

FLORIDA DEPT. OF TRANSPORTATION
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JACKSONVILLE
CONSTRUCTION

Disputer Review Board Recommendation

August 1, 2005

SCANNED

Mr. Al Moyle, P.E.
Jacksonville Construction Engineer
Jacksonville Urban Office
Jacksonville, Florida 32204-2619

Ernest J. Wolf
Vice President Contract Administration
P.O. Box 547217
Orlando, Florida 32854-7217

RE: FPN 213351-5-52-01
SR 9A, I295 & Blanding Blvd.

Attribute #: 9.3
File #: 9.6
EDMS #: _____

Subject: Hearing July 21, 2005
Regional Dispute Review Board Recommendation

Dear Sirs;

Hubbard Construction Company and the Florida Department of Transportation requested the District 2 regional dispute review board to hear a dispute involving Pile Underruns and Bridge Deck Removal. The board was also requested to address the liquidated damage issue.

Issue: Pile Underrun

The contract plan quantity was 5, 161 linear feet. The installed amount was 41% less than the amount included in the bid price.

Contractors Position:

The contractor is seeking compensation to recover fixed cost that were included in the per linear foot bid price. They did not realize any time saving as a result of pile underrun, and cited specification 4-3.1 and 4-3.7 in support of their argument. They feel that only one of the criteria has to be met to qualify for an adjustment.

FDOT Position:

The Department also cites section 4-3.1 that states "Engineer determines that the character of the work as altered differs materially in kind or nature." Or "a major item of work as defined in 1-3 is increased or decreased in excess of 125%, or below 75% of the original contract quantity. The Department also referenced supplemental specification 455-5.14.2, "the lengths are based on information available during design and are approximately only. The Engineers will determine final pile lengths in the field which may vary significantly from the lengths or quantities in the plans."

Dispute Review Board Recommendation:

The Board has reviewed and considered all information provided by both the Contractor and Department. Based on our review we feel that the pile underrun claim does not qualify as a significant change. Section 455-5.14.2 of Supplemental Specifications states that "the lengths are based on information available during design and are approximate only. The Engineer will determine final pile lengths in the field which may vary significantly from the lengths or quantities shown in the plans. Also, the pile item fails the qualification as a major item of work. The Board finds no entitlement for Pile underrun.

Bridge Deck Placement:

The bridge deck spans 7-12 were placed March 9, 2004, span 6 placed March 18, 2004 and spans 1-5 placed April 14, 2004. Concrete placement for spans 7-12 began around 11:00 A.M. and continued until approximately 4:30 P.M. Curing compound was applied after completion of the screeding operations. On span 6 curing compound was applied immediately behind finishing. Spans 1-5 the curing compound was placed immediately following float finishing of the concrete.

Spans 7-12 developed extensive plastic shrinkage cracks that were observed prior to placement of curing mats, which led to an extensive investigation into cause and possible remediation measures. The Department cored the decks April 26 and provided the cores to K & S. The Contractor submitted a report prepared by Universal Engineering May 14, 2004 with five repair methods:

- 1.) Joint filler and Crack sealers
- 2.) Sealant Methacrylate
- 3.) Portland Cement Overlay
- 4.) Asphalt Overlay
- 5.) Removal and Replacement

The Contractor notified the Department on May 14, 2004 they were being delayed and asked for a resolution as soon as possible. The Department considered the options that had been presented by all parties and issued instructions June 1, 2004 via Keith and Schnars outlining the repair methods which would be acceptable. The Department directed Hubbard to perform partial or full depth removal of spans 7-12. Hubbard submitted WJE report November 16, 2004 which stated high molecular weight methacrylate as the most feasible repair.

As part of the examination and recommendation process the Department utilized input from CTL, Kimberly and Horne (Engineer), Keith and Schnars, CEI. From within the Department, input was received from the corrosion lab in Gainesville, District Structures Engineer, and State Structures Engineer in Tallahassee.

Contractors Position:

The contractor believes the issue revolves around the inverted T design. They question rebar penetration from the cap into the deck and concern about deck steel and steel quantity. They believe the deck was placed in conformity with specifications. In all of their bridge work they have never experienced cracking such as the occurrence in this bridge. The replacement created major problems as 128 beams were damaged in the removal operation and reinforcing steel that was nicked required cutting and splicing. The replacement concrete was placed using the same procedures as the original placement. The Contractor states during the hearing that the decks were kept moist by applying moisture to the deck surface throughout the pour. They feel that the project is not under performance spec and do not understand why they were not allowed an alternate solution, and disagree that Methacrylate is not a viable option. Based on the Doctrine of Economic Waste they firmly believe they should have been allowed an alternative repair. They are looking at a one year delay to the project and cost in the \$2,000,000 range.

Departments Position:

The Department believes that the cracks are a result of quality control measures that failed to meet contract specifications. They considered several potential corrective actions and based on information presented chose removal and replacement as the only viable option. They cite section article 5.3 in the contract specifications that states "In the event that the Engineer find that the Contractor has used material or produced a finish product that is not in reasonably close conformity to the contract documents, and that the contractor produced and inferior or unsatisfactory product, the contractor shall remove and replace or other wise correct the work or materials at no expense to the Department." They feel the bridge design is proven. They question quality control procedures relative to curing practices during the original placement of deck concrete.

Board Findings:

The Board has reviewed all information submitted by the parties and considered all relevant contract specifications and quality control procedures. We have carefully considered the oral presentations and believe all pertinent issues were brought to the table. Although other unknown factors may have contributed to the deck cracking, the Board finds that weather conditions at the time of concrete placement to be the primary issue. The relative humidity was approximately 23% and the wind was approximately 11mph. The contractor's efforts to control evaporation loss were not adequate. The effects of the weather conditions surprised both the contractor and the FDOT.

All parties agree that remedial action was required to address the cracking and thus provide an acceptable structure in close conformity to the contract requirements. The selected repair, remove and replace has the greatest initial cost. In arriving at the decision the Engineer considered all options and deemed removal and replacement as the only viable option. The Board finds no entitlement for the actual cost of the removal and replacement. The Board does recognize the contractor's statements that the procedures followed on March 9, 2004 were the same procedures utilized on all of their concrete

placement. Given the unusual weather conditions and FDOT's selection of the most severe repair option, the Board finds that the contractor should be entitled to a non-compensable time extension. The Board recommends that the Department enter into negotiations with the contractor concerning liquidated damages associated with the replacement and removal.

Sincerely,

A handwritten signature in black ink, appearing to read "R.D. Buser". The signature is written in a cursive style with a large initial "R" and "B".

R.D. Buser
Chairman Regional DRB
Signed for all with the concurrence of all members

William O. Downs
Board Member

Dr. Ralph Ellis
Board Member