

WVDOH Specifications Committee

Agenda for February 14th, 2011 updated via email Feb. 4, 2011



Feb. 4, 2011:

Good afternoon,

...attached to this email update to the Feb. 14th Agenda, are several provisions dealing with pavement markings.

Project Specific Provisions for Type IX Paint – for resurfacing and other projects where striping is not a major item of the contract.

SP 663 – Pavement Markings – This project specific provision is for Type IX Paint. It simply adds the applicable materials section and additional pay items that may be encountered.

SP 711.42 – Material Requirements for Type IX Paint – type IX paint for these projects shall be administered much like type II paint (Section 711.41). However the color and retroreflectivity section is different and is specified in this special provision.

- **Project Specific Provisions for Interstate / APD Pavement Statewide Pavement Marking Contract** – The Interstate/APD Pavement Marking Contract has been revised to better coincide with special provision format, existing statewide pavement marking contracts, and current terminology where warranty language is used. The Interstate / APD Pavement Marking contract will be two year warranted wet-reflective marking system is more clearly defined in the following provisions.
 - **SP 108 – Liquidated Damages for Interstate / APD Pavement marking provision** – it is basically the same provision used for the District Wide and Recall striping contracts.
 - **SP 636 – Lump Sum Traffic Control for Interstate / APD Pavement Marking provision** – this is basically the same provision previously approved by the Specification Committee this past summer.
 - **SP 663 - Type X Paint Marking Provision** – this details construction methods, pay items, and material references and more for Type X Wet-Retroreflective paint.
 - **SP 711.43 – Type X Paint Marking Material and Warranty provision.** – material requirements and warranty periods, definitions and applicable forms.

The above provisions did not meet the deadline for expedited approval, however due to the Project Specific nature of each, and the need for the Division to get these projects out, approval is expected at the Feb. 14th meeting. It is likely that these provisions will be showing up in advertised projects. If changes are necessary, addendums to projects will be issued where possible.

The agenda and the above mentioned six provisions are all that was sent out with this update.

Original Agenda follows on the following pages:



Good Morning and welcome to the 2011, hope your holidays were good.

2010 Specifications Books and 2011 Supplemental Specifications

The 2010 Standard Specification Book and 2011 Supplemental were made effective beginning with the January 19th, 2011 letting. Hard copies of the book should be arriving in the first weeks of February.

The 2010 Standard Specifications Roads and Bridges

The current 2010 Standard Specifications Roads and Bridges is posted on the internet at the following [Division Of Highways Specifications website](#) and can be downloaded by clicking the book cover to the left or by [clicking here](#).

Please note that the internet copy has undergone various revisions as we have been working out issues with the printing company. The most recent revision was posted January 8th, 2011. If you have downloaded or printed a copy you should disregard those and update with the most current version.

WEST VIRGINIA
DIVISION OF HIGHWAYS



STANDARD SPECIFICATIONS
ROADS AND BRIDGES
Adopted 2010

Due to delays in getting the hard cover book published the Division has been issuing 8.5" X 11" copies to the Districts for their personnel. These copies when printed do not contain the most recent revisions as mentioned above and Contract Administration has been adding extra provisions to that document to be inserted.

The 2010 Standard Specifications also now have their own dedicated website and that can be viewed by [clicking here](#)

The 2011 Supplemental Specifications ~ Issued January 1st, 2011

The 2011 Supplemental Specifications was posted on [Division of Highways Specifications website](#) on January 4th, 2011 and it too has its own [website](#). Of course the publication can be downloaded by clicking the book cover to the left or by [clicking here](#).

Currently the document is about fifty pages and contains some last minute changes to the Standard Specifications or corrections that were issued late 2010. There are no revisions being planned for this document, necessary corrections will be handled via Supplemental Specification provisions, or typo's will be corrected in a second printing if necessary.

WEST VIRGINIA
DIVISION OF HIGHWAYS



SUPPLEMENTAL
SPECIFICATIONS
TO ACCOMPANY THE 2010 EDITION OF
THE STANDARD SPECIFICATIONS
Roads and Bridges
ISSUED JANUARY 1, 2011

These books should also be showing up to the Districts soon if they have not already. Currently the WVDOT Print Shop is working very hard at printing these books and making them available. Till that time, copies must be printed from the internet.

The Specifications Website

Over the last several weeks many revisions to the Contract Administration's Specifications and Documents website have been issued.

There is now a dedicated [Specifications Committee Website](#) . From this website, I hope to post notes about the meetings and also archive previous meetings. These changes will be being made as time becomes available. I hope to post all specifications that are to be reviewed along with meeting notes and comments.

Currently the meeting dates for 2011 including February are posted and can be viewed and [printed here](#).

2011 Specifications Committee Calendar

2011 Specifications Committee Dates

Specifications Committee Meeting Date:	Deadline For New Topics & Submissions that need to receive expedited approval	Agenda To Be received by Committee on or before:	Meeting Reminder & RSVP On or before: <i>Deadline for all other new Topics and Submissions</i>
January	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
February 14, 2011	<i>January 21st, 2011</i>	January 31 st , 2011	February 7 th , 2011
March 14, 2011	<i>February 24th, 2011</i>	February 28 th , 2011	March 7 th , 2011
April 11, 2011	<i>March 24th, 2011</i>	March 28 th , 2011	April 4 th , 2011
May 9, 2011	<i>April 21st, 2011</i>	April 25 th , 2011	May 2 nd , 2011
June 13, 2011	<i>May 26th, 2011</i>	May 31 st , 2011	June 6 th , 2011
July 11, 2011	<i>June 23rd, 2011</i>	June 27 th , 2011	July 5 th , 2011
August 8, 2011	<i>July 21st, 2011</i>	July 25 th , 2011	August 1 st , 2011
September 12, 2011	<i>August 25th, 2011</i>	August 29 th , 2011	September 6 th , 2011
October	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
November 14, 2011	<i>October 27th, 2011 Final Submissions for 2012 Supplemental Specifications Book and must be approved at this meeting</i>	October 31 st , 2011	November 7 th , 2011
December 12, 2011	<i>November 17th, 2011</i>	November 28 th , 2011	December 5 th , 2011

Notes:

- All Meeting dates are the second Monday of each Month, except January and October where no meetings are scheduled.
- All meetings are scheduled to be held in Bldg 5 Room 122, 9:00AM to 12:00PM, however this may be changed and notice shall be given as soon as possible about a new meeting location.
- All other dates / schedules are tentative and subject to change if situations warrant.

As mentioned above the dates for 2011 are now posted on the internet, and listed below. Because I was in a rush to get the book out over the last couple years I let a few things slide, thus for 2011 there will be some new guidelines:

- I'm going to me more stringent about Provisions that receive "Expedited Approval" – the current DD for Specification Approval, requires that provisions to be approved in a single meeting must be available for review for 14 days. This be the case for 2011, any provisions not submitted by the required date that needs expedited approval, shall require some sort of documentation (email, letter, etc) stating why it can't wait till the following meeting.
- Similarly, the final deadline for a month's inclusion is also listed in the calendar, and these dates shall also be met. Like above, there's exceptions to everything I would just like some sort of documentation as to why the submission in question must be included at the last minute and cannot wait, and then I'll do my best to get them included.

If the attached table is hard to read please go check out the website and begin familiarizing yourself with it and it's layout.

Provisions for February 14th

- **Special Provision for section 102 – *Bidding Requirements and Conditions***: this is a previously approved provision, and is being presented as a Project Specific Provision for some projects when Paper Bids will be accepted. This provision was previously approved as a standard specification, and thus no additional approval is needed, and will not be back in March.
- **Special Provision for Section 109 – 109.1 *Lump Sum Excavation*** – this is the second time to committee for this project specific provision, no changes have been made since the December version.
- **Supplemental Specification for Section 109 – 109.10 *Price Adjustment for Asphalt Binder*** – this provision is being presented as a Supplemental Specification, and addresses a long running error in the Standard Specifications, it simply revises language about what items receive the asphalt adjustment. It is expected to receive expedited approval.
- **Supplemental Specification for Section 207 – 207.6.5 *Construction Waste*** – This provision is being presented as a Supplemental Specification and is to receive expedited approval. It corrects an error in the 2010 Specifications. It was previously approved by committee back in 2009, and was left out accidentally when it was incorporated into the 2010 Update.
- **Special Provision for Section 207 – 207.15 *Lump Sum Excavation*** – no work has been done on this since December’s meeting. It is on the agenda to discuss any updates and to begin moving forward with implementation into select projects, and be ready for final approval in March.
- **Special Provision for Section 211 – 211.7 *Lump Sum Excavation*** – this is the second time to committee for this provision and it addresses potential conflicting language that may arise with the Lump Sum 207 Provision.
- **Special Provision for Section 219 – CLSM Grout for Pipe Lining** – second reading of this project specific provision for final approval.
- **Special Provision for Section 401 – 401.10.5 *Joints*** – This provision deals with shifting the pavement joint over a certain distance. Shifting this joint over will allow for the installation of various traffic safety devices. Ie Centerline Rumble Strips, and to keep them from being installed along the paving joint. It was presented in 2009, and is now being resubmitted as a project specific provision at this time.
- **Special Provision for Section 601 – *Patching Concrete Structures*** – Tabled
- **Special Provision for Section 601 – *Mass Concrete*** – The second reading of this Project Specific Provision for final approval.
- **Special Provision for Section 604 – *HDPE Pipe Liner*** – this is the second reading of this Project Specific Provision for final approval.
- **Special Provision for Section 639 – *Electronic Data*** - this is the third reading of this Project Specific Provision. It is written to be used with the Lump Sum excavations provisions, but also could stand on its own if necessary.
- **Special Provision for Section 664 – *Safety Edge ~ Approved Product Listing*** – this is the second reading of this provision for approval.
- **Special Provision for Section 664 – *Safety Edge ~ Performance Specification*** – this is the second reading of this provision for approval.
- **Supplemental Specification for section 664 – Rumble Strips** – this is the second reading of this specification. It has had some minor revisions since December’s meeting.

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- **Special Provision for Section 667 – *LED Dynamic Message Signs Front Access Door Amber and / or RGB Full Matrix*** – first reading of this Project Specific Provision expecting expedited approval.
 - **Special Provision for Section 711 – *711.42 White Or yellow Fast-Dry Traffic Paint (Type IX)*** – 1st submission for this project specific provision for Type IX Paint.
 - **Supplemental Specification for Section 715 – *Sections 715.10 / 715.11 / 715.12*** – these sections were accidentally deleted from the 2010 Specifications book and are being presented. No approval is necessary as these were never “unapproved”. For information only.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

**FOR
INTERSTATE / APPALACHIAN STRIPING CONTRACT**

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 108

PROSECUTION AND PROGRESS

108.7 COMPLETION DATES

108.7.1 – Failure To Complete On Time And Liquidated Damages:

DELETE PARAGRAPH TWO AND REPLACE THE FOLLOWING.

Therefore for each Calendar day the project is deemed not to be Substantially Complete after the Contract Time specified for completion of the work, subject to such extensions of contract time required or permitted in 108.6, the Division will assess liquidated damages against the Contractor. Daily charges will be deducted for each calendar day as defined in 101.2 on all contracts. The total amount of daily charges will be deducted from any monies due the Contractor, not as a penalty but as liquidated damages. Unless specified elsewhere in the Contract, the amount of the daily charge will be calculated from the table below.

TABLE 108.7.1 SCHEDULE OF LIQUIDATED DAMAGES

ORIGINAL CONTRACT AMOUNT		DAILY CHARGE
From More Than	To And Including	Per Calendar Day
\$ 0	\$ 25,000	\$ 40
\$ 25,000	\$ 100,000	\$ 70
\$ 100,000	\$ 500,000	\$ 150
\$ 500,000	\$ 1,000,000	\$ 310
\$ 1,000,000	\$ 2,000,000	\$ 570
\$ 2,000,000	\$ 5,000,000	\$ 910
\$ 5,000,000	\$ 10,000,000	\$ 1410
\$ 10,000,000	-----	\$ 3280

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

INTERSTATE /APPALACHIAN PAVEMENT MARKING CONTRACT

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 636

MAINTENANCE OF TRAFFIC

636.3 – CONTROL OF TRAFFIC THROUGH WORK AREAS

ADD THE FOLLOWING TO THE SECTION:

An additional 'trail vehicle' shall be utilized with a 54" x 18" "Wet Paint" sign and a truck mounted Portable Changeable Message Sign (PCMS) stating "Caution - Painting -Ahead", or other message as provided by the Engineer. This vehicle shall be protected by a Type VII- TMA (truck mounted attenuator).

This secondary trail vehicle shall generally travel on the shoulder or adjacent lane of the painting operation, and that this secondary trail vehicle shall follow the paint train as described in Case D4 by 0.25 to 0.50 miles to improve motorist safety by additional sign communication and allowing advance warning time.

If Case D4 is used, the cone pick-up vehicle shall be protected with a Type VII-Truck Mounted Attenuator (TMA) impact attenuation device.

636.23 – METHOD OF MEASUREMENT:

ADD THE FOLLOWING SUBSECTION TO THE SECTION

636.23.30 – Lump Sum Traffic Control: Work under this Section consists of providing, installing and maintaining various traffic control devices for the protection of the traveling public and working personnel during construction and maintenance operations, and includes channelizing devices, signs, barricades, markings, lighting devices, flaggers, pilot trucks, hand signal devices, traffic control vehicles, TMA's, flashers, and all other applicable methods as described in Section 636 and the Division's Manual On Temporary Traffic Control For Streets and Highways, 2006 Edition.

The Contractor shall be responsible for the installation of adequate safety precautions for the protection of the traveling public and his/her own personnel.

All materials provided by the Contractor under the items of this section shall remain the property of the Contractor upon Completion of the project.

All work under this Section shall be reviewed and accepted by the Engineer prior to installation of the traffic control set up.

636.24 – BASIS OF PAYMENT:

DELETE THE CONTENTS OF THE SECTION AND REPLACE WITH THE FOLLOWING:

The quantities, determined as provided above, will be paid for at the contract unit price bid for “Lump Sum Traffic Control”, which prices and payment shall be full compensation for furnishing all the materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to complete the work during the life of the contract.

Payment for “Lump Sum Traffic Control” shall be paid as a percentage of the Unit Bid Price per month based on the life of the contract. Example – a ten month contract will receive 1/10th the unit bid cost each month as payment for “Lump Sum Traffic Control”.

636.25 – PAY ITEMS:

ADD THE FOLLOWING TO THE TABLE:

ITEM	DESCRIPTION	UNIT
636001-*	TRAFFIC CONTROL	LUMP SUM (LS)

*Sequence Number

**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SPECIAL PROVISION**

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

FOR

**SECTION 663
PAVEMENT MARKINGS
TYPE IX PAINT**

663.2-MATERIALS:

ADD THE FOLLOWING TO THE TABLE:

MATERIAL	SUBSECTION
White or Yellow Fast-Dry Traffic Paint, Type IX	711.42

663.8-PAY ITEMS:

ADD THE FOLLOWING TO THE TABLE:

ITEM NUMBER	DESCRIPTION	UNIT
663001-018	Edge Line Type IX-4 in	MI
663001-019	Edge Line Type IX-4 in	LF
663001-028	Edge Line Type IX-6 in	LF
663001-029	Edge Line Type IX-6 in	MI
663001-035	Edge Line Type IX-8 in	LF
663002-018	Lane Line, Type IX-4 in	MI
663002-019	Lane Line, Type IX-4 in	LF
663002-028	Lane Line, Type IX-6 in	LF
663002-029	Lane Line, Type IX-6 in	MI
663002-043	Center Line, Type IX-4 in	LF
663002-044	Center Line, Type IX-4 in	MI
663002-045	Center Line, Type IX-6 in	LF
663002-046	Center Line, Type IX-6 in	MI
663002-064	Lane Line, Type IX-8 in	MI
663002-064	Lane Line, Type IX-8 in	MI
663002-065	Lane Line, Type IX-8 in	LF
663004-019	Channelizing Line, Type IX	MI
663007-019	Stripe, Type IX	LF

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

THE

INTERSTATE /APPALACHIAN PAVEMENT MARKING CONTRACT

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 663

PAVEMENT MARKINGS

663.2 – MATERIALS:

ADD THE FOLLOWING AS THE FIRST PARAGRAPH

The Successful Contractor shall employ only one (1) pavement marking scheme per contract unless otherwise directed by the Engineer. A pavement marking scheme consists of one particular binder, bead/ceramic type(s), application rate and associated tolerances as specified by the manufacturer. There shall be no materials testing associated with the warranted pavement marking scheme, but the binder and bead/ceramic type, application rate and all other particulars shall be provided to the Engineer at the Pre-Construction Conference.

ADD THE FOLLOWING TO THE TABLE:

MATERIAL	SUBSECTION
WHITE OR YELLOW FAST-DRY TRAFFIC PAINT, TYPE X	711.43

663.4 – PAVEMENT PREPARATION – PREMARKING, CODING

DELETE THE SECTION AND REPLACE WITH THE FOLLOWING:

The Department will be responsible for coding and spotting where old markings cannot be determined or if the Department desires to make changes in existing markings. Where

existing markings cannot be determined by the Contractor, the Division shall be given notification of seven (7) days prior to commencement of work for the Division to perform any necessary coding and spotting for these areas.

The Engineer may add or delete any route from the schedule, if, because of low traffic volumes or other reasons deemed necessary

The Contractor may begin painting upon Notice-To-Proceed.

All materials shall be applied as recommended by the material manufacturer. This shall include surface pre-treatment, if required.

663.5 – APPLICATION:

663.5.1 General

ADD THE FOLLOWING TO THE SUBSECTION:

The pavement marking material shall be mixed uniformly throughout and shall have a homogeneous dispersment of color and beads when applied to the pavement.

Prior to commencement of work, and only if required by the binder manufacturer, all existing edge, lane or center lines will be fully eradicated in accordance with Section 636.7 - Eradication of Pavement Markings. When eradicating lane or center lines, the Contractor shall replace the lines within twenty-four hours from the start of eradication. The eradication shall be incidental to Pay Items 663001 and 663002.

The Contractor shall provide pavement markings on Interstate and Expressway routes in city limits only on Sunday, unless otherwise directed by the Engineer.

663.5.2.1 – Approved Equipment and Personnel:

DELETE PARAGRAPH TWO OF THE SECTION AND REPLACE WITH THE FOLLOWING:

The Contractor (within seven (7) days prior to commencement of the project) shall submit to the Engineer a detailed list of all equipment and the resumes of all personnel within the confines of the project. The Contractor shall also provide certification from the binder manufacturer that the Contractor is qualified to apply the manufacturer's material in conformance with these specifications.

ADD THE FOLLOWING TO THE END OF THE SECTION:

The Contractor shall provide a calibrated measuring device for placing pavement marking materials.

The Contractor is responsible for quality control, and shall employ a Project Control Coordinator (PCC) at the Contractor's expense. The PCC shall be designated and in attendance at the Pre-Construction Conference. This PCC shall be a member of the District Pavement Marking Crew. The PCC shall be responsible for all communication between the District Pavement Marking Crew and District Personnel. Communications shall be provided to the District, and shall be employed between the PCC and the District in the form of cellular phone technology, two-way radio, or other form of communication

during working hours (communications shall be at the Contractor's expense and shall be integral to the contract cost).

The PCC shall be required to fill out all Daily Centerline Report(s) and provide these completed forms to the Engineer for payment. The Contractor shall provide the District all collective daily centerline reports on a weekly basis. The Contractor's weekly centerline reports shall be delivered to the Engineer the first work day of the following week. Failure to deliver centerline reports to the Engineer shall invoke daily liquidated damages as described in Section 108.7 and Table 108.7.1 of the West Virginia Division of Highway's Standard Specifications for each calendar day that the Contractor fails in delivering these centerline reports.

Each week's liquidated damages are evaluated separately regarding delivery of centerline reports. The Engineer will randomly check the accuracy of these reports. If a discrepancy of more than 2% is found, the Contractor will be required to have an independent consultant, approved by the Division, verify all pay items on this contract. The cost of this consultant will be the responsibility of the Contractor and no reimbursement will be made by the Department.

ADD THE FOLLOWING TO THE SECTION:

663.5.10 – Completion of work: Pavement marking shall be completed by August 30th, 2011. The Contractor shall be assessed as described in Schedule A per calendar day for each day after August 30th, 2011 that work is not completed. At the Pre-Construction Conference the Contractor will be provided with county maps and tables showing the roadways to be painted. The Contractor may begin painting after May 1st, 2011 or as directed by the Engineer.

Schedule A –

EXAMPLE:

GIVEN:

Contract inception date = May 1st, 2011

Completion Date = August 31st, 2011

Percentage of Roadway Marking Incomplete = 5%

Contract Bid Price = \$2,700,000

Actual Completion Date = September 15th, 2011

Delinquent period = August 31st, 2011 until September 15th, 2011

663.6 – METHOD OF MEASUREMENT:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING:

The quantity of pavement marking lines to be paid for shall be the actual number of linear miles of pavement markings which have been satisfactorily placed.

The Type V pavement markings (existing pre-formed thermoplastic) are to be eradicated and replaced with formed, heat applied thermoplastic meeting specifications from an approved DOH vendor (see enclosed Standard Detail Sheet TEM-1, 2, 3, 4). All eradication of existing Type V lines shall be inclusive within this thermoplastic bid item.

663.8 – PAY ITEMS

ADD THE FOLLOWING TO THE TABLE

Item Number	Description	Unit
663001-031	Edge Line, Type X – 6 in	MI
663001-036	Edge Line, Type X – 8 in	FT
663002-029	Lane Line, Type X – 6 in	MI
663002-045	Centerline, Type X- 6 in.	MI

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 711

**PAINTS, COATINGS, OILS, AND INKS
TYPE IX PAINT**

ADD THE FOLLOWING SECTION(S) TO THE SECTION:

711.42 – WHITE OR YELLOW FAST-DRY TRAFFIC PAINT (TYPE IX):

711.42.1 – General: Shall be in accordance with Section 711.41.1

711.42.2 – Color and Retroreflectivity Requirements: The Contractor may retest any areas or sections reported as being deficient, in the presence of a project inspector, in order to verify the deficiency of the areas or sections. However, the final decision in regards to requiring re-stripping shall be at the Project Engineer’s discretion

COLOR: After the application of the glass beads or other retroreflective elements, each color installed shall fall within the boundaries created by the following CIE Chromaticity Coordinate Limits:

COLOR	CIE CHROMATICITY COORDINATE LIMITS							
	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
White	0.480	0.410	0.430	0.380	0.405	0.405	0.455	0.435
Yellow	0.575	0.425	0.508	0.415	0.473	0.453	0.510	0.490

The color shall show no appreciable discoloration due to aging during the warranty period of this pavement marking. Pavement markings shall be visually checked by the Engineer at any time during the warranty period of this pavement marking. Additionally, the Engineer shall at any time during the warranty period of this marking use a portable colorometer to determine if the markings have faded or darkened beyond the CIE Chromaticity Coordinate

Limits. The Colormeter used shall be a LTL-Y or other hand held colormeter device approved by the Division.

RETROREFLECTIVITY: Markings installed on or after April 14th and prior to October 1st shall maintain a minimum reflectance value of 175 mcd/m²/lx for white pavement markings, and 150 mcd/m²/lx for yellow pavement markings for a minimum of one (1) year.

Readings are to be measured with a LTL-X, or Traffic Engineering Division approved equal, 30 meter geometry retroreflectometer. A 5% tolerance with the stated minimum required retroreflectivity values shall be allowed when tested with a hand held retroreflectometer. A 15% tolerance with the stated minimum required retroreflectivity values shall be allowed when tested with a mobile retroreflectometer.

711.42.3 – Sampling and Testing Procedures for Performance Samples: Shall be in accordance with section 711.41.3

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

THE

INTERSTATE /APPALACHIAN PAVEMENT MARKING CONTRACT

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 711

PAINTS, COATINGS, OILS AND INKS

ADD THE FOLLOWING TO THE SECTION:

711.43 – WHITE OR YELLOW FAST-DRY TRAFFIC PAINT (TYPE X):

711.43.1 – General: The pavement marking material shall be formulated as a medium life pavement marking system capable of providing a minimum of two years of continuous performance as specified by the retroreflective parameters established within this contract. The pavement marking shall be a Wet Continuous and Recovery Reflective product. The binder, as provided by the pavement marking manufacturer shall be lead free and be suitable for bituminous and concrete pavements. The Contractor shall employ a binder which is placed at no less than 20 mils. The material shall be capable of retaining reflective glass beads or ceramic elements of the drop-on or spray-on type as specified by the bead / ceramics manufacturer.

711.43.1.1 – Definitions:

- **Acceptance Date Of Warranted Work** – the date when the warranted work is completed and is continuously open to traffic. This is the date of initial acceptance and constitutes the start date for the warranty period.
- **Initial Acceptance** – The Division and the Contractor shall jointly review all completed warranted work. If the Division determines that the warranted work is in compliance with the Contract Specifications and is continuously open to traffic then the Date of Initial Acceptance occurs. If the work does not meet contract requirements, the Contractor shall make all necessary corrections at it's expense according to the specifications here-in. The date on which initial acceptance occurs is termed the "*Acceptance Date of Warranted Work*"

- **Warranty Bond** – a bond issued in the amount of \$ _____ by a surety which guarantees that the warranty requirements of this contract will be met.
- **Warranty Period** – the time frame within the contract that the warranty criteria as specified in the provision and specifications for sections 711.43 and 715.40 are to remain in effect.
- **Warranted Work** – work that is guaranteed to meet the warranty requirements throughout the warranty period as stipulated in sections 711.43 and 715.40.
- **Warranty Work** – corrective action taken by the Contractor to bring the warranted work into compliance with the specifications and provisions of the contract.

711.43.2 – Color and Retroreflectivity Requirements: The Contractor shall provide a pavement marking system to meet the following performance requirements:

COLOR: Each color installed shall match those chromaticity limits within this section. Color determination and testing will be made at any point within the contract period. The color shall show no appreciable discoloration due to aging during the life of this contract. Pavement markings may be visually checked by the Engineer or designee at any time during the life of this contract. Additionally, the Engineer or designee, may at any time during the life of this contract use a portable colorometer to determine if the markings have faded or darkened beyond the CIE Chromaticity Coordinate Limits listed in the following table:

COLOR	CIE CHROMATICITY COORDINATE LIMITS							
	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
White	0.480	0.410	0.430	0.380	0.405	0.405	0.455	0.435
Yellow	0.575	0.425	0.508	0.415	0.473	0.453	0.510	0.490

The color shall show no appreciable discoloration due to aging during the life of this contract. Pavement markings shall be visually checked by the Engineer or designee upon the completion of the Project or after thirty days following application of the binder.

RETROREFLECTIVITY: Dry, Wet Recovery and Wet Continuous

- **Dry reflectivity values** of applied pavement marking system shall maintain values of 300 MCD/M²/LX for white pavement markings and 225 MCD/M²/LX for yellow pavement markings.
- **Wet Recovery reflectivity values** of applied pavement marking system shall maintain values of 200 MCD/M²/LX for white pavement markings and 150 MCD/M²/LX for yellow pavement markings.
- **Wet Continuous reflectivity values** of applied pavement marking system shall maintain values of 100 MCD/M²/LX for white pavement markings and 75 MCD/M²/LX for yellow pavement markings.

All values aforementioned shall be maintained for a minimum of 75 days after August 30th, 2011 completion date as measured with a LTL-X retroreflectometer or equal 30 meter device approved by the Traffic Engineering Division (TED). Mobile Reflectivity instruments shall be considered a 30 meter device. The Mobile Retroreflectivity reading shall be the primary source of measurement of retroreflectivity. Once it has been established that all the aforementioned values have been maintained for the 75 day period, the Contractor shall submit the *Initial Acceptance For Pavement Marking Warranty Form*, and this shall be considered Initial Acceptance of the Contract work to be warranted.

The Contractor will also be required to take and record a minimum of five (5) readings per color per day utilizing an LTLX-2000 retroreflectometer. These readings shall be recorded on the daily report and should be taken throughout the day. All readings shall be submitted to the District Construction Office .

711.43.3 - Sampling and Testing Procedures for Performance Samples: During the pavement marking contract, the pavement marking materials furnished and installed under this project shall show no signs of failure greater than five (5) percent loss due to blistering, excessive cracking, bleeding, staining, discoloration, smearing or spreading under heat, deterioration due to contact with oil or gasoline, chipping, spalling, poor adhesion to the pavement, damage from traffic and normal wear. Snowplow damage shall be considered as normal wear within this contract.

The following values shall be maintained after the date of Initial Acceptance and its respective retroreflectivity until August 20th, 2012.

- **Dry retroreflectivity values** of 190 MCD/M²/LX for white, and 160 MCD/M²/LX for yellow pavement markings.
- **Wet Recovery retroreflectivity values** of 145 MCD/M²/LX for white, and 110 MCD/M²/LX for yellow pavement markings.

Loss due to pavement failure, unless caused by the marking material, will not be considered as a material failure and will not be included in the loss calculations and/or retroreflectivity readings.

Periodic pavement marking reviews shall be performed throughout the project locations and warranty period. These reviews will occur at any time after the markings have been placed. These reviews will evaluate the pavement marking material within the project limits for either day and night acceptability considering all requirements listed above.

During the life of this contract if any markings are found deficient, the Contractor will be given notification stating the locations and the type of deficiency. These notifications will be given at any time during the life of the contract, but no later than October 15, 2012.

Upon notification, if the Contractor does not complete the replacement of all of the deficient pavement markings by the end of twenty (20) calendar days, the Contractor shall be subject to liquidated damages as described within Section 108.7 of the West Virginia Division of Highway's Standard Specifications until replacement is completed. No direct payment shall be

made for the replacement of any deficient pavement marking during the warranty period as such work shall be considered as incidental to the work as paid for by the various pavement marking items in the contract.

During the life of this contract if more than twenty (20) percent of the pavement markings are found deficient, the Contractor shall be subject to lane rental charges of \$3,000/per lane/per mile. Lane rental costs shall be in the form of liquidated damages.

711.43.4 – INITIAL ACCEPTANCE:

A copy of the Initial Acceptance for Pavement Marking Warranty form will be sent to the Contractor's warranty bond surety agent by the Division. Neither the Initial Acceptance nor any prior inspection acceptance or approval by the Division diminishes the Contractor's responsibility under this warranty. (note: a copy of the form is located at the end of this provision)

711.43.5 – WARRANTY BOND:

The Contractor shall furnish a single term warranty bond, in the amount stipulated in Section 711.43.1.1 above prior to Contract Award. The effective starting date of the warranty bond shall be the Acceptance Date of Warranted Work. The warranty bond will be released at the end of the Warranty Period or after all warranty work has been satisfactorily completed whichever is later.

**WEST VIRGINIA DIVISION OF TRANSPORTATION
INITIAL ACCEPTANCE FOR PAVEMENT MARKING WARRANTY FORM**

CONTRACT ID:

STATE PROJECT NUMBER:

SURETY NAME:

SURETY ADDRESS:

CONTRACTOR NAME:

CONTRACTOR ADDRESS:

WORK TYPE:

**DATE
ACCEPTED**

**PROJECT
ENGINEER:**

INITIAL ACCEPTANCE OF WARRANTY WORK APPROVAL

CONTRACTOR'S SIGNATURE:

ENGINEER'S SIGNATURE:

ACCEPTANCE DATE:

cc: Surety Company, Financial Services - Payments

**WEST VIRGINIA
DIVISION OF TRANSPORTATION
PAVEMENT WARRANTY BOND**

Bond Number _____

KNOWN ALL MEN BY THESE PRESENTS:

That we, (hereinafter called the "Principal"), and

_____, a corporation duly organized under the laws of the State of _____ and duly licensed to transact business in the State of West Virginia (hereinafter called "Surety"), are held and firmly bound unto the West Virginia Division of Transportation (hereinafter called the "Obligee"), in the sum of Dollars (\$), for the payment of which sum well and truly to be made, we, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has heretofore entered into a contract with the West Virginia Division of Transportation dated _____ under Contract ID _____ and;

WHEREAS, the said Principal is required to guarantee the installed Contract Surface Course under said contract, against specific pavement defects which may develop during the period(s) of years beginning the date(s) of the Acceptance Date of Construction by the Obligee.

In no event shall losses paid under this bond aggregate more than the amount of the bond.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal shall faithfully carry out and perform the said guarantee, and shall, on due notice, repair and make good at its own expense any and all specific pavement defects in the said work which may develop during the period specified above or shall pay over, make good and reimburse to the said Obligee all loss and damage which said Obligee may sustain by reason of failure or default of said Principal so to do, then this obligation shall be null and void; otherwise shall remain in full force and effect.

PROVIDED HOWEVER, that in the event of any default on the part of said Principal, a written statement of the particular facts showing such default and the date thereof shall be delivered to the Surety by registered mail, within thirty (30) days after the Obligee or his representative shall learn of such default and that no claim, suit or action by reason of any default of the Principal shall be brought hereunder after the expiration of thirty (30) days from the end of the warranty period as herein set forth.

Signed this day of , .

Contractor

By

Surety _____

By

Attorney-In-Fact