

2013 WINTER WORKSHOP LESSONS LEARNED

The Year in Review



LESSONS LEARNED

Remember This?



An irregular first pass will be impossible to match on the second pass to achieve the needed consistent overlap of 1 to 1 ½” of the paver screed.

LESSONS LEARNED

Remember This?

Longitudinal joints between lanes of hot-mix asphalt (HMA) pavements are commonly more susceptible to moisture damage and other failures.

Therefore it is necessary to evaluate current paving practices to minimize longitudinal joint failure.

LESSONS LEARNED

Remember This?



LESSONS LEARNED

I WAS WRONG

FEBRUARY 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14 Valentine's Day	15	16
17	18 Presidents' Day	19	20	21	22	23
24	25	26	27	28		

LESSONS LEARNED

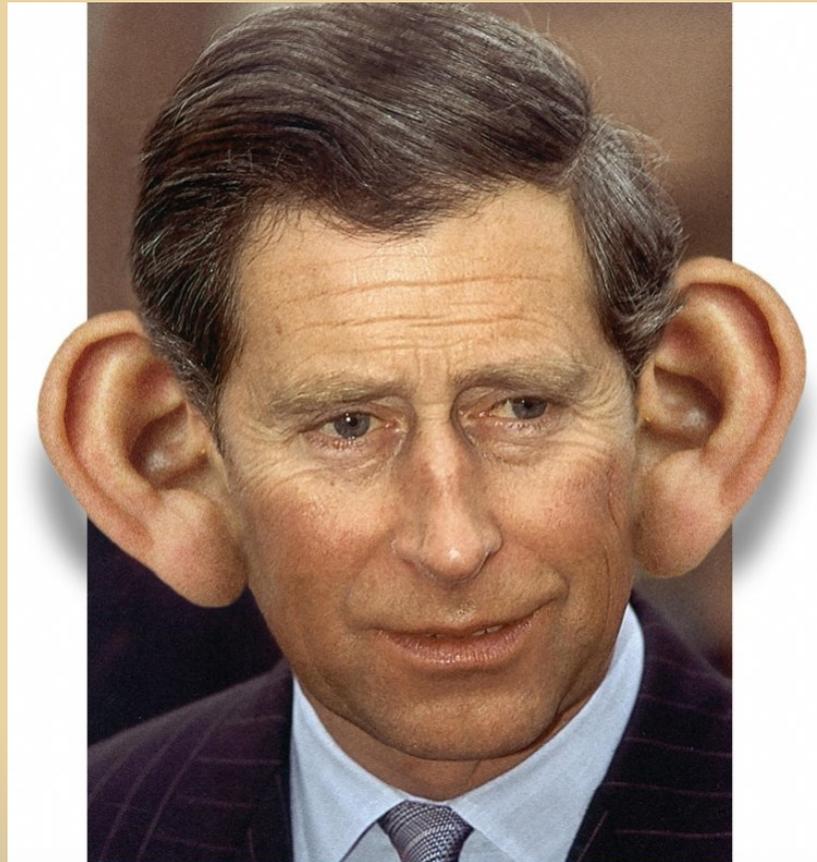
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LESSONS LEARNED

You had your listening ears on



LESSONS LEARNED

New Supplemental Specification

Subsection 401.08 Placing Bituminous Mixtures.

The Contractor is required to carefully plan the placement of the surface course to ensure that the joints in the surface course will correspond with the traffic lanes. Longitudinal joints must be parallel to the centerline. The Contractor must establish and follow reference lines or other approved markings to control the true alignment of the longitudinal joints.

LESSONS LEARNED

Proper Reference Layout



LESSONS LEARNED

Improper Reference Layout



LESSONS LEARNED

Improper Reference Layout



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LESSONS LEARNED

Seen During a SWIT Inspection



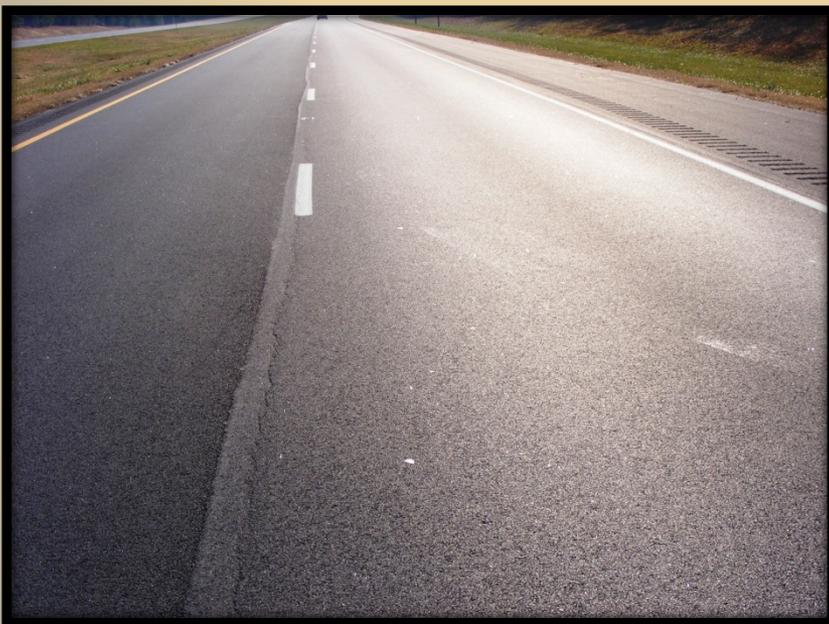
LESSONS LEARNED

Action Taken

The Administering Section required the Contractor to saw cut the edge of the pavement to a true line before placement of the adjacent mat.

LESSONS LEARNED

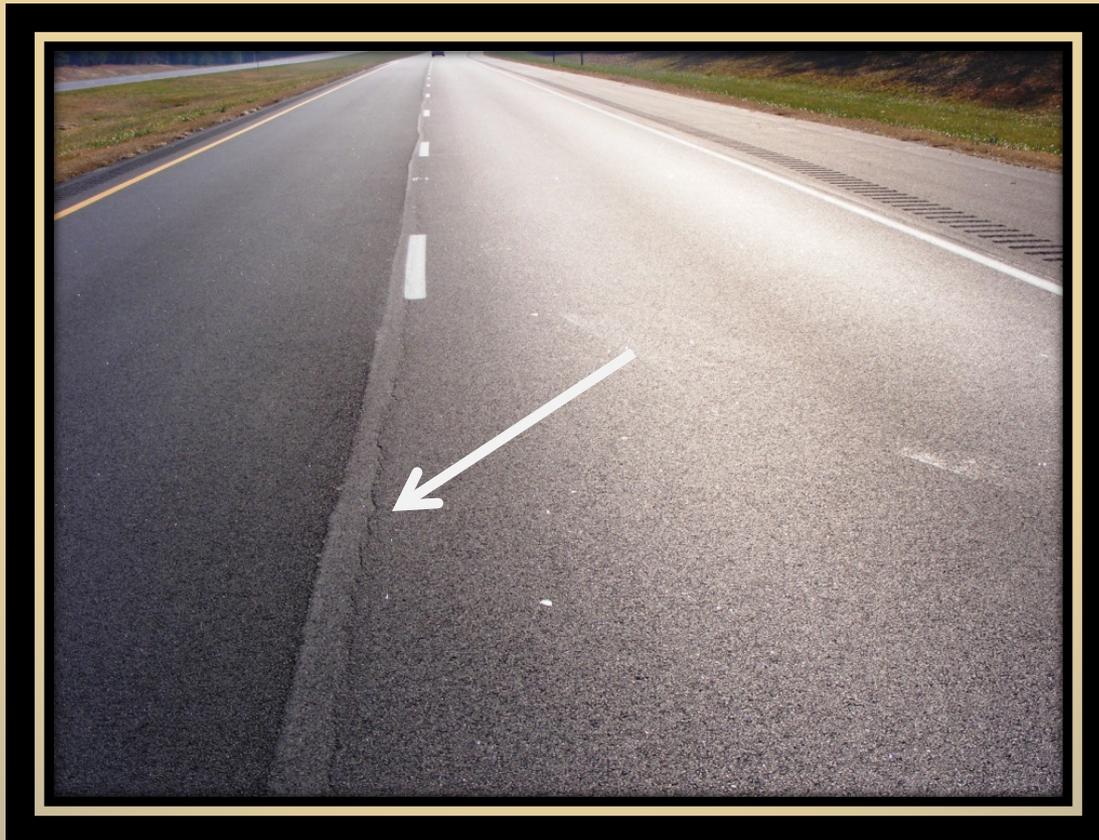
Finished Product @ the Final Inspection



LESSONS LEARNED

Did you notice the crack along the centerline?

Which lane was pulled first?



LESSONS LEARNED

Let's say it was
the right lane

Why would you think that?

LESSONS LEARNED

One reason is that the edge of the first pass is not confined and tends to move underneath the rollers especially when the bond to the underlying layer is less than desired. This movement can be minimized by proper **preparation, application of tack coat, and compaction methods.**

LESSONS LEARNED

Preparation of pavement surface



Broom or power vacuum surface.

Remove all loose material and dust from the surface that would prevent bonding between the tack and the existing pavement surface.

LESSONS LEARNED

Be Aware of Surrounding Conditions



that could adversely affect the tack coat before it gets paved.

LESSONS LEARNED

Good or Bad Tack **Application** Rate?

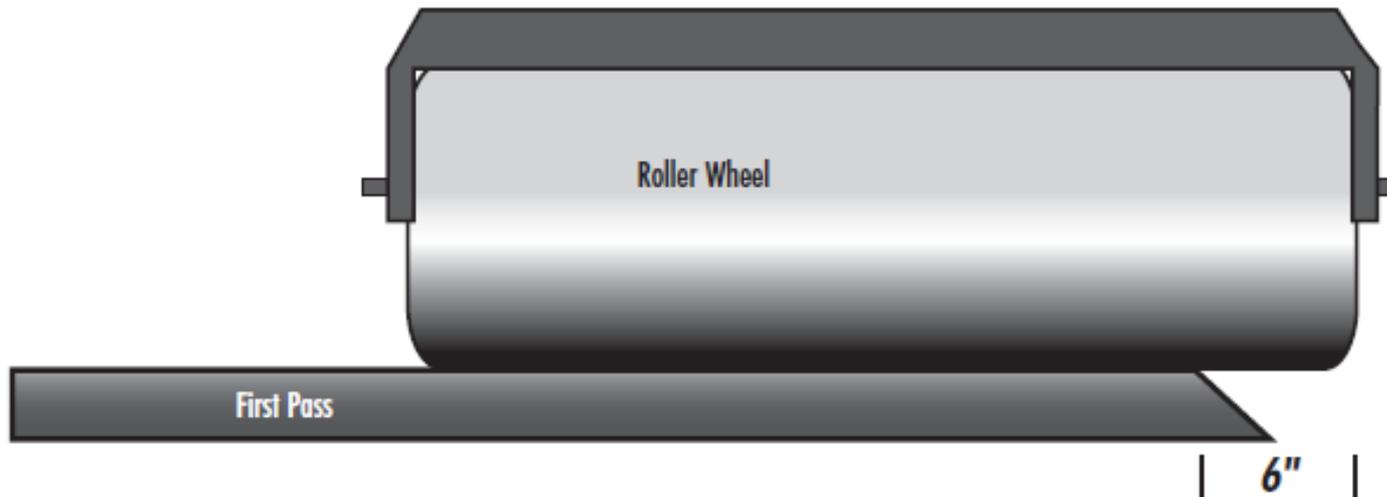


LESSONS LEARNED

Compaction Methods

This cracking can also be caused by compaction methods. Position the roller with the drums hanging in the air about six inches over the edge of the mat.

Compacting the First Pass

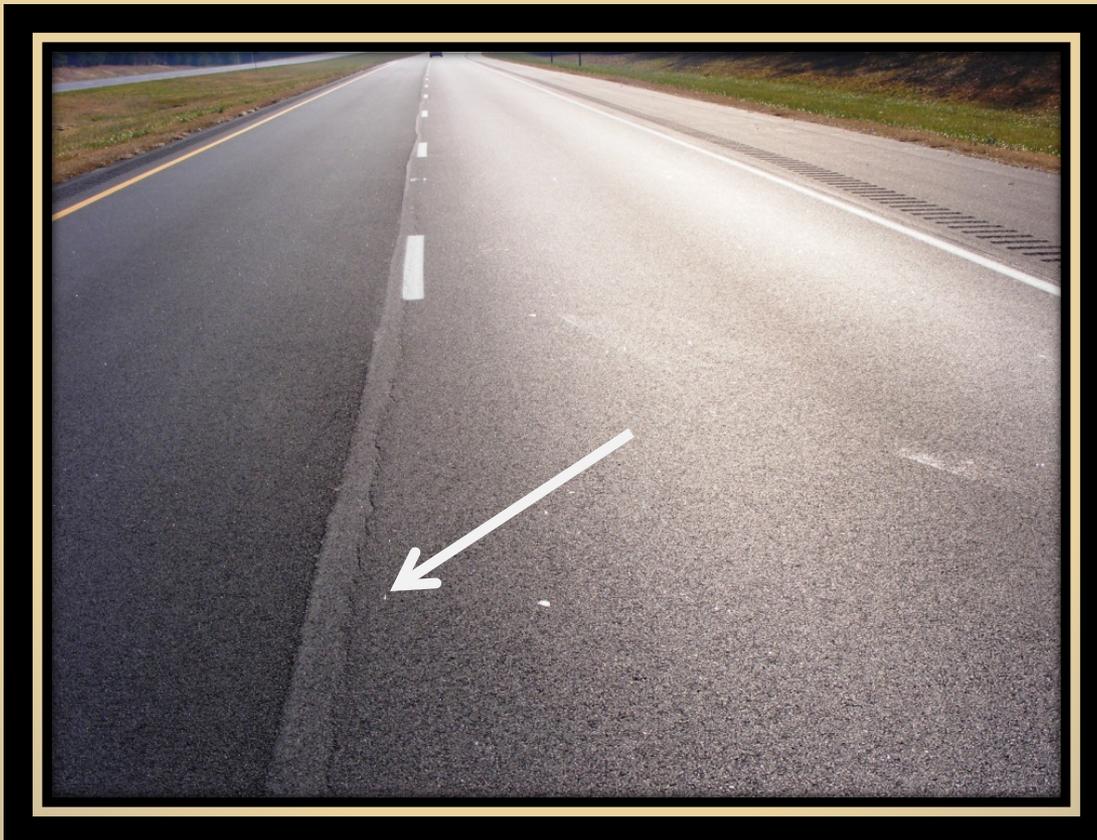


LESSONS LEARNED

What were we
talking about?

LESSONS LEARNED

Which lane was pulled first?



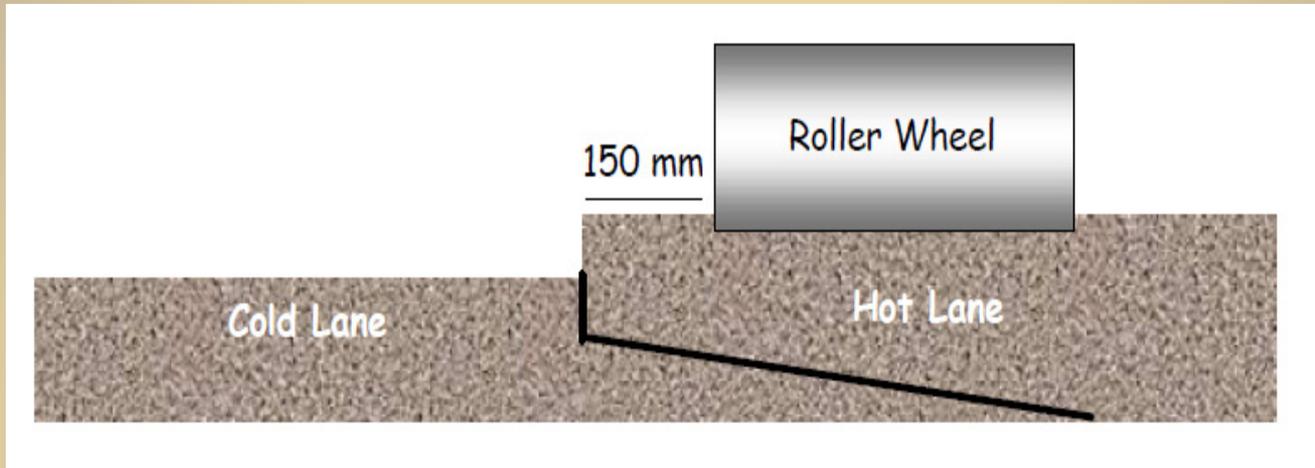
LESSONS LEARNED

It can also occur
on the hot lane.

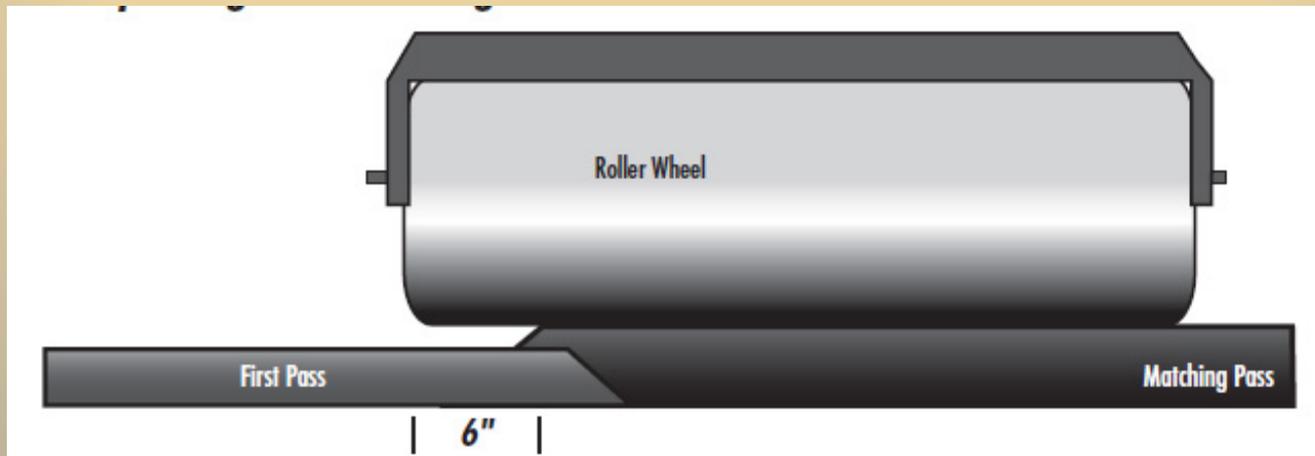
LESSONS LEARNED

One of many methods of compaction is to roll on the hot side about 6 inches away from the joint. With this method the roller can be operated in the vibratory mode. The next pass would roll down the 6-in. wide mound that is left between the surface that is rolled and the cold side. Care has to be taken with this process to ensure that when the 6-in. strip is rolled no cracks develop. If not done correctly there is a tendency to develop a crack on either side of the 6-in. strip.

LESSONS LEARNED

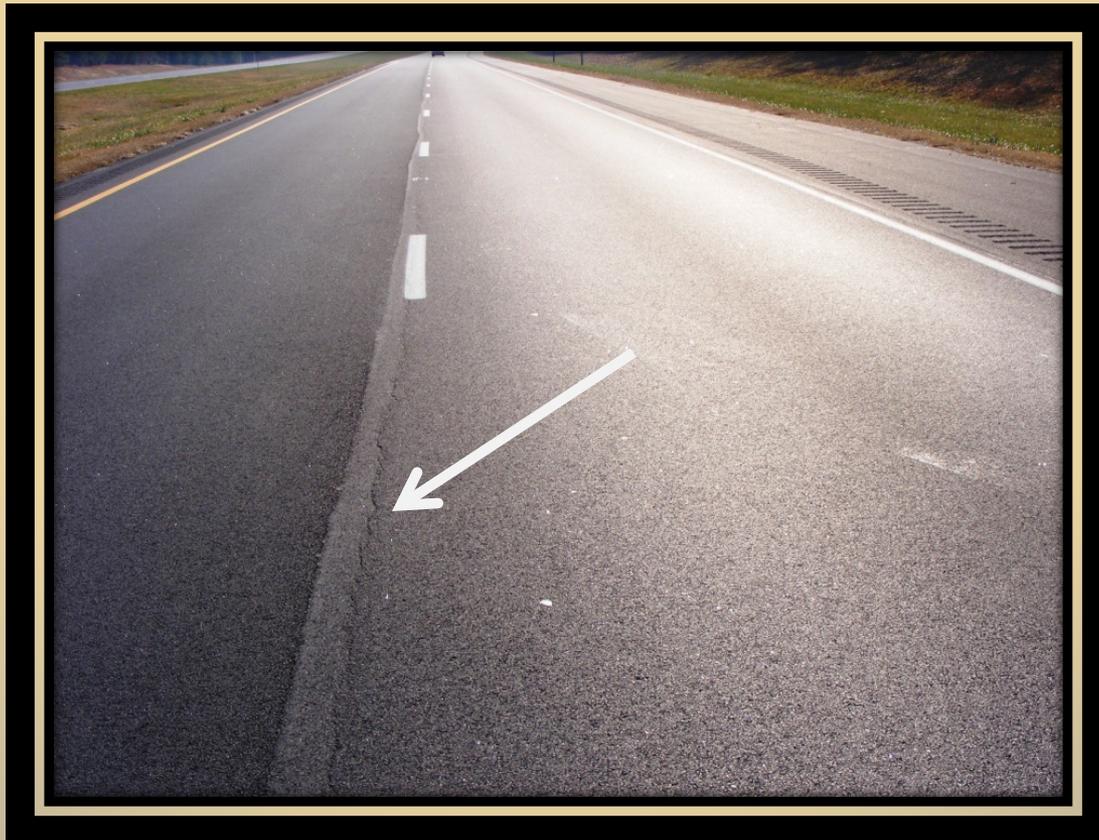


VS.



LESSONS LEARNED

So Which lane was pulled first?



LESSONS LEARNED

Responsibilities:

You need to document any and all potential causes of the observed cracking

LESSONS LEARNED

Responsibilities:

1. Be knowledgeable & vigilant of all aspects of the operations
2. Discuss observed problem(s) with the Contractor's agent
 - a. Document problem(s) observed
 - b. Document conversation(s) with Contractor's agent
 - c. Document if and what corrective actions were taken
3. Document location of problem
 - a. Stationing if possible or some sort of landmark(s)
 - b. First pass or second pass (right or left lane)
4. Document whether problem was resolved
5. Contact Supervisor or M&R if necessary

LESSONS LEARNED

Safety Edges

LESSONS LEARNED

Why a Safety Edge?

In Delaware, road departure crashes accounted for about 47% of all fatal crashes from 2007 through 2009.

A Safety Edge provides an easily traversable transition for an errant vehicle to reenter the roadway from the unpaved shoulder/edge of road.

LESSONS LEARNED

Safety Edges

**Delaware Department of Transportation
Division of Transportation Solutions
Design Guidance Memorandum**

Memorandum Number 1-25 Revised

LESSONS LEARNED

Title: **Safety Edge**

Effective date: **January 24, 2011**

It can be reviewed at the following site:

http://deldot.gov/information/pubs_forms/manuals/dgm/pdf/1-25_safety_edge_revised.pdf

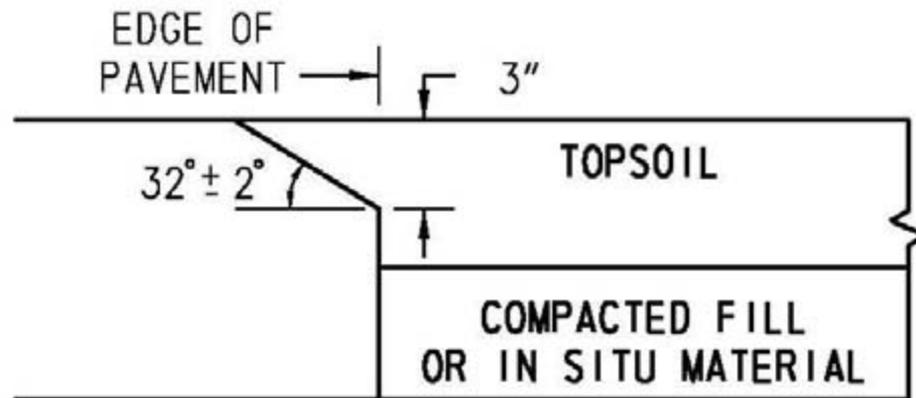
LESSONS LEARNED

Safety Edge

The Divisions of Maintenance and Operations and Planning will also ensure that the Safety Edge is incorporated when paving work is authorized on a state maintained roadway.

LESSONS LEARNED

Safety Edge

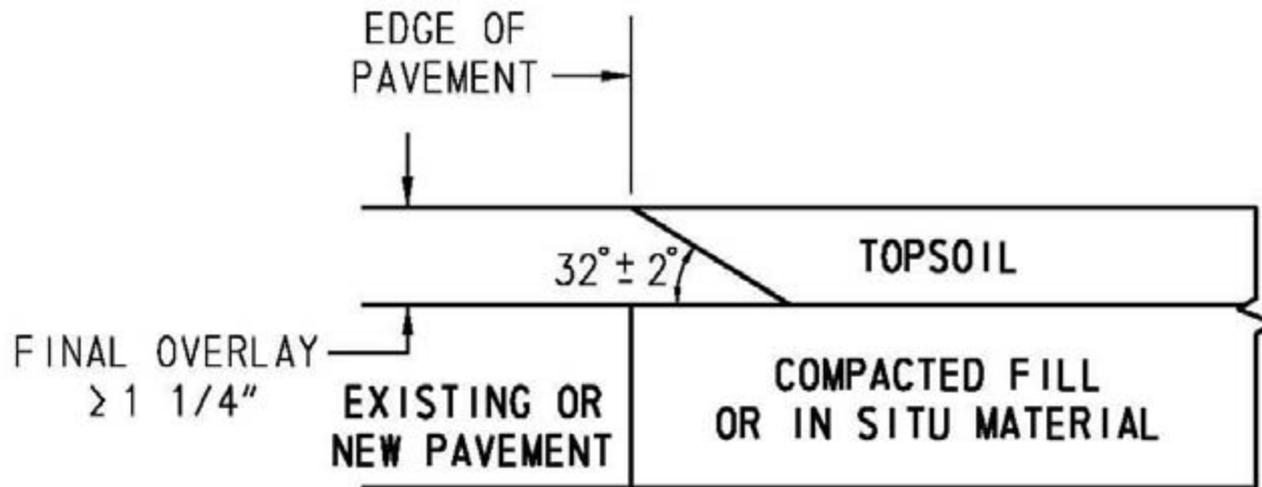


CONCRETE PAVEMENTS

N. T. S.

LESSONS LEARNED

Safety Edge



BITUMINOUS CONCRETE PAVEMENTS AND OVERLAYS

N. T. S.

LESSONS LEARNED

Safety Edge



Missing anything?

LESSONS LEARNED

Safety Edge



LESSONS LEARNED

Safety Edge

Verify that the Plans have a Detail for the Safety Edge.

Discuss @ Pre-Pave Meeting.

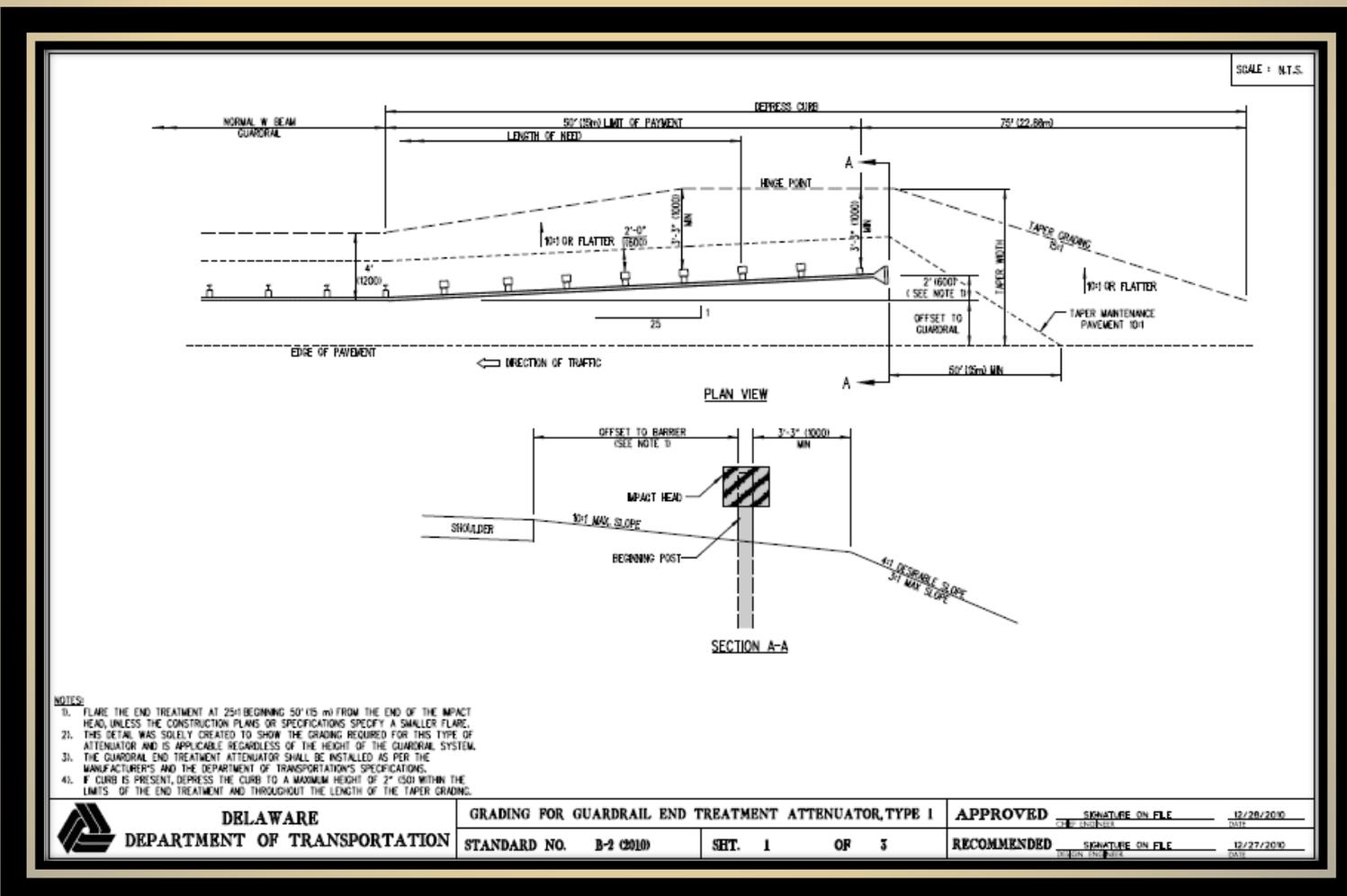
Verify that a Safety Edge Shoe is installed on the paver extension or screed.

LESSONS LEARNED

**Guardrail End Treatment
Flairs & Proper Grading**

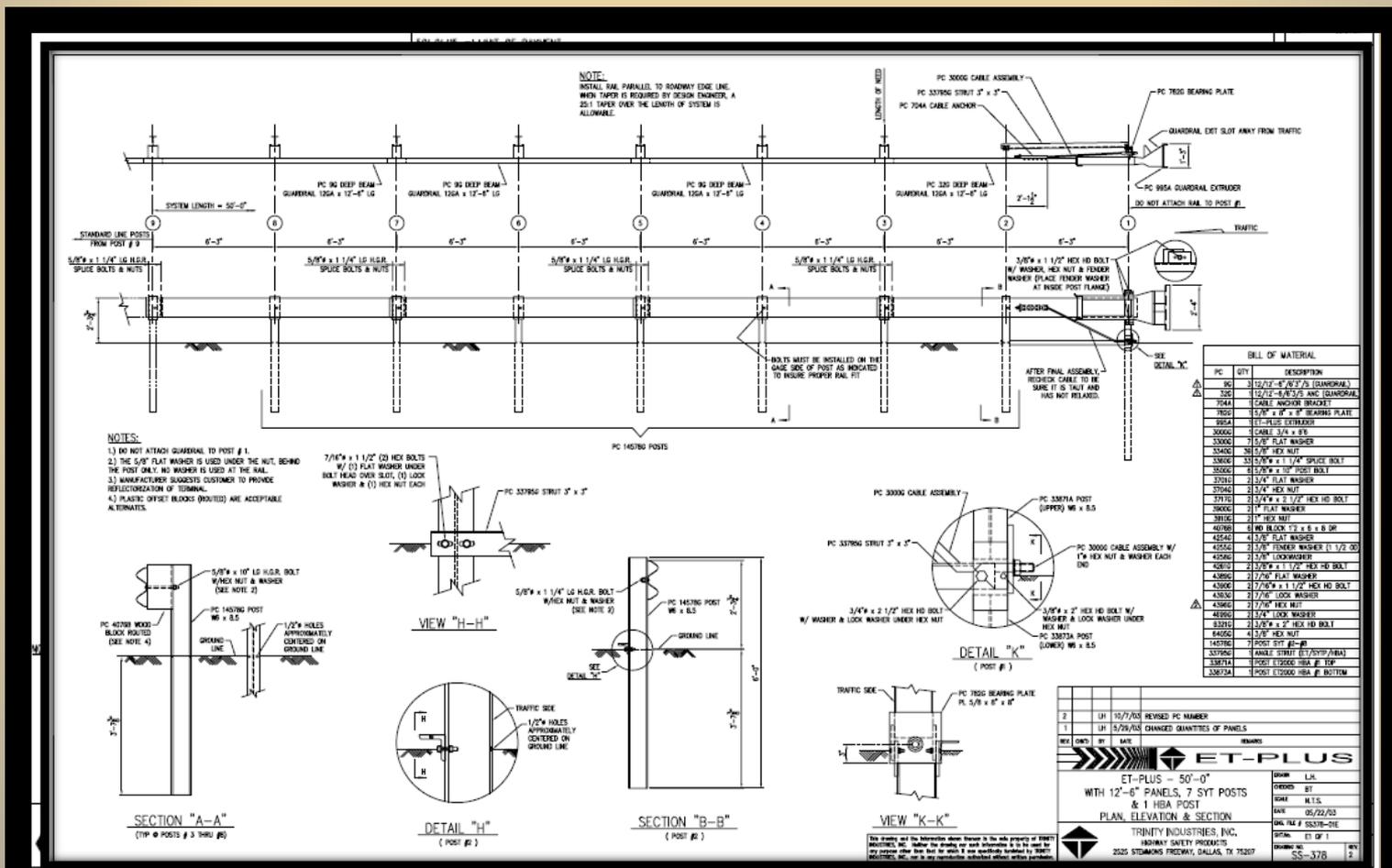
LESSONS LEARNED

Guardrail End Treatment Flairs



LESSONS LEARNED

Guardrail End Treatment Flairs



LESSONS LEARNED

Guardrail End Treatment Flairs



LESSONS LEARNED

Guardrail End Treatment Flairs

Bridge Approach

LESSONS LEARNED

Guardrail End Treatment Flairs



LESSONS LEARNED

Guardrail End Treatment Flairs



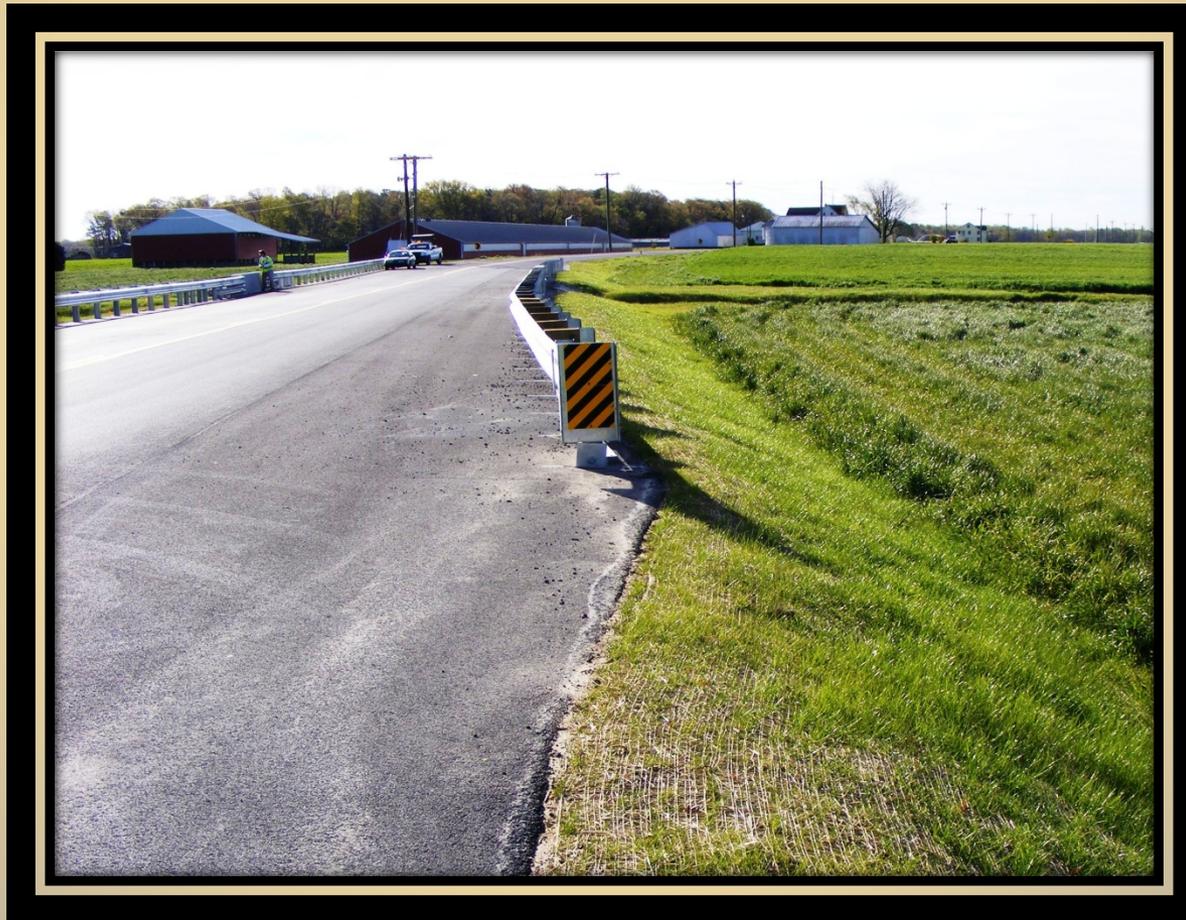
LESSONS LEARNED

Guardrail End Treatment Grading



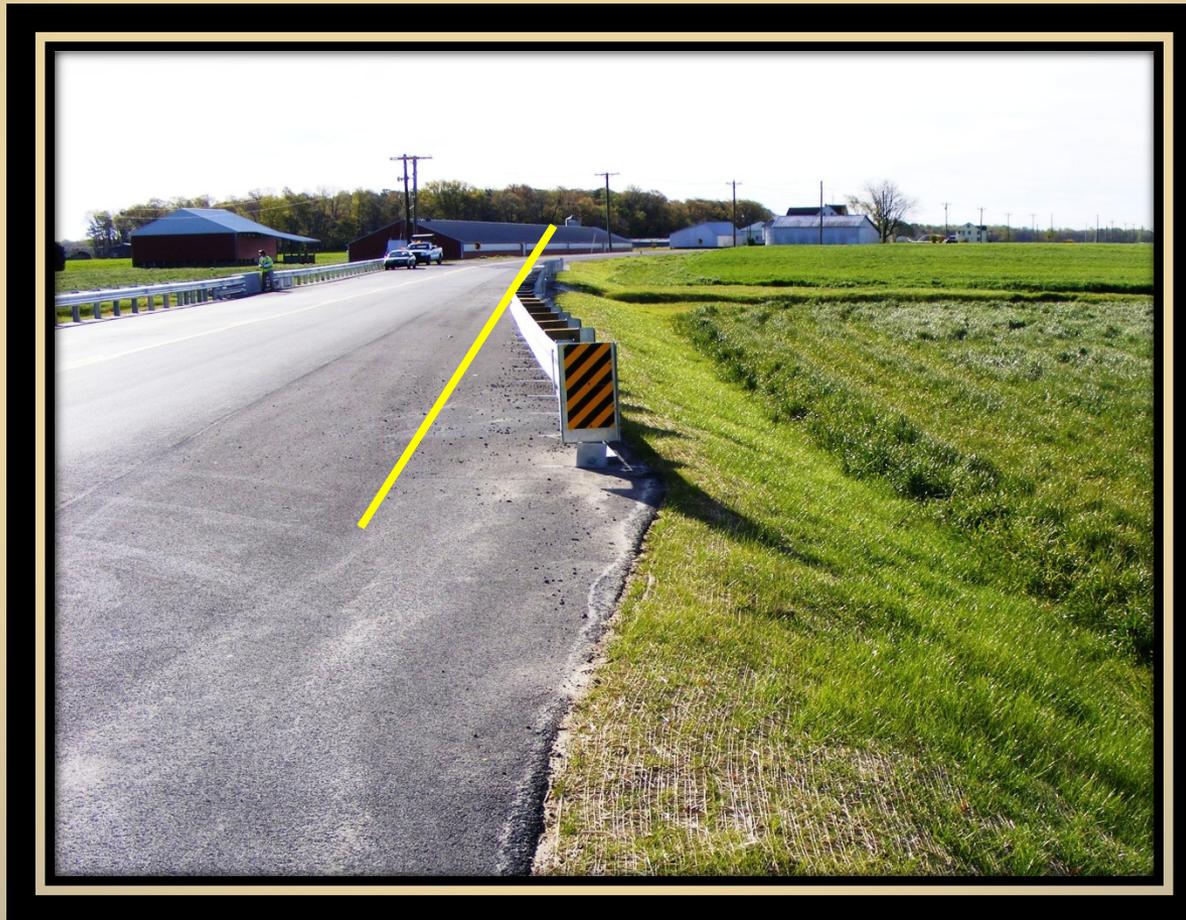
LESSONS LEARNED

Guardrail End Treatment Grading



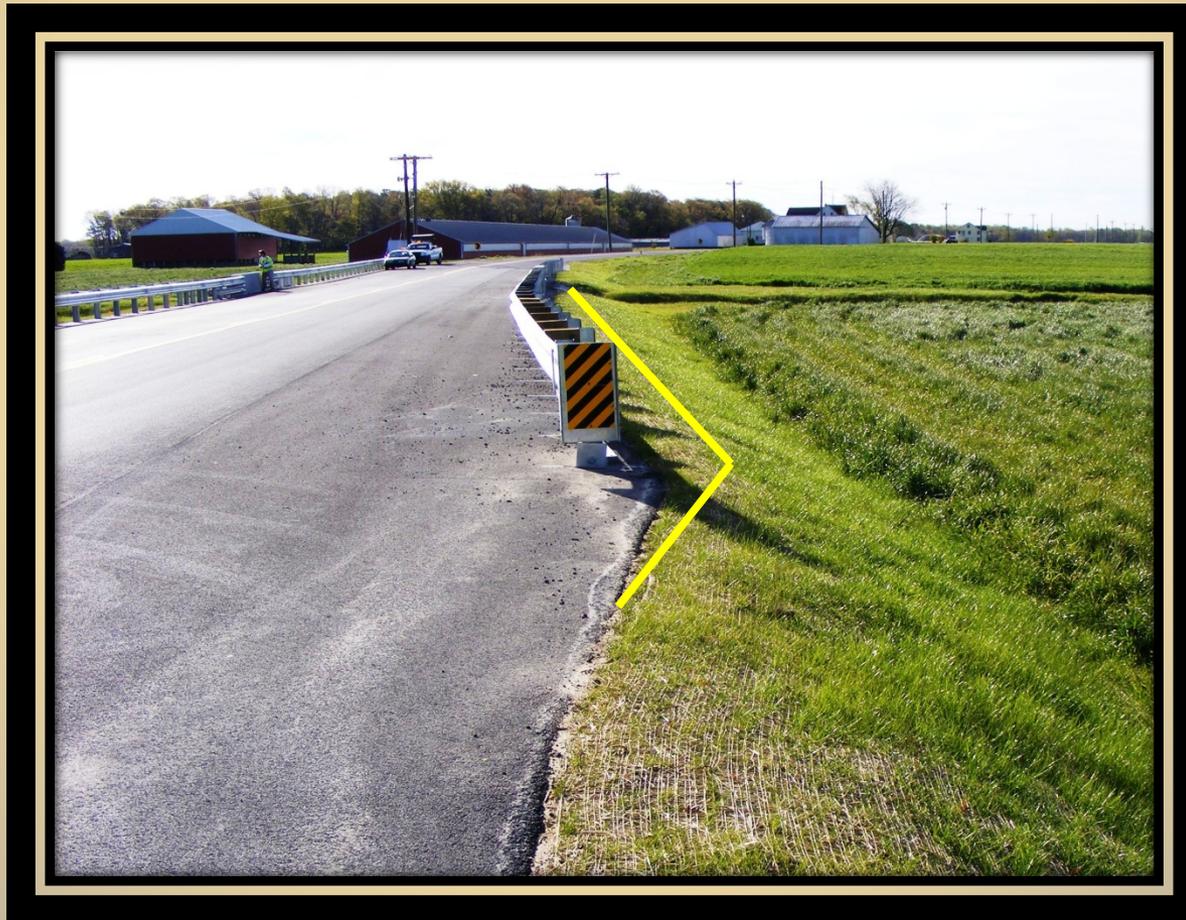
LESSONS LEARNED

Guardrail End Treatment Grading



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Expansion Joints in Sidewalks

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Standard Specification

705.08 Expansion Joints. Expansion joints shall extend from the surface to the foundation and must be at right angles to the sidewalk surface. A ½" (13 mm) expansion joint, shall be placed across the walk every 20' (6 m). This distance may be adjusted slightly to match existing joints in previously placed concrete work. Expansion material shall also be placed longitudinally along one side when sidewalk is placed between curbs, pavements, or any fixed structures. **Joints shall be formed around all appurtenances, such as manholes, utility boxes, and poles that extend into and through the sidewalk.**

LESSONS LEARNED

Expansion Joints in Sidewalks



LESSONS LEARNED

Expansion Joints in Sidewalks



LESSONS LEARNED

Questions?