

## Regional Dispute Review Board Recommendation

July 27, 2010

To: Hubbard Construction Company  
P O Box 547186  
Orlando, FL 32854-7186  
Attn: Albert A. Arjibay

Florida Department of Transportation  
1405 Thomas Avenue  
Leesburg, FL 34748  
Attn: Ed Petersen

**Project: State Road 50 (Colonial Drive) in Clermont**

FIN: ~~425547-4-52-01~~

423347-1-52-01

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### **ISSUE:**

The Department has directed the Contractor, Hubbard Construction Company, to replace areas of the new pavement that are not acceptable due to ripples. Nonconformance with Specification 330-12.2 is the reason cited for requiring that the designated areas be replaced prior to final acceptance of the project.

The Contractor is protesting the directive to remove based on the pavement having met the 3/16" rolling straight edge requirements specified in the contract. Further, the Contractor claims the single 2.5" lift pavement design violates "best practice" and that the term "ripples", as used in 330-12.2, is a subjective criterion.

### **CONTRACTOR'S POSITION:**

The contractor maintains that the rolling straightedge is the specified means of determining pavement smoothness for the project. Areas that did not meet this straightedge requirement were replaced. The parties agreed to survey the work with a laser profiler, even though the use of a laser is not specified for this job. Given the laser profile results, the Contractor took what they consider to be a very reasonable approach and replaced those sublots where the Ride Number (RN) was less than 3.5.

With regard to the asphalt type and lift thickness shown in the contract plans, Hubbard takes the following position.

*Even though the specification allows for asphalt mixes with 12.5 mm (fine mix) to be placed in one lift up to 2.50", this has not been a "best practice" for surface courses used by Hubbard, or for that matter commonly used in the Florida paving industry. We do have experience placing the 2.50 inch lift on base, binder and structural courses, but never the final surface. The obvious reason to not place asphalt in lifts too thick is to avoid roller heads. Asphalt has a tendency to push as the rollers try to seat and compact the hot mix. Experts who understand asphalt properties and have years of asphalt field experience, can appreciate the challenges of compacting asphalt that is too thick. It is quite difficult to avoid roller heads.*

Thus, Hubbard maintains that the pavement defects are not ripples, but roller heads resulting from a resurfacing design with significant constructability problems. The Contractor also cites as a contributing cause those instances where the 2.50" milling cut into the existing roadway base. No new structural course was required to be installed over the exposed base to enhance structure value or assist with smoothing the new friction course.

The Contractor has also taken the position that the Department, for whatever reason, did not express to them its concern over asphalt smoothness until February 1, 2010, when 90% of the mainline paving was complete. This deprived the Contractor of the opportunity to investigate the alleged problem and make changes or adjustments.

Hubbard alleges the Department introduced additional repair requirements based on the laser profiler readings. This created a modified "acceptance criteria" for the project and additional costs for Hubbard.

#### **DEPARTMENT'S POSITION:**

The Department maintains that the areas in question showed unacceptable ride and texture qualities and, therefore, failed to meet Specification 330-12.2,

*Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Address any pavement not meeting the requirements of this specification in accordance with 330-12.5.*

In response to the Contractor's allegation that requiring a single 2.50" lift of FC 12.5 is not good practice, the Department provided two other projects within the District as examples of how 2.50" of FC 12.5 can be placed successfully. These projects are a section of US 301 in Wildwood and a section of SR 46 west of the Wekiva Bridge in

Lake County. The Department also pointed out that Hubbard Construction Company did not express a concern over lift thickness and ride when it had the opportunity at the pre-bid stage, the preconstruction meeting and in subsequent project meetings.

During the DRB hearing on this issue, the Department pointed out the note on Sheet 5 of the contract plans stating,

*During milling operations of mainline and turn lanes, base exposure will occur at certain locations. The Contractor is responsible for protection of the base and maintenance of traffic.*

This note, according to the Department, alerted Hubbard that base exposures would occur and made it their responsibility to replace base, or employ other means to ensure the pavement would not deflect because of base damage. The Department stated further that records show no correlation between the areas where ripples were found and the areas of base exposure.

The Department also testified at the hearing that there were 17 straightedge deficiencies on the project, saying that this could be indicative of poor overall workmanship when the number of deficiencies is compared to those typically encountered on a project of similar size. It was pointed out that 1/3 of the ripples occurred in the lanes receiving only 1.50" of asphalt.

The Department has provided meeting minutes showing the Contractor was advised of problems with side street turnouts on January 19, 2010. They have provided a Daily Report for January 27th to support their position that the Contractor was warned verbally about the poor quality of the finished surface on the mainline.

Exception is taken to Hubbard's allegation that the Department changed the acceptance criteria when they used laser profiler results to quantify areas to remove and replace. The Department's Rebuttal Paper states "this issue has never been about straight edge deficiencies but is related to the poor riding surface caused by ripples.

### **BOARD FINDINGS:**

The Board finds that Article 330-12.2 of the Specifications that addresses pavement texture and ripples is applicable to the project and is not superseded or overridden by the 3/16" rolling straightedge requirement of the Specifications. One can certainly conceive of instances where a pavement could pass a rolling 15' straightedge test, yet contain ripples of an amplitude and frequency that would produce an unacceptable ride.

The Board rode the project on July 2, 2010, in a Department van accompanied by representatives of Hubbard and the Department. Individual Board members rode the subject pavement again in their own vehicles prior to repair operations by Hubbard. All

three Board members agree that the pavement designated for replacement did indeed show a rough ridding texture indicative of ripples.

Board members rode the two projects offered as examples of 2.5" single lift placement of FC 12.5. These pavements showed rides markedly smoother than the SR 50 Project. While not the smoothest of rides, the Board considers these two projects to be valid indications that FC 12.5 can be placed in a 2.50" lift.

With regard to Hubbard's position that the Department failed to provide timely notice of deficiencies in the mainline pavement, the Board finds that Article 5-9.2 allows the Engineer to reject defective work at any time prior to final acceptance. It is the Board's opinion that the Contractor has primary responsibility for quality control. Further, the Contractor's quality control should not have relied solely on the straightedge results, but given due consideration to the pavement texture requirements of 330-12.2

**BOARD RECOMMENDATION:**

The Board recommends that there is no entitlement for additional money or time for the Contractor due to the removal and replacement of defective pavement as directed by the Department's letter of May 28, 2010.

I certify that I have participated in all of the meetings of this DRB regarding this issue and concur with the findings and recommendations.

Respectfully submitted,

Regional Dispute Review Board:

Michael C. Bone	RDRB Chairman
Jimmy Lairscey	RDRB Member
Peter Markham	RDRB Member

Signed for and with the concurrence of all members:



Michael C. Bone, Chairman