. Traffic signal and street lighting projects require luminaires and lamps to be listed on the Mn/DOT Lighting Approved/Qualified Products List (APL). The conductors shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL) and type, where applicable.
Electrical Systems	2565	Electrical Systems are to be reported as a "System" using the LIGHTING, SIGNAL AND TRAFFIC RECORDER INSPECTION REPORT. To be certified by the Project Engineer.
Traffic Signal Systems	2565	Traffic Signal Systems are to be reported as a "System" using the LIGHTING, SIGNAL AND TRAFFIC RECORDER INSPECTION REPORT. To be certified by the Project Engineer.

# SALT Schedule of Materials Control - Local Government Agency

## Brick, Stone and Masonry Units

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
<b>Brick</b>		
Sewer (clay) and Building	3612 to 3615	Visual Inspection - Acceptance as directed by the Engineer.
Sewer (Concrete)	3616	Visual Inspection - Acceptance as directed by the Engineer. Air entrainment required. Obtain air content statement from supplier.
<b>Concrete Masonry Units</b>		
Sewer Construction	3621	Visual Inspection - Acceptance as directed by the Engineer. Air entrainment required. Obtain air content statement from supplier.
<a href="#"><u>Modular Block Retaining Walls</u></a>	Review Current Special Provisions	Visual Inspection - Note: All lots of block upon delivery shall have Manufacturer or Independent laboratory test results to verify passing both compression and freeze-thaw requirements. * Wall units and cap units are considered separate block types.
Reinforced Concrete Cribbing	3661	Visual Inspection - Acceptance as directed by the Engineer. Will be stamped when inspected prior to shipment.
Stone for Masonry or Rip-Rap	3601 and Special Provisions	Visual Inspection - Acceptance as directed by the Engineer.
REMARKS: Each source shall be approved by Project Engineer or Supervisor for quality, prior to use. For questions on quality, contact District Materials or Geology Unit.		

# SALT Schedule of Materials Control - Local Government Agency

## Miscellaneous Materials

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Timber, Lumber Piling & Posts	3412 to 3471 & 3491	Visual Inspection - Acceptance as directed by the Engineer. Untreated materials shall be inspected in the field. Treated materials shall be Certified on the Invoice or Shipping Ticket. Material is inspected and stamped by an Independent Agency as per Specification 3491. Contact Laboratory for additional information.
Miscellaneous pieces and Hardware (Galvanized)	3392 3394	Visual Inspection - Acceptance as directed by the Engineer.
Insulation Board	3760	
<a href="#">Elastomeric Bearing Pads - Plain or Laminated</a>	3741 and Special Provisions	Check dimensions. Check repair of tested pad. Obtain copy of Certificate of Compliance. <b>DO NOT USE ANY PADS THAT ARE NOT CERTIFIED.</b>
Cotton Duck Bearing Pads		







## Approved/Qualified Products

[Asphalt Products](#)

[Roadside Safety Hardware](#)

[Bridge Products](#)

[Roadway Lighting Products](#)

[Concrete Products](#)

[Traffic Control Signals Products](#)

[Crack & Joint Materials Products](#)

[Signing Products](#)

[Truncated Domes](#)

[Snow and Ice Chemical Products](#)

[Drainage](#)

[Temporary Traffic Control Devices](#)

[Erosion Control and Landscaping Products](#)

[Traffic Management Systems/ITS](#)

[Geosynthetics](#)

[Vehicle Safety Lighting](#)

[Maintenance Shop Supplies](#)

[Walls \(Retaining/Noise\)](#)

[Paint/Stain/Coating Systems \(Non-Pavement\) Products](#)

### SALT Construction Website - Additional Resources

[Bituminous Engineering](#)

[Asphalt Binder Certified Supplier](#)

[Asphalt Emulsion Certified Supplier](#)

[Concrete Engineering](#)

[MnDOT Concrete Manual](#)

[QC & QA RM Plant Workbooks](#)

[MnDOT Certified Ready-Mix Program](#)

[Grading & Base Engineering](#)

[Testing procedures in the Grading & Base Manual.](#)

[Forms and worksheets at the Grading & Base Website.](#)

[Gradation worksheets at the SALT Construction Website](#)

## **SALT SMC - LGA Contacts**

### **Districts 1, 2, 3, 4**

Ron Bumann - State Aid Construction Practices Specialist

[ronald.bumann@state.mn.us](mailto:ronald.bumann@state.mn.us)

218-725-2811

### **Districts 6, 7, 8**

Mitch Bartelt - State Aid Construction Engineer

[mitch.bartelt@state.mn.us](mailto:mitch.bartelt@state.mn.us)

651-366-3832

### **Metro**

Elisa Bottos - State Aid Construction Engineer

[elisa.bottos@state.mn.us](mailto:elisa.bottos@state.mn.us)

651-234-7766

Jim Deeny - State Aid Construction Liaison

[james.deeny@state.mn.us](mailto:james.deeny@state.mn.us)

651-234-7762

## Telephone Index for MnDOT Specialty Offices

### Grading & Base

Terry Beaudry	(651) 366-5456
John Bormann	(651) 366-5496
Melissa Cole	(651) 366-5432

[Website: www.dot.state.mn.us/materials/gradingandbase.html](http://www.dot.state.mn.us/materials/gradingandbase.html)

### Bituminous

John Garrity	(651) 366-5577
Asphalt Binder	
Jim McGraw	(651) 366-5548
Jason Szondy	(651) 366-5549

### Bituminous Specialty Items

Terry Beaudry	(651) 366-5456
Greg Schneider	(651) 366-5403
Melissa Cole	(651) 366-5432
Tom Wood	(651) 366-5573

[Website: www.dot.state.mn.us/materials/bituminous.html](http://www.dot.state.mn.us/materials/bituminous.html)

### Concrete

Concrete – Aggregates and Mix Design	
Concrete – Certified Ready Mix Concrete	
Wendy Garr	(651) 366-5423
Concrete – Paving	(651) 366-5576
Rob Golish	
Concrete – Bridges	(651) 366-5575
Ron Mulvaney	
Concrete – Pavement Rehabilitation	
Gordy Bruhn	(651) 366-5523

[Website: www.dot.state.mn.us/materials/concrete.html](http://www.dot.state.mn.us/materials/concrete.html)

### Landscaping and Erosion Control Items

Erosion Control	(651) 366-3607
Lori Belz	
Landscaping	(651) 366-4612
Scott Bradley	
Wood Chips	(651) 366-3619
Tina Markeson	

### **Chemical Items**

Allen Gallistell	(651) 366-5545
Dave Iverson	(651) 366-5550

### **Metallic Materials and Metal Products Sampling**

Steve Grover	(651) 366-5540
Laboratory - Test Results	(651) 366-5560
Bridge Structural Metals	
Todd Niemann	(651) 366-4567
Barry Glassman	(651) 366-4568

### **Miscellaneous Materials**

Steve Grover	(651) 366-5540
Bearing Pads	
Todd Niemann	(651) 366-4567
Barry Glassman	(651) 366-4568
Laboratory - Test Results	(651) 366-5560

### **Geosynthetics, Pipe, Tile, and Precast/Prestressed Concrete**

Steve Grover	(651) 366-5540
Rich Lamb	(651) 366-5595
Randy Tilseth	(651) 366-5451
Laboratory - Test Results	(651) 366-5560

### **Brick, Stone and Masonry Units/Modular Retaining Wall Blocks**

Steve Grover	(651) 366-5540
Blake Nelson	(651) 366-5599
Laboratory - Test Results	(651) 366-5561

### **Electrical & Signal**

Susan Zarling	(651) 234-7052
Steve Grover	(651) 366-5540
Wendy Garr - Concrete	(651) 366-5423
Laboratory - Test Results	(651) 366-5560

## Materials Lab. Contacts

## Independent Assurance

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<p><b>District 3B, Saint Cloud</b> Teresa Mertens, 320-223-6555 Fax 320-223-6582</p>	<p>Teresa Mertens, 320-223-6555 Cell (320) 493-3559</p>
<p><b>District 4, Detroit Lakes</b> Brad Hanson, 218-846-3616 Bruce Bryngelson, 218-846-3614 Wayne Koons, 218-846-3617 Fax 218-846-0744</p>	<p>David Brunner      Dist. 4 Mat'ls (218) 846-3613 Cell (218) 849-7393 Sandy Kay Wollschlager 4B Mat'ls (320) 589-7300 Cell (320) 815-6660</p>
<p><b>Metro District,</b> Maplewood Lab Mike Evans, 651-366-5409 Fax 651-366-5408</p>	<p>Waters Edge Mat'ls      (651) 234-7356 East Steve Reinardy      (651) 755-1581 Mike Sroga      (651) 775-0997 West Greg Bohmert      (651) 775-1005 Dave Wilkerling      (651) 775-1042</p>
<p><b>District 6, Rochester</b> Ken DeCramer, 507-286-7580 Ken Pickett, 507-286-7586 Brad Horn, 507-286-7535 Fax 507-285-7112</p>	<p>Brandon Weick      (507) 286-7584 Cell (507) 251-0138</p>
<p><b>District 7, Mankato</b> Mark Schoeb, 507-304-6186 Scott Swanson, 507-304-6189 Fax 507-304-6191</p>	<p>Mitch Jordahl      (507) 304-6187 Cell (507) 380-9619 Brian Lueck      (507) 304-6188 Cell (507) 380-8248</p>
<p><b>District 8A, Willmar</b> Jay Jorgensen, 320-214-6345 Fax 320-214-6306 <b>District 8B, Marshall</b> Mark DeAustin, 507-537-2068 Fax 507-537-3802</p>	<p>Jon Vlaminck      (320) 214-6348 Cell (320) 894-7409</p>

Lbs

Bituminous	35	Aggregate for Gradation QC/QA
	80	for each plus #4 Aggregate Type for Quality Testing
	35	for each minus #4 Aggregate Type for Quality Testing
	80	for each RAP material for Quality Testing
	10	RAS (shingles) for Processsed Gradation and Quality Testing
	65	for Mix Properties (QC/QA) 3 full 6" by 12" cylinder molds for QA
	90	for TSR (QC/QA) 4 full 6" by 12" cylinder molds for QA
	90	for Aggregate Specific Gravity QC/QA
	-	1 quart of Asphalt Binder QA
	-	1/2 gallon for Asphalt Emulsion QA
Grading & Base	30	Aggregate for Gradation (Companion sample from 60 lb split).
	25	Moisture Density Test - Proctor (Companion from 50 lb split).
	30	Aggregate Quality/Percent Crushing Test - 1 per source
Ready-Mix Concrete	25	Gradation 3/4" plus
	10	Gradation 3/4" minus
	6	Gradation CA 70 & #7
	1	Gradation - Sand (500 g), CA 80, #89.
	4.4	Moisture Test Coarse Aggregate (2000 g)
	1.1	Moisture Test Fine Aggregate (500 g)
	50	Quality 3/4" plus - lab sample
	30	Quality 3/4" minus - lab sample
	30	Fine Aggregate - lab sample
	10	3/4" Plus for the -200 Coarse Aggregate Test (5000 grams)
	6	3/4" Minus for the -200 Coarse Aggregate Test (2500 grams)
	5	Cement, Blended Cement, Fly Ash
	-	1/2 pint plastic container for admixtures.