

ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

☒ Modify Specification _____338_____.
Section/File number

☐ New Section _____.
Section number

Subject: Value Added Asphalt Pavement – Pavement Evaluation and Remedial Work

Origination date: Sept 13, 2006

Originator: David Wang
Office/Phone: State Construction Office
Email address/ david.wang@dot.state.fl.us
Userid: cn983dw

Problem statement: Update the acceptance criteria and clarify the method of distress measurement of section 338 in order to make the specification requirements be consistent with other specifications and procedures.

Information source: David Wang, Asphalt Warranty Committee

Background data: Pavement Condition Survey Report and Minutes of Committee Meeting

Recommended Usage Note: For all asphalt construction projects

Estimated fiscal impact, if implemented: N/A

Implementation of these changes, if and when approved, will begin with the July 2007 letting.



Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

STEPHANIE KOPELOUSOS
INTERIM SECRETARY

January 26, 2007

Mrs. Leslie McCarthy, PhD, P.E.
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 338
Proposed Specification: 3380000

Dear Mrs. McCarthy:

We are submitting, for your approval, two copies of a proposed Supplemental Specification for Value Added Asphalt Pavement.

This change was proposed by David Wang of the State Construction Office to add Settlement/Depression as a Distress Type for pavement evaluation.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/dr

Attachment

cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

**VALUE ADDED ASPHALT PAVEMENT
(REV 12-26-06)**

SECTION 338 (Pages 292 – 299) is deleted and the following substituted:

**SECTION 338
VALUE ADDED ASPHALT PAVEMENT**

338-1 Description.

Construct Value Added Asphalt Pavement consisting of Asphalt Concrete Structural Course and Asphalt Concrete Friction Course, subject to a three year warranty period.

For purposes of this Specification, Warranty” shall mean the Responsible Party, as designated herein, is responsible for performance of the Value Added Asphalt Pavement for a period of three years after final acceptance of the Contract in accordance with 5-11, including continued responsibility for performing all remedial work associated with pavement distresses exceeding threshold values determined in accordance with 338-5, and as to which notice was provided to the Responsible Party within the three-year warranty period.

The work specified in this Section will not be paid for directly, but will be considered as incidental to other asphalt pay items.

338-2 Materials and Construction Requirements.

Meet the requirements of the following:

Hot Bituminous Mixtures - Plant, Methods and Equipment	Section 320
Hot Bituminous Mixtures - General Construction Requirements	Section 330
Superpave Asphalt Concrete	Section 334
Asphalt Concrete Friction Courses	Section 337

338-3 Responsible Party.

Prior to any Value Added Asphalt Pavement being placed on the project, the Contractor shall designate a Responsible Party to accept responsibility for maintaining the Value Added Asphalt Pavement, when remedial work is required. When the scope of the asphalt work is only milling and resurfacing, and there is no construction of the embankment, subgrade or base below the pavement included in the Contract, the Responsible Party may be either the Contractor or the Department approved subcontractor performing the Value Added Asphalt Pavement work. When the construction of the embankment, subgrade or base below the pavement is included in the Contract, in addition to the construction of the Asphalt Concrete Structural Course and Asphalt Concrete Friction Course, the Contractor shall be considered as the Responsible Party.

When the Responsible Party is a subcontractor, the subcontractor must be pre-qualified with the Department in the category of asphalt, and such designation must be made to the Department by the Contractor. The proposed subcontractor must execute and

deliver to the Department a form, provided by the Department, prior to or concurrent with the Contractor's request to sublet any Value Added Asphalt Pavement work, stipulating that the subcontractor assumes all responsibility as the Responsible Party for the Value Added Asphalt Pavement within the three-year warranty period. Failure to timely designate the Responsible Party will result in the Contractor being the Responsible Party unless otherwise agreed to in writing by the Department.

Upon final acceptance of the Contract in accordance with 5-11, the Contractor's responsibility for maintenance of all the work or facilities within the project limits of the Contract will terminate in accordance with 5-11; with the sole exception that the obligations set forth in this Section for Value Added Asphalt Pavement will continue thereafter to be the responsibility of the Responsible Party as otherwise provided in this Section.

338-4 Statewide Disputes Review Board.

The Statewide Disputes Review Board in effect for this Contract will resolve any and all disputes that may arise involving administration and enforcement of this Specification. The Responsible Party and the Department acknowledge that use of the Statewide Disputes Review Board is required, and the determinations of the Statewide Disputes Review Board for disputes arising out of this Specification will be binding on both the Responsible Party and the Department, with no right of appeal by either party.

Meet the requirements of 8-3.

338-5 Pavement Evaluation and Remedial Work.

338-5.1 General: The Department's Flexible Pavement Condition Survey Program, along with observations by the Engineer, will be used as the basis for determining the extent and the magnitude of the pavement distresses occurring on the project. *The Department will continuously monitor the pavement and may require remedial action at any time.* For evaluation purposes, the project will be subdivided into LOTs of 0.1 mile per lane. *When the segment is less than 0.1 mile, the segment will be called a partial LOT.* The Department may conduct a ~~LOT by LOT~~ Pavement Condition Survey of the value added pavement following the final acceptance of the project, and at intermediate times throughout the warranty period. The final survey, if determined by the Engineer to be necessary, will be conducted no later than 45 calendar days before the end of warranty period. ~~All surveys will be conducted at no cost to the Responsible Party.~~ *The Department will be responsible for all costs associated with the surveys.*

~~The Responsible Party will be advised if/when the Department believes remedial action is required, and conducts a LOT by LOT Pavement Condition Survey. The results of the survey will be made available to the Responsible Party within 15 calendar days after completion of the survey.~~

If the survey findings, intermediate or final, are to be disputed by the Responsible Party, written notification must be provided to the Engineer within 30 calendar days of the date of receipt of the survey.

During the warranty period, the Responsible Party may monitor the project using nondestructive procedures. The Responsible Party shall not conduct any coring, milling or other destructive procedures without prior approval by the Engineer.

338-5.2 Category 1 Pavement: For purposes of this Specification, "Category 1 Pavement" is defined as mainline roadways, access roads and frontage roads with a

design speed 50 mph and greater; ~~approach transition and merge areas at toll booths;~~
~~ramps; acceleration and deceleration lanes (including tapers); and turn lanes.~~

Threshold values and associated remedial work for Category 1 Value
Added Asphalt Pavement are specified in Table 338 1.

TABLE 338-1 Category 1 Condition Survey Pavements			
Type of Distress	Type of Survey	Threshold Values for Each LOT (0.1 Mile) per Lane.	Remedial Work
Rutting ⁽¹⁾	Any Survey	Depth $\leq$ 0.25 inch	None required
		Depth $>$ 0.25 inch	Remove and replace the distressed LOT(s) to the full depth of all layers, and to the full lane width ⁽²⁾
Ride ⁽³⁾	Any Survey	RN $<$ 3.70 3.70 3.5	Remove and replace the friction course for the full length and the full lane width of the distressed LOT(s)
Settlement/Depression ^(3A)	Any Survey	Depth $\geq$ 1/2 inch	<i>Propose the method of correction to the Engineer for approval prior to beginning remedial work</i>
Cracking ⁽⁴⁾	Any Survey	Cumulative length of cracking $>$ 30 feet for Cracks $>$ 1/8 inch	Remove and replace the distressed LOT(s) to the full depth of all layers, and to the full lane width ⁽⁵⁾
Raveling and/or Delamination affecting the Friction Course ⁽⁶⁾	Any Survey	Individual length $\geq$ 10 feet.	Remove and replace the distressed area(s) to the full distressed depth and the full lane width, for the full distressed length plus 50' on each end
		Individual length $<$ 10 feet.	Patch the distressed area(s) to the full distressed depth and to a minimum surface area of 150% of each distressed area, subject to performance at final survey ⁽⁷⁾
Pot holes and Slippage Area(s) ⁽⁶⁾	Any Survey	Observation by Engineer	Remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area OR temporarily patch the distressed area(s) AND, prior to the final survey, remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area

TABLE 338-1 Category 1 Condition Survey Pavements			
Type of Distress	Type of Survey	Threshold Values for Each LOT (0.1 Mile) per Lane.	Remedial Work
Bleeding ⁽⁸⁾	Any Survey	Loss of surface texture due to excess asphalt, individual length ≥ 10 feet and ≥ 1 foot. in width.	Remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area
⁽¹⁾ Rutting: Rut depth to be determined by Laser Profiler in accordance with the Flexible Pavement Condition Survey Handbook. For any LOT that cannot be surveyed by Laser Profiler, rut depth to be determined manually in accordance with the Flexible Pavement Condition Survey Handbook, <i>with the exception that the number of readings per LOT will be one every 50 feet. For a partial LOT, a minimum of three measurements not exceeding 50 feet apart will be made. When the average of the measurements by manual straightedge exceeds a 0.30 inch threshold value, the remedial work is needed. (Minimum of three measurements), using a 0.30 inch threshold value.</i> ⁽²⁾ Remedial Work for Rutting: The Contractor may propose removal and replacement of less than the full depth of all layers by preparation and submittal of a signed and sealed engineering analysis report, demonstrating the actual extent of the distressed area(s). Remedial work must be performed in accordance with Table 338-1 unless the Engineer approves the proposal. ⁽³⁾ Ride: Ride Number (RN) to be established by Laser Profiler in accordance with FM 5-549. As a condition of project final acceptance in accordance with 5-11, correct all deficiencies in accordance with acceptance criteria for pavement smoothness in accordance with 330-12.6. ^(3a) Settlement/Depression: <i>Depth of the settlement/depression to be determined by a 6 foot manual straightedge.</i> ⁽⁴⁾ Cracking: Beginning and ending of 1/8 inch cracking will be determined as the average of three measurements taken at one foot intervals. The longitudinal construction joint at the lane line will not be considered as a crack. ⁽⁵⁾ Remedial Work for Cracking: The Contractor may propose removal and replacement of less than the full depth of all layers by preparation and submittal of a signed and sealed engineering analysis report, demonstrating the actual extent of the distressed area(s). Remedial work must be performed in accordance with Table 338-1 unless the Engineer approves the proposal. ⁽⁶⁾ Raveling, Delamination, Pot holes, Slippage: As defined and determined by the Engineer in accordance with the examples displayed at the following URL: www.dot.state.fl.us/specificationsoffice/pavement.htm ⁽⁷⁾ Patched Areas: At the time of final survey, patched areas must be performing to the satisfaction of the Engineer. If the Engineer determines patched areas are not performing satisfactorily, remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area. ⁽⁸⁾ Bleeding: Bleeding to be determined as defined and determined by the Engineer in accordance with the examples displayed at the following URL: www.dot.state.fl.us/specificationsoffice/pavement.htm			

338-5.3 Category 2 Pavement: For purposes of this Specification, "Category 2 Pavement" is defined as mainline roadways, access roads and frontage roads with a design speed less than 50 mph; *approach transition and merge areas at toll booths; ramps; acceleration and deceleration lanes (including tapers); and turn lanes*, parking areas; rest areas; weigh stations; and agricultural inspection stations.

Threshold values and associated remedial work for Category 2 Value Added Asphalt Pavement are specified in Table 338-2.

TABLE 338-2 Category 2 Condition Survey Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work

TABLE 338-2 Category 2 Condition Survey Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
Rutting	Automated Measurement	See Table 338-1	See Table 338-1
	Manual Measurement ⁽¹⁾	Depth > 0.4 inch	Remove and replace 1.5 inch the full lane width for the area plus 50 feet with rutting equal to or greater than 0.4 inch.
Cracking	Any Survey	Cumulative length of cracking > 300 feet for Cracks > 1/8 inch	See Table 338-1
Surface Deterioration ⁽²⁾	Any Survey	See Table 338-1	See Table 338-1
Settlement/Depression ⁽³⁾	Any Survey	Depth $\geq 1/2$ inch	<i>Propose the method of correction to the Engineer for approval prior to beginning remedial work</i>
⁽¹⁾ Rutting: Rut depth to be determined manually in accordance with the Flexible Pavement Condition Survey Handbook, with readings taken at 20 foot spacing over the distressed area. An area will be deficient when the average of three consecutive readings exceeds 0.4 inch. For any LOT that cannot be surveyed by the Laser Profiler, the rut depth will be determined manually in accordance with the Flexible Pavement Condition Survey Handbook, with the exception that the number of readings per LOT will be one every 20 feet. For partial LOT, minimum of three measurements not exceeding 20 feet apart will be checked. When the average of the measurements by manual straightedge exceeds 0.6 inch, the remedial work is needed. When any individual measurement exceeds 0.6 inch, the remedial work is needed. ⁽²⁾ Surface Deterioration: As used in Table 338-2, Surface Deterioration includes Raveling and/or Delamination affecting the Friction Course, Pot holes, Slippage Area(s), Segregated Area(s) and Bleeding; all as defined and footnoted in Table 338-1. ⁽³⁾ Settlement/Depression: Depth of the settlement/depression to be determined by a 6 foot manual straightedge.			

338-5.4 Category 3 Pavement: For purposes of this Specification, “Category 3 Pavement” is defined as median crossovers and shoulders.

Threshold values and associated remedial work for Category 3 Value Added Asphalt Pavement are specified in Table 338-3.

TABLE 338-3 Category 3 Condition Survey Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
Rutting	N/A	N/A	N/A

TABLE 338-3 Category 3 Condition Survey Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
Cracking	Any Survey	Cumulative length of cracking > 500 feet for Cracks > 1/8 inch	See Table 338-1
Surface Deterioration ⁽¹⁾	Any Survey	See Table 338-1	See Table 338-1
<i>Settlement/Depression⁽²⁾</i>	<i>Any Survey</i>	<i>Depth ≥ 1/2 inch</i>	<i>Propose the method of correction to the Engineer for approval prior to beginning remedial work</i>
⁽¹⁾ -Surface Deterioration: As used in Table 338-3, Surface Deterioration includes Raveling and/or Delamination affecting the Friction Course, Pot holes, Slippage Area(s), Segregated Area(s) and Bleeding; all as defined and footnoted in Table 338-1. ⁽²⁾ <i>Settlement/Depression: Depth of the settlement/depression to be determined by a 6 foot manual straightedge.</i>			

338-5.5 Remedial Work: During the warranty period, the Responsible Party will perform all necessary remedial work described within this Section at no cost to the Department. Should an impasse develop in any regard as to the need for remedial work or the extent required, the Statewide Disputes Review Board will render a final decision by majority vote.

Remedial work will not apply if any one of the following factors is found to be beyond the scope of the Contract:

- a. Determination that the pavement thickness design is deficient. The Department will make available a copy of the original pavement thickness design package and design traffic report to the Responsible Party upon request.
- b. Determination that the Accumulated ESALs (Number of 18 Kip Equivalent Single Axle Loads in the design lane) have increased by 25% or more over the Accumulated ESALs used by the Department for design purposes for the warranty period. In calculating ESALs, the Average Annual Daily Traffic (AADT) will be obtained from the Department's traffic count data and the T24 (Percent Heavy Trucks during a 24 hour period) will be obtained from the Department's traffic classification survey data.
- c. Determination that the deficiency was due to the failure of the existing underlying layers that were not part of the Contract work.
- d. Determination that the deficiency was the responsibility of a third party or its actions, unless the third party was performing work included in the Contract.

If a measured distress value indicates remedial action is required per Table 338-1, Table 338-2 and/or Table 338-3, the Responsible Party must begin remedial work within 45 calendar days of notification by the Department or a ruling of the Statewide Disputes Review Board. The Disputes Review Board will determine the allowable duration for the completion of the remedial work, but not to exceed 6 months.

~~However, after each survey, if the Department determines the extent and magnitude of pavement distresses in any areas will not affect the traffic safety, strength of pavement structure or highway aesthetics, the Engineer, at his sole option, may defer the remedial work associated with the pavement distresses.~~

In the event remedial action is necessary and forensic information is required to determine the source of the distress, the Department may core and/or trench the pavement. The Responsible Party will not be responsible for damages to the pavement as a result of any forensic activities conducted by the Department.

As applicable to distress criteria for rutting, ride and cracking for Category 1 and Category 2 pavements, when two LOTs requiring remedial action are not separated by three or more LOTs that otherwise require no remedial action, the remedial work shall be required for the total length of all such contiguous LOTs, including the intermediate LOTs otherwise requiring no remedial action.

Additionally, for Category 1 and Category 2 pavements, where the limits of remedial action are defined as 150% of the distressed area, and where such areas of remedial action required due to rutting, raveling, cracking, slippage or bleeding are not separated by 1,000 feet, the remedial work will be required for the entire area contiguous to the distressed areas, including intermediate areas otherwise requiring no remedial action.

The Responsible Party has the first option to perform all remedial work that is determined by the Department to be their responsibility. If, in the opinion of the Engineer, the problem poses an immediate danger to the traveling public and the Responsible Party cannot begin remedial work within 72 hours of written notification, the Engineer has the authority to have the remedial work performed by other forces. The Responsible Party is responsible for all incurred costs of the work performed by other forces should the problem (remedial work) be determined to be the responsibility of the Responsible Party. Remedial work performed by other forces does not alter any of the requirements, responsibilities or obligations of the Responsible Party.

The Responsible Party must complete all remedial work to the satisfaction of the Engineer. Any disputes regarding the adequacy of the remedial work will be resolved by the Statewide Disputes Review Board. Approval of remedial work does not relieve the Responsible Party from continuing responsibility under the provisions of this Specification.

Notify the Engineer in writing prior to beginning any remedial work. Meet the requirements of the Department's Standard Specifications for Road and Bridge Construction and implemented modifications thereto when performing any remedial work. Perform all signing and traffic control in accordance with the current edition of the Department's Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System. Provide Maintenance of Traffic during remedial work at no additional cost to the Department. Lane closure restrictions listed in the original Contract will apply to remedial work. Written request(s) to obtain permission for lane closure(s) for either forensic investigation or remedial work must be made to the Engineer 48 hours in advance of any lane closures. Do not perform any lane closures until written permission is given by the Engineer.

If remedial work necessitates a corrective action to overlying asphalt layers, pavement markings, signal loops, adjacent lane(s), roadway shoulders, or other

affected Contract work, perform these corrective actions using similar products at no additional cost to the Department.

338-6 Responsible Party's Failure to Perform.

Should the Responsible Party fail to timely submit any dispute to the Statewide Disputes Review Board, fail to satisfactorily perform any remedial work, or fail to compensate the Department for any remedial work performed by the Department and determined to be the Responsible Party's responsibility in accordance with this Specification, the Department will suspend, revoke or deny the Responsible Party's certificate of qualification under the terms of Section 337.16(d)(2), Florida Statutes, for a minimum of 6 months or until the remedial work has been satisfactorily performed (or full and complete payment for remedial work performed by others made to the Department), whichever is longer. Should the Responsible Party choose to challenge the Department's notification of intent for suspension, revocation or denial of qualification and the Department's action is upheld, the Responsible Party will have its qualification suspended for an additional minimum of 6 months.

The remedial work is not an obligation of the Contractor's bond required by Section 337.18, Florida Statutes.

**VALUE ADDED ASPHALT PAVEMENT
(REV 12-26-06)**

SECTION 338 (Pages 292 – 299) is deleted and the following substituted:

**SECTION 338
VALUE ADDED ASPHALT PAVEMENT**

338-1 Description.

Construct Value Added Asphalt Pavement consisting of Asphalt Concrete Structural Course and Asphalt Concrete Friction Course, subject to a three year warranty period.

For purposes of this Specification, Warranty” shall mean the Responsible Party, as designated herein, is responsible for performance of the Value Added Asphalt Pavement for a period of three years after final acceptance of the Contract in accordance with 5-11, including continued responsibility for performing all remedial work associated with pavement distresses exceeding threshold values determined in accordance with 338-5, and as to which notice was provided to the Responsible Party within the three-year warranty period.

The work specified in this Section will not be paid for directly, but will be considered as incidental to other asphalt pay items.

338-2 Materials and Construction Requirements.

Meet the requirements of the following:

Hot Bituminous Mixtures - Plant, Methods and Equipment	Section 320
Hot Bituminous Mixtures - General Construction Requirements	Section 330
Superpave Asphalt Concrete	Section 334
Asphalt Concrete Friction Courses	Section 337

338-3 Responsible Party.

Prior to any Value Added Asphalt Pavement being placed on the project, the Contractor shall designate a Responsible Party to accept responsibility for maintaining the Value Added Asphalt Pavement, when remedial work is required. When the scope of the asphalt work is only milling and resurfacing, and there is no construction of the embankment, subgrade or base below the pavement included in the Contract, the Responsible Party may be either the Contractor or the Department approved subcontractor performing the Value Added Asphalt Pavement work. When the construction of the embankment, subgrade or base below the pavement is included in the Contract, in addition to the construction of the Asphalt Concrete Structural Course and Asphalt Concrete Friction Course, the Contractor shall be considered as the Responsible Party.

When the Responsible Party is a subcontractor, the subcontractor must be pre-qualified with the Department in the category of asphalt, and such designation must be made to the Department by the Contractor. The proposed subcontractor must execute and

deliver to the Department a form, provided by the Department, prior to or concurrent with the Contractor's request to sublet any Value Added Asphalt Pavement work, stipulating that the subcontractor assumes all responsibility as the Responsible Party for the Value Added Asphalt Pavement within the three-year warranty period. Failure to timely designate the Responsible Party will result in the Contractor being the Responsible Party unless otherwise agreed to in writing by the Department.

Upon final acceptance of the Contract in accordance with 5-11, the Contractor's responsibility for maintenance of all the work or facilities within the project limits of the Contract will terminate in accordance with 5-11; with the sole exception that the obligations set forth in this Section for Value Added Asphalt Pavement will continue thereafter to be the responsibility of the Responsible Party as otherwise provided in this Section.

338-4 Statewide Disputes Review Board.

The Statewide Disputes Review Board in effect for this Contract will resolve any and all disputes that may arise involving administration and enforcement of this Specification. The Responsible Party and the Department acknowledge that use of the Statewide Disputes Review Board is required, and the determinations of the Statewide Disputes Review Board for disputes arising out of this Specification will be binding on both the Responsible Party and the Department, with no right of appeal by either party.

Meet the requirements of 8-3.

338-5 Pavement Evaluation and Remedial Work.

338-5.1 General: The Department's Flexible Pavement Condition Survey Program, along with observations by the Engineer, will be used as the basis for determining the extent and the magnitude of the pavement distresses occurring on the project. The Department will continuously monitor the pavement and may require remedial action at any time. For evaluation purposes, the project will be subdivided into LOTs of 0.1 mile per lane. When the segment is less than 0.1 mile, the segment will be called a partial LOT. The Department may conduct a Pavement Condition Survey of the value added pavement following the final acceptance of the project, and at intermediate times throughout the warranty period. The final survey, if determined by the Engineer to be necessary, will be conducted no later than 45 calendar days before the end of warranty period. The Department will be responsible for all costs associated with the surveys.

The Responsible Party will be advised if/when the Department believes remedial action is required.

If the survey findings, intermediate or final, are to be disputed by the Responsible Party, written notification must be provided to the Engineer within 30 calendar days of the date of receipt of the survey.

During the warranty period, the Responsible Party may monitor the project using nondestructive procedures. The Responsible Party shall not conduct any coring, milling or other destructive procedures without prior approval by the Engineer.

338-5.2 Category 1 Pavement: For purposes of this Specification, "Category 1 Pavement" is defined as mainline roadways, access roads and frontage roads with a design speed 50 mph and greater.

Threshold values and associated remedial work for Category 1 Value Added Asphalt Pavement are specified in Table 338 1.

TABLE 338-1 Category 1 Pavements			
Type of Distress	Type of Survey	Threshold Values for Each LOT (0.1 Mile) per Lane.	Remedial Work
Rutting ⁽¹⁾	Any Survey	Depth $\leq$ 0.25 inch	None required
		Depth $>$ 0.25 inch	Remove and replace the distressed LOT(s) to the full depth of all layers, and to the full lane width ⁽²⁾
Ride ⁽³⁾	Any Survey	RN $<$ 3.5	Remove and replace the friction course for the full length and the full lane width of the distressed LOT(s)
Settlement/Depression ^(3A)	Any Survey	Depth $\geq$ 1/2 inch	Propose the method of correction to the Engineer for approval prior to beginning remedial work
Cracking ⁽⁴⁾	Any Survey	Cumulative length of cracking $>$ 30 feet for Cracks $>$ 1/8 inch	Remove and replace the distressed LOT(s) to the full depth of all layers, and to the full lane width ⁽⁵⁾
Raveling and/or Delamination affecting the Friction Course ⁽⁶⁾	Any Survey	Individual length $\geq$ 10 feet.	Remove and replace the distressed area(s) to the full distressed depth and the full lane width, for the full distressed length plus 50' on each end
		Individual length $<$ 10 feet.	Patch the distressed area(s) to the full distressed depth and to a minimum surface area of 150% of each distressed area, subject to performance at final survey ⁽⁷⁾
Pot holes and Slippage Area(s) ⁽⁶⁾	Any Survey	Observation by Engineer	Remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area OR temporarily patch the distressed area(s) AND, prior to the final survey, remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area

TABLE 338-1 Category 1 Pavements			
Type of Distress	Type of Survey	Threshold Values for Each LOT (0.1 Mile) per Lane.	Remedial Work
Bleeding ⁽⁸⁾	Any Survey	Loss of surface texture due to excess asphalt, individual length ≥ 10 feet and ≥ 1 foot. in width.	Remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area
⁽¹⁾ Rutting: Rut depth to be determined by Laser Profiler in accordance with the Flexible Pavement Condition Survey Handbook. For any LOT that cannot be surveyed by Laser Profiler, rut depth to be determined manually in accordance with the Flexible Pavement Condition Survey Handbook, with the exception that the number of readings per LOT will be one every 50 feet. For a partial LOT, a minimum of three measurements not exceeding 50 feet apart will be made. When the average of the measurements by manual straightedge exceeds a 0.30 inch threshold value, the remedial work is needed. ⁽²⁾ Remedial Work for Rutting: The Contractor may propose removal and replacement of less than the full depth of all layers by preparation and submittal of a signed and sealed engineering analysis report, demonstrating the actual extent of the distressed area(s). Remedial work must be performed in accordance with Table 338-1 unless the Engineer approves the proposal. ⁽³⁾ Ride: Ride Number (RN) to be established by Laser Profiler in accordance with FM 5-549. As a condition of project final acceptance in accordance with 5-11, correct all deficiencies in accordance with acceptance criteria for pavement smoothness in accordance with 330-12.6. ^(3a) Settlement/Depression: Depth of the settlement/depression to be determined by a 6 foot manual straightedge. ⁽⁴⁾ Cracking: Beginning and ending of 1/8 inch cracking will be determined as the average of three measurements taken at one foot intervals. The longitudinal construction joint at the lane line will not be considered as a crack. ⁽⁵⁾ Remedial Work for Cracking: The Contractor may propose removal and replacement of less than the full depth of all layers by preparation and submittal of a signed and sealed engineering analysis report, demonstrating the actual extent of the distressed area(s). Remedial work must be performed in accordance with Table 338-1 unless the Engineer approves the proposal. ⁽⁶⁾ Raveling, Delamination, Pot holes, Slippage: As defined and determined by the Engineer in accordance with the examples displayed at the following URL: www.dot.state.fl.us/specificationsoffice/pavement.htm ⁽⁷⁾ Patched Areas: At the time of final survey, patched areas must be performing to the satisfaction of the Engineer. If the Engineer determines patched areas are not performing satisfactorily, remove and replace the distressed area(s) to the full distressed depth, and to a minimum surface area of 150% of each distressed area. ⁽⁸⁾ Bleeding: Bleeding to be determined as defined and determined by the Engineer in accordance with the examples displayed at the following URL: www.dot.state.fl.us/specificationsoffice/pavement.htm			

338-5.3 Category 2 Pavement: For purposes of this Specification, "Category 2 Pavement" is defined as mainline roadways, access roads and frontage roads with a design speed less than 50 mph; approach transition and merge areas at toll booths; ramps; acceleration and deceleration lanes (including tapers); and turn lanes, parking areas; rest areas; weigh stations; and agricultural inspection stations.

Threshold values and associated remedial work for Category 2 Value Added Asphalt Pavement are specified in Table 338-2.

TABLE 338-2 Category 2 Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
Rutting	Automated Measurement	See Table 338-1	See Table 338-1

TABLE 338-2 Category 2 Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
	Manual Measurement ⁽¹⁾	Depth > 0.4 inch	Remove and replace 1.5 inch the full lane width for the area plus 50 feet with rutting equal to or greater than 0.4 inch.
Cracking	Any Survey	Cumulative length of cracking > 300 feet for Cracks > 1/8 inch	See Table 338-1
Surface Deterioration ⁽²⁾	Any Survey	See Table 338-1	See Table 338-1
Settlement/Depression ⁽³⁾	Any Survey	Depth $\geq$ 1/2 inch	Propose the method of correction to the Engineer for approval prior to beginning remedial work
⁽¹⁾ Rutting: Rut depth to be determined manually in accordance with the Flexible Pavement Condition Survey Handbook. For any LOT that cannot be surveyed by the Laser Profiler, the rut depth will be determined manually in accordance with the Flexible Pavement Condition Survey Handbook, with the exception that the number of readings per LOT will be one every 20 feet. For partial LOT, minimum of three measurements not exceeding 20 feet apart will be checked. When the average of the measurements by manual straightedge exceeds 0.6 inch, the remedial work is needed. When any individual measurement exceeds 0.6 inch, the remedial work is needed. ⁽²⁾ Surface Deterioration: As used in Table 338-2, Surface Deterioration includes Raveling and/or Delamination affecting the Friction Course, Pot holes, Slippage Area(s), Segregated Area(s) and Bleeding; all as defined and footnoted in Table 338-1. ⁽³⁾ Settlement/Depression: Depth of the settlement/depression to be determined by a 6 foot manual straightedge.			

338-5.4 Category 3 Pavement: For purposes of this Specification, “Category 3 Pavement” is defined as median crossovers and shoulders.

Threshold values and associated remedial work for Category 3 Value Added Asphalt Pavement are specified in Table 338-3.

TABLE 338-3 Category 3 Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
Rutting	N/A	N/A	N/A
Cracking	Any Survey	Cumulative length of cracking > 500 feet for Cracks > 1/8 inch	See Table 338-1
Surface Deterioration ⁽¹⁾	Any Survey	See Table 338-1	See Table 338-1

TABLE 338-3 Category 3 Pavements			
Type of Distress	Type of Survey	Threshold Values	Remedial Work
Settlement/Depression ⁽²⁾	Any Survey	Depth $\geq$ 1/2 inch	Propose the method of correction to the Engineer for approval prior to beginning remedial work
⁽³⁾ Surface Deterioration: As used in Table 338-3, Surface Deterioration includes Raveling and/or Delamination affecting the Friction Course, Pot holes, Slippage Area(s), Segregated Area(s) and Bleeding; all as defined and footnoted in Table 338-1. ⁽⁴⁾ Settlement/Depression: Depth of the settlement/depression to be determined by a 6 foot manual straightedge.			

338-5.5 Remedial Work: During the warranty period, the Responsible Party will perform all necessary remedial work described within this Section at no cost to the Department. Should an impasse develop in any regard as to the need for remedial work or the extent required, the Statewide Disputes Review Board will render a final decision by majority vote.

Remedial work will not apply if any one of the following factors is found to be beyond the scope of the Contract:

- a. Determination that the pavement thickness design is deficient. The Department will make available a copy of the original pavement thickness design package and design traffic report to the Responsible Party upon request.
- b. Determination that the Accumulated ESALs (Number of 18 Kip Equivalent Single Axle Loads in the design lane) have increased by 25% or more over the Accumulated ESALs used by the Department for design purposes for the warranty period. In calculating ESALs, the Average Annual Daily Traffic (AADT) will be obtained from the Department's traffic count data and the T24 (Percent Heavy Trucks during a 24 hour period) will be obtained from the Department's traffic classification survey data.
- c. Determination that the deficiency was due to the failure of the existing underlying layers that were not part of the Contract work.
- d. Determination that the deficiency was the responsibility of a third party or its actions, unless the third party was performing work included in the Contract.

If a measured distress value indicates remedial action is required per Table 338-1, Table 338-2 and/or Table 338-3, the Responsible Party must begin remedial work within 45 calendar days of notification by the Department or a ruling of the Statewide Disputes Review Board. The Disputes Review Board will determine the allowable duration for the completion of the remedial work, but not to exceed 6 months.

In the event remedial action is necessary and forensic information is required to determine the source of the distress, the Department may core and/or trench the pavement. The Responsible Party will not be responsible for damages to the pavement as a result of any forensic activities conducted by the Department.

As applicable to distress criteria for rutting, ride and cracking for Category 1 and Category 2 pavements, when two LOTs requiring remedial action are not separated by three or more LOTs that otherwise require no remedial action, the remedial

work shall be required for the total length of all such contiguous LOTs, including the intermediate LOTs otherwise requiring no remedial action.

Additionally, for Category 1 and Category 2 pavements, where the limits of remedial action are defined as 150% of the distressed area, and where such areas of remedial action required due to rutting, raveling, cracking, slippage or bleeding are not separated by 1,000 feet, the remedial work will be required for the entire area contiguous to the distressed areas, including intermediate areas otherwise requiring no remedial action.

The Responsible Party has the first option to perform all remedial work that is determined by the Department to be their responsibility. If, in the opinion of the Engineer, the problem poses an immediate danger to the traveling public and the Responsible Party cannot begin remedial work within 72 hours of written notification, the Engineer has the authority to have the remedial work performed by other forces. The Responsible Party is responsible for all incurred costs of the work performed by other forces should the problem (remedial work) be determined to be the responsibility of the Responsible Party. Remedial work performed by other forces does not alter any of the requirements, responsibilities or obligations of the Responsible Party.

The Responsible Party must complete all remedial work to the satisfaction of the Engineer. Any disputes regarding the adequacy of the remedial work will be resolved by the Statewide Disputes Review Board. Approval of remedial work does not relieve the Responsible Party from continuing responsibility under the provisions of this Specification.

Notify the Engineer in writing prior to beginning any remedial work. Meet the requirements of the Department's Standard Specifications for Road and Bridge Construction and implemented modifications thereto when performing any remedial work. Perform all signing and traffic control in accordance with the current edition of the Department's Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System. Provide Maintenance of Traffic during remedial work at no additional cost to the Department. Lane closure restrictions listed in the original Contract will apply to remedial work. Written request(s) to obtain permission for lane closure(s) for either forensic investigation or remedial work must be made to the Engineer 48 hours in advance of any lane closures. Do not perform any lane closures until written permission is given by the Engineer.

If remedial work necessitates a corrective action to overlying asphalt layers, pavement markings, signal loops, adjacent lane(s), roadway shoulders, or other affected Contract work, perform these corrective actions using similar products at no additional cost to the Department.

338-6 Responsible Party's Failure to Perform.

Should the Responsible Party fail to timely submit any dispute to the Statewide Disputes Review Board, fail to satisfactorily perform any remedial work, or fail to compensate the Department for any remedial work performed by the Department and determined to be the Responsible Party's responsibility in accordance with this Specification, the Department will suspend, revoke or deny the Responsible Party's certificate of qualification under the terms of Section 337.16(d)(2), Florida Statutes, for a minimum of 6 months or until the remedial work has been satisfactorily performed (or full and complete payment for remedial work performed by others made to the

Department), whichever is longer. Should the Responsible Party choose to challenge the Department's notification of intent for suspension, revocation or denial of qualification and the Department's action is upheld, the Responsible Party will have its qualification suspended for an additional minimum of 6 months.

The remedial work is not an obligation of the Contractor's bond required by Section 337.18, Florida Statutes.