CIRCULAR LETTER

SECTION: **407.04 BITUMINOUS MIXING PLANT**
NUMBER: **407.04-01**
SUBJECT: **HOT MIX ASPHALT PLANT INSPECTOR CHECKLIST**
DATE: **October 2, 2015**

See Form 407.04 to obtain the checklist for Asphalt Plant Inspectors is to be completed at the beginning of each project and periodically reviewed during the project to ensure compliance.

TDOT Hot Mix Asphalt Plant Checklist

Contract No.:_____ Project No.:_____

County: _____Producer & Location:_____

Plant Make and Type:_____

Are adequate stockpile areas provided? Are they separated with Bins, Stalls, Partitions or Walkways? (407.04)	
Are bituminous storage tanks adequately equipped to heat and circulate during operating period?	
Are there suitable sampling outlets for AC and Anti-strip?	
Are there separate feeders for each size of aggregate?	
Is there a thermometer or other temperature recording instrument at the discharge end of the dryer?	
Is there an approved anti-stripping additive in-line blending equipment installed on the plant?	
Is there a flow-meter and can the flow meter be calibrated?	
Is there a Pyrometer for recording temperature and temperature regulating apparatus for control of aggregate temperature?	
Is there a safe platform provided for access to top of truck beds for inspection and sampling of the hot mix?	
Is there safe access to storage tanks, control Platforms and Mixer Platforms?	
What date were platform scales checked for accuracy?	
Are weight limits posted or on file in the control room?	
What date were aggregate scales checked for accuracy?	
What date were AC scales checked for accuracy?	
Is all Test Equipment properly tagged by TDOT Regional Materials within a 2 year period?	
Is the Producer maintaining a log of his interim equipment calibrations, correlations, and/or repair work?	
Is the process control plan posted or filed at the lab?	
Are Control Charts posted and kept current?	
Has a Certified Weigher Review been performed?	

Are Acceptance Tests being performed independently of the QA/QC tests?	
Are samples being collected and performed on a random basis?	
Are samples for Acceptance Tests being split for further testing at the Regional Materials Lab?	
Are contingency and referee samples being obtained?	
Do the Stockpiled Aggregates match the Gradations on the JMF (within tolerances)?	
Is this plant producing mix consistently within tolerances for gradation, AC percentage and Temperature?	

Additional Remarks:

Inspector Signature:_____

Inspector's Title:_____

Date of Inspection:_____

Xc: Regional Materials
District Supervisor

CIRCULAR LETTER

SECTION: **407.09 WEATHER LIMITATIONS**
NUMBER: **407.09-01**
SUBJECT: **PROCEDURE FOR "PAVING AND COMPACTION PLAN FOR COLD WEATHER ASPHALT PAVING"**
DATE: **JANUARY 15, 2013**

TDOT Supplemental Specification 407.09 allows the contractor to request approval for a variance from specified temperature and seasonal limitations to pave at lower temperatures when there is a benefit to the public. The request shall be in writing, be submitted at least one week prior to the anticipated need, and must include a "Paving and Compaction Plan for Cold Weather Asphalt Paving" in accordance with the attached procedure.

January 10, 2013

Tennessee Department of Transportation

Procedure for "Paving and Compaction Plan for Cold Weather Asphalt Paving"

Purpose- The purpose of this document is to establish the TDOT requirements for a "Paving and Compaction Plan for Cold Weather" as specified in **subsection 407.09** of the TDOT Standard Specifications.

Background- TDOT supplemental specification 407.09 allows paving below the specified surface and air temperatures if the Contractor submits a "Paving and Compaction Plan for Cold Weather" when there is a benefit to the public. The temperature limitations are:

TEMPERATURE LIMITATIONS

Compacted Thickness	Minimum Air or Surface Temperature	
	Unmodified mixes (PG 64, PG 67)	Modified mixes (PG 70, 76, 82)
1.5 in. (40 mm) or less	45° F (7° C)	55° F (13° C)
> 1.5 in. (40 mm) to < 3.0 in. (75 mm)	40° F (5° C)	50° F (10° C)
≥ 3.0 in. (75mm)	35° F (2° C)	45° F (7° C)

Requirements- As noted in **subsection 407.09**, Cold Weather Paving Plans shall identify what practices and precautions the contractor intends to utilize to assure all mixtures meet standard specifications. Plans shall include/address all of the following:

- Mix type(s)
- Tonnage intended to be placed
- Compaction cooling curves estimating the time available for compaction (TAC). *PaveCool* software is available for such calculations at:
  http://www.dot.state.mn.us/app/pavecool/

  (NOTE- When estimating the TAC for PG 70-22 or PG 76-22 or PG 82-22 you must adjust the default values (Options→User Defined→Stop rolling

temperature) for Stop temperature to 200°F for PG 70, to 215°F for PG 76 and 240°F for PG 82 for a more accurate TAC)

- Intended production rates
- Anticipated haul times
- Anticipated paver speed
- Estimated roller speed
- Estimated air temperature
- Estimated surface temperature
- Estimated wind speed
- Production temperature range

Additionally, plans shall include some or all of the following measures to ensure mixtures being placed meet standard specifications:

- Insulated truck beds
- Additional rollers
- Automated measurement of existing surface temperature
- Automated measurement of mix temperature immediately behind screed
- Automated temperature measurement on rollers
- Surface heaters
- Compaction aids or warm mix asphalt additives (must be listed on TDOT Qualified Products List for WMA)
- Additional third-party testing documenting all mixtures placed meet density requirements.
- Reduced production and paving rates

The Contractor's request shall be approved by the TDOT Regional Director. If approved, all other Departmental specifications for testing requirements, payment, and deduction except for limitations listed in subsection 407.09 shall still apply.

COLD WEATHER PAVING AND COMPACTION PLAN

Date:	
Contract ID:	
Proposed Construction Date(s):	
Estimated Air Temp:	°F
Estimated Surface Temp:	°F
Estimated Wind Speed:	mph
Mix Type(s):	
AC Grade(s):	
Lift Thickness(es):	in
Minimum Production Temperature:	°F
Maximum Production Temperature:	°F
Warm Mix Asphalt?	Yes / No
Maximum Paver Speed:	ft/sec
Maximum production rate:	tph

ADDITIONAL COLD WEATHER TACTICS

Tactic	Yes/No?	Comments
Insulated truck beds		
Additional rollers		
Automated measurement of existing surface temperature		
Automated measurement of mix temperature immediately behind screed		
Automated temperature measurement on rollers		

Surface heaters		
Compaction aids or warm mix asphalt		
Additional third-party testing documenting all mixtures placed meet density requirements		
Reduced production and paving rates		

CIRCULAR LETTER

SECTION: **407.14 SPREADING AND FINISHING**
NUMBER: **407.14-01**
SUBJECT: **HOT MIX ASPHALT ROADWAY INSPECTOR CHECKLIST**
DATE: **~~NOVEMBER 1, 2006~~ ~~DECEMBER 7, 2015~~FEBRUARY 16, 2016**

The attached checklist shall be completed during the start of paving for each project and rechecked as needed as the project progresses. The checklist shall be completed during the test strip construction while verifying mixture properties by the Project Supervisor, or their designated representative.

If the contractor does not comply with the specifications, as outlined in the checklist, then paving shall be stopped and not allowed to proceed until in compliance.

When paving at nighttime, the contractor shall not be allowed to begin paving unless the lighting is in accordance with the approved lighting plan.

Asphalt Laydown Checklist

Date: Contract No.:

Project Number: County:

Prime Contractor: Paving Contractor:

Inspection made by:

Project Description:

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The inspection checklist shall be completed by the Project Supervisor, or their designated representative, during the test strip construction.

Asphalt Laydown			
~~**Lighting (Section 712.02)**~~ **Temp Traffic Control (Sect 712)**	**YES**	**NO**	**COMMENTS**
If applicable, has a Lighting plan been submitted and approved?			
Is lighting on all paving equipment (Paver, Transfer Device, Rollers, trail vehicle) per the approved plan and in compliance with Section 712.04 and table 712.04-1?			
Is the lighting adequate?			
Are workers and other personnel wearing personal protective equipment?			
Does the Contractor's traffic control comply with Section 712 of the Standard Specifications and applicable Plan Notes?			
Milling/Cold Planing (Sect. 415)	**YES**	**NO**	**COMMENTS**
What is the width of the milling machine(s)?			
Do the Plan Notes require a fine tooth milling machine?			
Are the milling teeth in good condition and all in place? Fine Teeth Spacing ≤ ½", Max Tooth Spacing = 5/8"			Teeth spacing =
Is the milled surface free of scabbing, scallops, gouges, ridges, etc…			

~~What is the forward speed (ft./min.)~~Is the Contractor maintaining the maximum forward speed of 60 ft/min for ½”-5/8” teeth spacing or 80 ft/min for teeth spacing of less than ½”?			Speed=
Is the proper depth and cross-slope being obtained by milling? Is the contractor utilizing automatic slope & Grade Controls?			
Tack Coat (Sect. 403)	**YES**	**NO**	**COMMENTS**
Has the distributor been approved for use?			
What is the date of the most recent calibration?			
Are the proper nozzle sizes being used?			
Are the nozzles set at 30° from the spray bar?			
Are the nozzles clean and unclogged?			
Is the bar height sufficient to allow at least a double lap spray?			
Is the distributor equipped with a tank stick?			
Is the volume measuring meter of the tank accurate as compared with the stick reading?			
Has the tack coat test strip been completed and is it acceptable? What is the application rate to obtain ~~the proper residual rate?~~uniform full coverage without ponding, pooling, or corn-rowing?			Application rate=
Has the existing surface been cleaned and all foreign materials been removed?			
Is the tack breaking properly (Brown to Black)?			
Is debris/milling fines building up on construction equipment/hauling truck tires after the tack application? If yes, the roadway must be cleaned in a more efficient manner.			
Are cores for tack coat bond being obtained? (SS407.15 and 403.05)			

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Material Transfer Device (MTD) ~~(SP407G)~~Section 407.06B	**YES**	**NO**	**COMMENTS**
Who is the manufacturer and what is the model of the equipment?			
Does the MTD have a minimum of 15 tons storage capacity and capable of remixing the material?			
Does the paver have a surge hopper with a minimum of 15 tons storage capacity and sloping sides?			
Rollers (407.07)	**YES**	**NO**	**COMMENTS**
Are three rollers of the required size being used as required in Section 407.15? (except CS, OGFC, TL, and TLD mixes where two are required) ~~(407.15)?~~			
If the inside shoulder and inside traffic lane are being paved concurrently, is there a 4th roller (min. 4 ft wide) for the inside shoulder?			
Is a pneumatic roller (rubber tire) used for intermediate rolling? *If a latex or polymer additive is used a steel wheel roller may be used instead of a pneumatic roller for the intermediate roller provided the surface course meets density requirements.			
Are rollers equipped with a device for moisten and cleaning the wheels as required? (407.07)			
Is rolling being completed from the low side up?			
Is rolling being completed as identified in the test strip? Correct number of passes? Within the established temperature range?			Number of passes= Temperature range=
~~Are all spray nozzles working properly (no dry spots or asphalt being picked up on the wheels)?~~			
Is a release agent being used on the tires of the pneumatic roller? If yes, what type and is it approved?			
Paver (407.06)	**YES**	**NO**	**COMMENTS**
Is a minimum 40-foot ski or non			

Comment [T1]: Mentioned in tack coat

contact grade control system used for grade control? (407.14)			
Is a 12 foot straightedge and level on the paver?			
Is the mix maintained at half the auger height?			
Are auger extensions within 18 inches of the end plate?			
Is the paver screed heated? Is it in vibratory mode?			
Is the screed producing effectively a finished surface of required evenness and texture without tearing, shoving or gouging the mixture?			
Are temperature limitations being adhered to? Is there an approved "cold weather paving plan" if out of season?(407.09)			
Is the surface upon which the mix is to be placed free from excessive moisture?			
~~Does the mix have an even texture, free from segregation, tearing or shoving?~~			
Is the pavement and shoulder cross slope being checked. Are they correct (within 0.5% of the plans)?			
Are depth checks being made? Is the thickness correct?			
Are spread rate checks being computed at least twice daily?			
Delivery	**YES**	**NO**	**COMMENTS**
Are truck beds covered with tarps extending 6 inches over the sides and secured at 5-foot intervals? (407.05)			
Are truck beds tight, clean, and smooth, with a thin coat of approved release agent?			
Is the TDOT inspector accepting the weight tickets and signing them in accordance with Section 107? What is the mix type? What is the AC type?			Mix Type= Grade AC=
Are the allowable weights displayed? Tare weight? Allowable gross weight? Interstate? Non-interstate?			
Does each truck bed have a ~~¼"~~ 3/8"			

Comment [T2]: Duplicate from above. Omit.

hole for checking temperature?			
Is the TDOT inspector recording temperatures every 5th ~~3rd~~ load. (Sampling and Test Guide)			
Is the mix temperature in the paver hopper within the allowable specification limits? (407.11)			
Longitudinal Joint	**YES**	**NO**	**COMMENTS**
Is the joint area along the edge clean prior to placement of the adjacent mat? Tack coat applied?			
Is the material slightly high at the joint to allow for compaction (about 0.25" per 1" laid)?			
Is the longitudinal joint being overlapped 1 to 1.5 inches over the adjacent mat to create a tight joint?			
Is the luter casting mix across the mat?			
On a multiple course pavement, is the longitudinal joint offset by at least one foot of the preceding layer?			
For surface course, is the longitudinal joint at the lane edge~~/~~ or center ~~-~~line of roadway?			
Transverse Joint	**YES**	**NO**	**COMMENTS**
When tying into existing pavement is a full head of material maintained in front of the screed to the end?			
Is the contractor cutting back on previous runs to expose the full depth of the previous course to form transverse joints?			
Is the contractor utilizing nulling blocks for takeoff?			
Is the material slightly high at the joint to allow for compaction (about 0.25" per 1" laid)?			
When continuing paving, is the joint thoroughly cleaned and tack applied to ensure a good bond?			
Is the joint straightedged to ensure smoothness?			
Test Strip (407.15)	**YES**	**NO**	**COMMENTS**
Is the test strip a minimum of 400 SY			

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as required?			
Is the mix being compacted to achieve the required ~~maximum~~ density?			
~~Are cores taken where directed to calibrate the nuclear gauges?~~			
Do the average and individual ~~nuclear~~ densities meet minimum requirements for the ADT and type of mix (expressed in percent of maximum theoretical density)? What density is required?			Required density:
Have temperature ranges of each roller been established during development of the roller pattern?			

Comment [T3]: Duplicate below. Omit.

COMMENTS: