

MERGENTIME CORPORATION : BEFORE THE BOARD OF CLAIMS  
 :  
VS. :  
 :  
COMMONWEALTH OF PENNSYLVANIA, :  
DEPARTMENT OF TRANSPORTATION : DOCKET NO. 1563

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### **FINDINGS OF FACT**

#### **A. Parties**

1. The Plaintiff, Mergentime Corporation, (hereinafter “Mergentime”) is organized under the laws of New Jersey, with its principle place of business in Flemington, New Jersey. (Complaint and Answer Par. 1)

2. The Defendant is the Commonwealth of Pennsylvania, Department of Transportation (hereinafter “PennDOT” or the “Commonwealth”). (Complaint and Answer Par. 2)

3. Mergentime is an experienced contractor in heavy and highway construction, including bridges, tunnels, underpinning and other heavy construction work. (N.T. 175-178)

4. Blauvelt Engineering, Inc. (hereinafter “Blauvelt”), are licensed professional engineers, hired by PennDOT to prepare plans and specification for repair, reconstruction and rehabilitation of a certain section of highway viaduct and bridges on the Schuylkill Expressway in the City of Philadelphia, Legislative Route 67057, Section 500, Traffic Route I-76 (Spur) (hereinafter the “Project”). (Pltf Ex. 2C; Def. Ex. 1)

5. PennDOT retained the services of the joint venture of Gaudet/O’Brien Associates, Urban Engineers Incorporated to be the “construction management consultants (hereinafter referred to “CMC”), whose responsibility was among other things to prepare a preliminary construction schedule, perform constructability review of plans, specifications and estimates prior to bid and to set up and maintain a project control system. (N.T. 35-38; Pltf Ex. 2B page 152)

#### **B. Invitation to Bid and Contract Requirements**

6. On or about October 30, 1984 PennDOT advertized in Engineering-News Record the solicitation of bids for the Project as follows:

Blauvelt Engineering Inc. has completed plans and specifications for LR67057, Section 500 of the I-76 Schuylkill Expressway. The project is located in Philadelphia from University Avenue to 30th Street along the Expressway. Due to traffic restrictions the major mainline and ramp redecking and overlay work will require completion from March 1, 1985 to October 13, 1985 [sic]. Incentive/Disincentive provisions will be utilized on this project. Estimated cost \$9 to \$10 million. (Pltf. Ex. 120)

7. On December 13, 1984, PennDOT received five bids for the Project. The bid results were as follows:

Mergentime Corporation, Flemington, N.J.	\$14,382,886.00
Buckley & Company, Inc. & IA Construction Corp., a joint venture	\$15,547,335.05
Contec Construction Co. & Driscoll Constr. Co., a joint venture	\$15,745,479.33
Perini Corp.	\$16,223,069.30
Crossing Constr. Co & Nashaminy Constructors, a joint venture	\$18,125,629.20

(N.T. 117 - 118, Pltf. Ex. 124)

8. PennDOT accepted Mergentime's bid and on January 14, 1985, PennDOT's Chief Counsel approved the Contract No. 065021, as to legality and form. The Contract was valued at \$14,380,890. (Pltf. Ex. 2; Def. Ex. 1)

9. The Contract itemized the specific documents that spell out the Project requirements. The Contract specifically referenced and incorporated, among other documents, the Contract drawings, the Special Provisions, Publication 408 - Specifications - dated 1983, and various supplemental specifications that replaced or supplemented the standard Publication 408 Specifications. (Pltf. Ex. 2; Def. Ex. 1)

10. The basic scope of work required by the Contract was for the removal of the existing bituminous wearing surface, one inch (1") scarification of the underlying concrete deck, removal and repair of deteriorated concrete, installation of expansion dams in the deck of the main line structure at approximately 100 feet intervals and placement of a new 4 inch (4") wire mesh reinforced concrete riding surface on top of the repaired concrete deck. In addition, once the new reinforced concrete riding surface was placed and cured, the Contract required follow on work such as the installation of new parapet walls, street lights, crash protection barriers, signing and other items. (N.T. 45-46; Pltf. Ex. 2; Def. Ex. 2B, Def. Ex. 3)

11. All of the rehabilitation of the Schuylkill Expressway work required Mergentime to maintain traffic during construction. (Pltf. Ex. 5-10, 5P-AI photos; Def. Ex. 2B, Def. Ex. 3)

12. The extent of work described by the Contract drawings to be performed in Season I involved approximately 6,409.5 linear feet of main line structures (drawings for S-15382), and 3,641 total linear feet of ramp structures (537 linear feet for S-15378 and 477 linear feet for S-15379 South Street; 2,207 linear feet for S-15380 W.B. ramp from University Ave.; and 420 linear feet for S-15377 E.B. from Walnut Street). The scope of work also included re-decking (replacement of the full depth of the concrete deck slab) of approximately 1,318 linear feet of three ramp structures (423 linear feet for S-15376 W. B. Ramp to Chestnut St.; 460 linear feet for S-15377 E.B. from Walnut Street; 435 linear feet for S-15381 E.B. Ramp to University Ave.). (N.T. 56-58; Pltf. Ex. 2C)

13. The Contract broke the work down into three stages for traffic control. Each stage was further broke down into phases. The first two stages were required to be completed on October 1, 1985, Season I work. (Def. Ex. D-1 page 50, Def. Ex. D-3 Traffic Control Plan sh. 2 of 40)

14. The Contract provided that work on the mainline (drawings S-15382) and ramp structures S-15381, S-15378 and S-15379 be performed during the period from March 1, 1985 to October 1, 1985, also referred to as Season I. The balance of the work on the remaining ramp structures was to be commenced on March 1, 1986 and completed by June 30, 1986. The dispute in this case involves the overlay work during Season I in 1985. (Pltf. Ex. 2C; Def. Ex. D-1 page 50, Def. Ex. 2B, Def. Ex. D-3)

15. The Contract had an “Incentive/Disincentive” provision that if Mergentime completed work earlier, they were to receive an incentive payment of \$21,875 per day, in addition to all other payments under the Contract. If Mergentime was late in completing work a disincentive payment of \$21,875 per day would be owing from Mergentime to PennDOT. (Pltf. Ex. 2B at page 50)

16. Excerpts from the Special Provisions of the significant work items relevant to this dispute are as follows:

Item 0901-0001 Maintenance and Protection of Traffic During Construction - Contractor is required to “[c]oordinate construction staging with the traffic staging and phasing shown on the Traffic Control Plan” and “[m]aintain a minimum on [sic.] one (1) lane of traffic in each direction on the Schuylkill Expressway at all times.” The stages and phases of the work is set forth in the Traffic Control Plan in the Contract Drawings. The contractor is “not to proceed from one stage or phase [set forth in the Traffic Control Plan] to the next” without PennDOT’s approval. PennDOT sets forth lump sum method

of payment for this work (page 100 of Pltf. Ex. 2B, page 80 of Def. Ex. 1, and attached addenda)

Item 0490-0001 Removal of Existing Bituminous Surface Course - Contractor is advised that “bottom 5/8 inch of bituminous material to be removed between Sta. 367+90 and Sta. 408+40 (approximately two-thirds of entire Project) west bound lanes only, contains 6% asbestos. The bituminous material above the 5/8 inch layer contains no asbestos”. The contractor is directed that this contaminated material must be disposed of at specified dump sites. The Contract schedule of Prices listed approximately 53,030 square yards total for removal and the Contract sets forth unit price method of payment for removal of both contaminated and uncontaminated material. (page 9 and page marked 5 following page 166 of Pltf. Ex. 2B, page 145 of Def. Ex. 1)

Item 2090-0400 Scarification - The contractor is required to scarify “the existing concrete bridge deck to the depth indicated for purpose of placing a concrete or mortar wearing surface.” The specifications also provide that “the scarification is to be accomplished by a self-propelled machine capable of preparing 1,000 square yards per day, removing ½ inch across the cutting path in one pass. The machine is to have a floating type head that allows for deeper cutting in areas of deteriorated concrete with capacity of locking out the head float...At the Contractor’s option, omit scarification of areas of Concrete Bridge Deck Repair, however, scarification of areas adjacent to repairs is to extend thru the delineated saw cut.” Contract schedule of prices listed approximately 122,372 square yards of total area for ½-inch depth of scarification; and drawings typically show removal of 1 inch of existing concrete deck by scarification. Accordingly, the estimated amount is approximately double of the total overlay quantity to be paid for at a unit price for each square yard of ½ inch removed. (pages 39 and 132 of Pltf. Ex. 2B, pages 24 and 109 of Def. Ex. 1)

Item 1090-0502 Concrete Bridge Deck Repair, Type II and Item Concrete Bridge Deck Repair Type III - The work is described as “removing and patching designated areas of deteriorated concrete of the bridge deck in preparation for placing a concrete or mortar type wearing surface of the type indicated.” The specifications set forth three types of repairs, Type I, Type II and Type III. Type I is described as “[a]reas where deteriorated concrete extends to a maximum of the top mat of reinforcing bars.” Type II is described as “[a]reas where deteriorated concrete extends beyond the depth of the top of the top mat of the reinforcement bars or where reinforcement bars are unbonded.” (Emphasis Added) Type III are areas where “deteriorated concrete or patching extends to the full depth of the deck.” Here, because

scarification was called for to remove all of the top layer above the top of the mat of reinforcing bars, there were no areas where Type 1 repairs were contemplated. The specifications further provide that “[t]he type and extent of the repair areas will be determined and delineated by the Engineer. [The contractor is required to [t]hen outline the areas with a 3/4 inch deep saw-cut prior to any scarifying operation. If after scarifying, another area or areas of deteriorated concrete are found beyond the initial saw-cut peripheries, make new saw-cuts for repair limits.” The specifications then require the contractor to remove deteriorated concrete, among other things, using pneumatic hammers no heavier than the 30 pound class. The next step requires replacement of the deteriorated reinforcement bars. Finally, the contractor must patch the hole. The specifications permit placement of the patch material as part of the overlay placement. The Contract listed approximate total quantities of 1,600 square feet for Type II repairs and 160 square feet for Type III repairs for all of the work for both seasons. (Emphasis Added) Payment was to be made per unit performed. (N.T. 113, pages 32 and 76 of Pltf. Ex. 2B, pages 21 and 56 of Def. Ex. 1)

Item 2001-0498 Class AAA Cement Concrete Overlay 4" Reinforced - The overlay specifications describe the equipment, material and procedures for the construction of a concrete wearing surface. They also reference other provisions detailing the concrete deck repair and scarification. They set forth the requirements for placement of the wire fabric mesh, placement of expansion dams and scuppers, placement of an epoxy bonding compound and placement and finishing of the overlay concrete. No more than 24 hours before concrete placement is to begin, the contractor is required to clean the surface area. The specifications also provide for curing requirements and prohibit contact with construction equipment or traffic at least 10 days after the concrete has been placed and has attained a minimum strength of 3000 psi. (Emphasis Added) Contract estimates 57,308 square yards for Class AAA 4" overlay; 2,222 square yards for Class AAA 3" overlay and 2,017 square yards for Latex modified concrete wearing surface. (pages 33 and 116 of Pltf. Ex. 2B, pages 21 and 92 of Def. Ex. 1)

Item 2021-0101 Wabo Maurer Stripseal Expansion Joint, Model S 200 - The specifications require the contractor to choose between three specific expansion joints. PennDOT identified the Wabo Maurer Stripseal Expansion Joint, Model S 200 as one of the three expansion joint designs that it would accept. The specifications require the contractor to “[p]rior to fabrication, submit shop drawings...showing complete details, dimensions, size, type and characteristics of the seal, as well as other information and data necessary for the complete fabrication and erection of the expansion joint.” Addendum incorporated into the Contract Drawings a note advising the Contractor to

“retain existing reinforcing steel clean, epoxy coat and incorporate into new construction.” (Emphasis Added ) (N.T. 1013-1014, page 121 of Pltf. Ex. 2B, page 98 of Def. Ex. D, Def. Ex. 58)

17. With respect to the Type II and Type III repairs that relate to this claim, the Contract drawings provided additional details of the estimated quantities:

<u>Structure</u>	<u>Drawings</u>	<u>Type II (Item 1090-052)</u>	<u>Type III (Item 1090-0503)</u>	<u>Season</u>
Mainline	S-15382	200 square feet	50 square feet	I
EB Univer. Ramp	S-15381	0 (redecking)	0 (redecking)	I
WB Univer. Ramp	S-15380	700	50	II
Ramp D	S-15379	300	20	I
Ramp C	S-15378	200	20	I
Ramp B	S-15377	200	20	II
Ramp A	S-15376	0 (redecking)	0 (redecking)	II
Total Quantities:		1600 square feet	160 square feet	I & II

(Pltf. Ex. 2C, Def. Ex. 1, Pltf. Supp. Ex. 1)

18. In a number of locations on the Contract Drawings, typically on each set of drawings for each structure, PennDOT placed a “special reconstruction” note. The drawing note, in part, reads as follows:

SPECIAL RECONSTRUCTION NOTES

CONTRACTOR’S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. **THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME.** ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR PERFORMS THE WORK IN ACCORDANCE WITH FIELD CONDITIONS. (Emphasis Added).

(Contract Drawing for S-15376, 4 of 8; Contract Drawing for S-15377, 8 of 9; Contract Drawing for S-15378, 1 of 10; Contract Drawing for S-15379, 2 of 7; Contract Drawing for S-17381, 5 of 11; Contract Drawing for S-15382, 18 of 56, Pltf. Ex. 2C, Def. Ex. 1)

19. The Contract documents provide specific time of commencement and completion of Season I and II work. Under the “Project Control System” requirements in the Special Provisions portion of the specification, the contractor is directed to “[s]chedule construction activities that affect traffic restrictions between March 1, 1985 and October 1, 1985 [Season I] and from March 1, 1986 and June 15, 1986 [Season II].” (Project Control System, page 152 of Pltf. Ex. 2B with addenda, page 130 of Def. Ex. 1).

20. The Contract specified a project control system that set forth the schedule of construction activities. It established that: “[a] project control system will be set up and maintained by a Construction Management Consultant (CMC) to schedule, report and recommend to the Department [PennDOT] work in progress, problem areas and solutions to maintain the established schedule. The CMC has been retained by the Department...” The project control system included the development of a construction schedule using the critical path method (“CPM”). (Pltf. Ex. 2B page 152)

21. Referenced in the project control system portion of the specification and attached to the specifications, was a “Preliminary Construction Network Diagram” prepared by the CMC. The project control system specifications state that the Preliminary Construction Network Diagram is included as part of the “proposal” for two reasons: (1) to illustrate one feasible plan for completion of the project within the dates required and (2) to provide an example of an arrow network diagram as an introduction to the Critical Path Method. The exact sequence of operations, and the time estimated by the Preliminary Construction Network Diagram, are not to be considered binding. However the Contract completion date, and a milestone date for traffic restriction are binding. (N.T. 36 - 37, Pltf. Ex. 2B page 153, page 131 of Def. Ex. 1)

22. The Traffic Control Plan included in the Contract depicted certain parts of the project site as work areas for each phase and stage. Work in each area had to be completed in the phase and stage in which it was shown as a work area on the Traffic Control Plan. In order to move from one phase or stage to the next, Mergentime needed the written approval of the Department. (Def. Ex. 1 page 80, “Item 0901-0001 Maintenance and Protection of Traffic During Construction”)

23. The project schedule was to be developed by Mergentime in cooperation with the PennDOT’s CMC. All information used to develop the CPM schedule, such as durations, logic and sequences was supplied by Mergentime. (N.T. 918, Def. Ex. 1 page 132)

24. The CPM schedule was required to be up-dated periodically using information supplied by Mergentime. The CPM schedule was up-dated by CMC based on information supplied by Mergentime personnel. (N.T. 918-19, Def. Ex. 1 page 133)

25. Mergentime was responsible for meeting all milestone dates - such as the completion of stage 2, season I work, on October 1, 1985. (Def. Ex. D-1 page 134 par. F1)

26. Any request for a change in any milestone date had to be submitted in writing by Mergentime to PennDOT within ten (10) days after the beginning of the condition giving rise to the request. (Def. Ex. D-1 page 134 par. G2)

**C. Mergentime's Bid Preparation and Reliance on Representations in the Contract Documents**

27. Charles E. Mergentime, testified on behalf of Mergentime with regard to the preparation of Mergentime's estimate and bid for this Project. Mr. Mergentime and others at Mergentime were qualified to properly estimate this Project. Mr. Mergentime was in overall charge of the preparation of estimates for the Project and decided what the profit margin would be for the job. (N.T. 168, 178)

28. As part of preparation of the estimate for this Project, and in accordance with company practice, Mr. Mergentime and others visited and took pictures of the site and conducted a field inspection prior to bid. Mergentime also purchased the existing as-built drawings at the time of preparing the estimate. (N.T. 201-203, 208, 210; Pltf. Ex.4A)

29. On direct-examination, C. Mergentime established that Mergentime performed an independent take-off of the quantities shown on the contract drawings. Mergentime prepared its estimate on the Project by breaking the work into fifteen (15) major groups, estimating crew size and production rates of those crews and pricing out the cost, to build the job utilizing the planning in its estimate. (N.T. 168, 184, 211-212, 230-235; Pltf. Ex. 4A)

30. At the time Mergentime did its estimate for the Project, the company priced out the work based on a linear operation. Starting at the north end and proceeding south, one lane at a time, take-offs were calculated for the asphalt milling, scarifying the deck, placement of four inches (4") of concrete and rebuilding the parapets. C. Mergentime stated the Type II repair was an incidental item in the scheme of 6000 feet of roadway reconstruction at the time they priced out the work for the Project. The operation was to proceed so that one item had to precede another item. (N.T. 216 - 217)

31. Mergentime relied on the quantities provided for in the contract for the Type II and Type III deck repairs. Mergentime was not able to perform an independent take-off of these quantities as they did not appear on the plans, except for 700 square feet at W.B. University Ramp (S-15380) and 300 square feet Ramp D (S-15379), which drawings contained detailed locations and approximate size of the Type II and Type III deck repairs. Given the limited time for bidding, no practical means existed for the prospective bidders to independently examine the condition of the asphalt covered concrete deck. (N.T. 61-63, 218-220, Pltf. Ex. 2C S-150380 sheets 4, 5, 6 of 12, S-15379 sheets 3 & 4 of 7)

32. On direct, Mergentime established that PennDOT's estimate of Type II repair on the mainline superstructure was only two hundred (200) square feet, which was not shown at any mainline locations and was considered minor, in relationship to 500,000 square feet of concrete deck replacement. (N.T. 219 - 221, Pltf. Ex. 2C sheet 1 of 56)

33. Only after the bid when this litigation started did Mergentime become aware of a pre-bid report concerning the conditions of some of the decks. However, this report was not provided to the bidders as part of the pre-bid information. C. Mergentime testified on direct that had the true extent of Type II repairs been disclosed prior to bid they would have bid the job differently. (N.T. 220-223)

34. When estimating for this Project, Mergentime planned to make concrete deck pours of 500 feet in length that would total 75 to 80 pours for the entire mainline and ramps. C. Mergentime established that the huge overrun in Type II repairs of approximate 9,500 square feet for both the mainline and ramps had a significant impact on Mergentime's ability to place 500 feet of concrete in one pour and sequentially. Instead of making 75 to 80 pours, Mergentime ended up making 130 to 140 pours. (N.T. 216-217, 222-224, 226)

#### **D. Mergentime's Performance**

35. After beginning work in early March, 1985, Mergentime was projected to be 29 days behind schedule as of April 26, 1985, based on information supplied by Mergentime to the CMC. (N.T. 897-898, 919-920; Def. Ex. 99)

36. Mr. Miner, Mergentime's Project Manager, testified that during the initial deck concrete placement, there was a problem with the application of epoxy due to its viscosity (it would not go through the pump) and Mergentime only achieved 150 feet of production on its first two pours. Mergentime was 15 days behind schedule by April 16, 1985. Also, Mr. Miner established that the "rolling fours" shifting of labor on the Project did not work out, so they switched back to a standard work week and 2 shifts. (N.T. 319-323, 365-366, 984; Pl. Ex. 145, 147)

37. In April, when it was falling behind schedule, Mergentime, by its own admission, was experiencing problems with its labor productivity, with operation of the equipment it had acquired to place the 4" concrete overlay of the deck on the "mainline" structure (structure no. S-15382) and with delivery of concrete. (N.T. 366-367, 982-987; Ex. P-143, P-144, P-10 Suppl., D-46, D-47)

38. Mr. Miner testified: "We had encountered problems with preparing the surface and then doing - having the inspector come out and do soundings, and then at night we'd have crews in there doing the Type II repairs. And the next day the inspector would come out, do additional soundings, and [in] a lot of cases they would indicate additional areas that they wanted sounded and additional Type II repairs done. So that was impacting out operation. And what we did is we brought in additional equipment and additional people in order to compensate for that." After initial

marking out, removal and clean up of Type II repairs, inspectors would find additional Type II repair work at night that required Mergentime to pull crews off of expansion dam and parapet work and this disruption had a tremendous impact on the continuity of the whole overlay, expansion dam and parapet operations. (N.T. 324-325, 329-332, 1056; Ex. P-10 Suppl.; P-151, P-153, P-154)

39. Starting on April 18, 1985, Mergentime had been able to perform only 88.19 square feet of Type II deck repairs on the mainline up to April 26, 1985. Mergentime finished Stage I Phase I on June 15, 1985, 50 days late. (N.T. 990-991; Pltf. Ex. 165, 166; Def. Ex. D-89)

40. In May, June and July, 1985, Mergentime was required to perform more than 3,806 square feet of Type II deck repairs, on the mainline, a 1900% overrun. They could not gain time on the schedule and remained approximately 26 days behind the approved schedule even with the addition of two more screeds in May of 1985. Mark Cundiff, Mergentime's expert, established that but for the overrun in deck repair, the additional screeds would have permitted Mergentime to finish work in advance of October 2, 1985. (N.T. 324, 548, 770-774, 897, 990-991; Pltf. Ex. 175, Def. Ex. D-89)

41. From August 1985 until September 21, 1985, PennDOT required Mergentime to perform an additional 3,546 square feet of Type II deck repair. (N.T. 990-992; Def. Ex. D-89)

42. Chuck Gould, Mergentime's senior officer sent to the site in June, 1985, to relieve Mr. Miner, stated that Mergentime handled the Type II repairs by moving equipment and men to "hit them where they ain't." He also stated: "[t]he problem with Type II is you don't know where the Type II is. You might not need anybody. You might need a whole lot of people." Gould established that when Mergentime encountered Type II repair, they would get out of there, skip over a section and go somewhere else where they could work. Sometimes the screed had to be picked up and moved to keep the concrete overlay moving. (N.T. 521, 522, 746; Pltf. Ex. Suppl. 4)

43. Mergentime's as-built pour schedule shows the actual pours, and resequencing of the pours caused by Mergentime having to work around the impacts of the huge overrun in Type II repairs. (N.T. 255; Pltf. Ex. Suppl. 4)

44. The Type II deck repairs were to be delineated by PennDOT prior to scarification of the existing bituminous surface, well in advance of the deck overlay placement. According to the contract, if after scarification another area or areas of deteriorated concrete are found beyond the initial saw-cut peripheries, new repair limits would be established. (N.T. 987-988; Def. Ex. 1 page 57)

45. It was established that during actual construction of the Project the surface was scarified and cleaned first, then PennDOT proceeded to sound out the deck and outline the areas of Type II deck repair and on occasions sound the surface again and direct more Type II repair ahead of the 4" concrete overlay. (N.T. 324-325, 988)

46. As permitted by contract specifications, Mergentime elected to place the concrete in the Type II deck repair as part of the deck overlay. (N.T. 987-989; Def. Ex. 1 page 58)

47. At the time that the work was progressing, Mergentime's D. Miner testified that they were not aware of the cost impact of the increase in deck repairs. "I didn't know the magnitude of the - of the Type II repairs and I was concentrating on getting the job done. I was doing everything possible to either move equipment in or move resources to maintain schedule." (N.T. 332)

48. Mr. Cundiff phrased the impact of the deck repairs on the cost of completing the deck concrete overlay as follows:

"I think to capsulize it, it would be the interference of the Type II and Type III repairs - particularly the progression of the screeds that were utilized to place the overlay cement, whether it be 4 inch, 3 inch or so throughout the project. The background to this is that those repairs caused the performance of out-of-sequence work. They stopped the screeds and caused the screeds to wait in instances for the Type II work to be completed. They inhibited the progression of the screed as they went down the roadway to where shorter pours had to be made as to the originally anticipated pour sequence. The screed on a number of occasions actually had to be picked up and moved to other locations to skip sections where work was being done out ahead of the Type II and Type III repairs that the screed could not pass over and lay cement over." (N.T. 746-748)

49. In comparison, during Season II, Mergentime did not move men and equipment as much to account for the increase in deck repair. Accordingly, the impact during Season II did not affect as much the concurrent and follow-on activities. Edward F. Hollander, a project engineer for Mergentime testified: "So by taking a step back and rethinking the thing, we're able to in effect save - you know, cut down on the impact cost on the whole operation and try to put some level of efficiency and control into what they were asking us to do....And to the point that we were throwing men and equipment, money and hoping it all gets done on time, well, that wasn't going to work this time." (NT. 624-625)

### **E. Monitoring and Updating Mergentime's Performance**

50. As specified, the CMC established and maintained the Project CPM scheduling based on information supplied by Mergentime. (N.T. 261-263, 918; Def. Ex. 1 page 132).

51. In an October 15, 1984 memorandum to file, the CMC documented scheduling details of work activities. It notes that "the ... analysis of crews, durations, productivity, shifts, etc.

has been incorporated into the bid documents for Section 500.” Other than the notation that “3 days [are allotted] for Type III repairs” for Stage I Phase I work, there is no mention of time requirements for deck repairs. The memo indicates that CMC anticipated 600 feet of overlay poured per day. (N.T. 938-939, Pltf Ex. 116 page 2)

52. With respect to Mergentime’s schedule, C. Mergentime stated: “The schedule was kept by the engineer. And the engineer took our information and prepared a schedule. And they -- and this was the schedule they monitored. And they didn’t change that schedule to reflect the activities that physically took place in the field.” (N.T. 261)

53. On direct-examination C. Mergentime reasoned that the original schedule should have been adjusted to reflect the increase in scope of the deck repair. Had the additional repair work been reflected back on the original project schedule, Mr. Mergentime felt his company could have been entitled to a bonus. (N.T. 265)

54. C. Mergentime established that when they started the Project the Type II repairs, (200 square feet on the mainline) were not suppose to be on the critical path. The initial critical item was the concrete overlay and everything leading up to the deck overlay. But the Type II repair became so overwhelming that it slowed down the pouring of the overlay and forced the pouring of the overlay to go out of the planned sequence. The Type II repair became the critical item of work. (N.T. 265-266)

55. Albert Alberts, a construction engineer with the CMC, testified at trial that prior to bid there was no review of the impact that the Type II and Type III increases would have on the schedule because the schedule was evaluated based on the original quantities. (N.T. 108)

56. Mark Cundiff, Mr. Mergentime’s expert, testified and opined that Mergentime, because of its use of additional screeds, would have finished the Project during the incentive period. (N.T. 657-693, 770-774)

57. Prior to the start of Season II work, PennDOT and its CMC recognized that the 1986 schedule needed to reflect the knowledge gained in Season I work and the huge overrun in the actual quantity of deck repairs. (N.T. 583, 586-588; 602-618; Pltf. Exs. 224, 230, 231, 236, 240, 241, 248)

58. PennDOT’s letter of March 12, 1986, to Mergentime states in part:

...[B]e advised that while the Department expects you to allow for time and incur costs for 1986 work which is required to be performed by contract, consideration must be given to schedule all reasonably foreseen extra work. Recent discussions with our field representatives in your office indicates the Type II repairs on the University Avenue ramp significantly exceeds those that were expected in the

original documents. This has now been verified in the field, while at the time of our earlier progress meeting it was only anticipated. (Emphasis Added).

(N.T. 617-618; Pltf. Ex. 240)

59. PennDOT and Mergentime finalized the tally for Season I deck repair quantities on February 19, 1986 and they were as follows:

<u>Structure</u>	<u>Drawings</u>	<u>Specified Type II (Item 1090-0502)</u>	<u>Actual</u>	<u>Specified Type III (Item 1090-0503)</u>	<u>Actual</u>
Mainline	S-15382	200 square feet	<b>7,450</b>	50	1015
Ramp D	S-15379	300	<b>963</b>	20	60
Ramp C	S-15378	<u>200</u>	<u><b>1,222</b></u>	<u>20</u>	<u><b>77</b></u>
Total Quantities:		700	9,635	90	1152

(N.T. 610-611; Pltf. Ex. 7F, 7H, 232)

60. As a result of the payment by PennDOT and its analysis of cost of the follow-on work, Mergentime realized the impact of the overrun in Type II repairs on its costs to perform the overlay and other follow-on work. Mergentime during Season II insisted on obtaining written direction from PennDOT allowing Mergentime to exceed the plan quantities. After much discussion between the parties, PennDOT agreed to pay force account for the Season II work. (N.T. 240; 267-268, 614-616; Pltf. Ex. 239)

61. Notwithstanding the CMC's expressed concern relating to the impact of the deck repair on the construction schedule in early 1986, at trial, Mr. Alberts from the CMC expressed a different view and downplayed any schedule impact that the "very large overrun of actual quantity" had on the schedule during the 1985 Season I. Mr. Alberts testified that knowing the large amount of deck repair would not be important information for scheduling the work because it could be "overcome by getting manpower out there to do the job so the critical path is not impacted." He also testified that "weekly" updates provided him with information that the overrun on the quantity "wasn't impacting the critical path." However, neither he nor Mr. Kohlman, the CMC Scheduler, were able to produce a copy of the weekly updates that supposedly showed as-built dates for Type II and III deck repair that support his statement that there was no impact of the Type II deck repair on the critical path. Mr. Alberts also disagreed 100% that the overlay work was slowed by the overrun in Type II and III deck repair. (N.T. 65, 127, 128, 1076-1077; Pltf. Ex. 225 page 3 #11)

## **F. Damages Overview**

62. Mr. Mergentime established that Mergentime had a formal policy manual that included how the field accounting and the cost coding system was to be utilized by project management.

(N.T. 179-181; Pltf. Ex. 10)

63. Mergentime had a fully integrated accounting system to conform to the bid estimate and all work was given cost codes, breaking work down into work items and job classifications. (N.T. 189-190, 200-201)

64. The basis for Mergentime's damages is its cost reporting system as described in its Policy Manual for Operations. It was company practice and requirement that costs be recorded contemporaneously, appropriately and accurately utilizing time cards and vouchers. Mergentime's cost records were prepared by Mergentime as part of its regular course of business and it was Mergentime's regular business to prepare these reports and vouchers. (N.T. 189, 195, 200; Pltf. Ex. 10, 3B)

65. Mergentime's cost report shows cost incurred on the Project in the amount of \$19,871,140.84. (N.T. 191)

66. Mergentime's complaint in this case sets forth the following claim items:

Maintenance and Protection (Item 0901-0001)	\$528,086
Modification of Existing Parapets - as designed (Item 1025-0140)	\$1,363,477
Parapets - Type II (Item 1025-0143)	\$502,811
Overlay (Item 2001-0499)	\$780,951
Expansion Joint (Item 2021-0101)	<u>\$811,878</u>
	\$3,987,203

(N.T. 196-197; Complaint; Pltf. Ex. 3A)

67. Mergentime Corporation fully integrated an accounting system which tracked all work items using seven Cost Codes for (1.) Labor, (2.) Construction Materials (**Consumable supplies**), (3.) Permanent Materials, (4.) Equipment, (5.) Equipment Operation, (6.) Supplies and (7.) Subcontract. (N.T. 189-190; P-3B; P-10)

68. The back-up cost information is set forth in Pltf. Ex. 3A which contains copies of cost records maintained by Mergentime in its regular course of business. Pltf. Ex. 3A tabulates the cost incurred for the particular impacted item of work and subtracts the sum estimated to be earned, at bid time, for that particular item at the end of Season I. The labor cost data records were prepared at the same time that the costs were incurred. (N.T. 199-201; 739, 740; Pltf. Exs. 1 and 3A)

69. Field cost data came from two sources. One was the foreman's time card

which records the labor hours and description of the work performed. The office engineer then cost-coded the time cards to specific work items. The other costs came from the home office for bills sent in for permanent materials, construction materials and rental equipment that were used at the project. (N.T. 193-194, 696-697)

70. As part of this case, Mergentime further sought to isolate the impact of the deck repair disruption by isolating labor costs during the specific period(s) where there was noted significant Type II and Type III deck repair work. Mr. Cundiff, Mergentime's scheduling, cost and impact claim expert, employed certain methodology in preparing his damage calculations, as follows:

(A) He placed on a time chart the record of the Type II and III repairs. (Pltf. Ex. 7C and 7D) The source of the information was PennDOT's own records of quantities. (Pltf. Ex. 8C)

(B) He grouped the repairs by the particular month.

(C) He reviewed the as-built pour sequence data, the timing of the repairs, and identified the location of the deck repairs that impacted the progress of the work and indicates the direct link between Type II and III repair and screed operations.

(D) He identified the "jumping" of the screed required to work around Type II repairs. (N.T. 699, 707, 746-756; Pltf Exs. 7C, 7D, 8C, Pltf. Supp. Ex. No. 7J)

71. Mr. Cundiff testified that he prepared Pltf. Ex. 7I which shows the weekly labor costs for the impact work activity that he identified. He selected the period ending from June 15, 1985 through September 28, 1985 as the period most impacted by the Type II and III deck repair activities which were outside the area admitted to as being contractor-caused impacts. (N.T. 718-723)

72. Mr. Cundiff stated that he added on equipment and overhead factors and calculated the total impact claim at \$2,077,693.99. (N.T. 742; Ex. P-7I)

73. Plaintiff revised Ex. P-7I to total \$2,385,501.16 and added \$121,866.00, for excessive amount of concrete, for a revised claimed amount of \$2,507,367.16 setting forth the following Claim items:

Maintenance and Protection (Item 0901-0001)	\$251,303.92
Modification of Existing Parapets - as designed (Item 1025-0140)	\$419,431.62
Parapets - Type II	\$385,470.77
Overlay (Item 2001-0499)	\$980,051.13
Expansion Joint (Item 2021-0101)	<u>\$349,243.72</u>
	\$2,385,501.16

Excessive Amount of Concrete	<u>\$121,866.00</u>
Revised Total Claim:	\$2,507,367.16

(N.T. 742-744; Pltf. Ex. 7I Revised)

**F(1). Equipment/Labor Ratio**

74. On direct, Mr. Cundiff established that for the impacted payrolls, week ending periods, 6/15/85 to 9/28/85 he used the actual labor cost broken out by major activity and cost categories. (N.T. 696-697, 717-718, 725, 736-737)

75. Mr. Cundiff reasoned that "...[W]hen you send a labor crew out to do a particular item of work that crew requires support in equipment, supplies -- whether it be compressors and jackhammers...pickup trucks...small tools...which are directly associated with the work and directly associated with labor of the work." (N.T. 726-727)

76. Mr. Cundiff established that he did not use the actual equipment cost incurred during the impacted period. He did not go to the voluminous individual job cost reports, vouchers or daily reports and pull out equipment usage and booked costs. He reasoned that because equipment and supplies (emphasis added) were vouchered and booked into the system, independent of payroll data, their entry into the cost reports are not necessarily related to time as is the labor payroll costs. (N.T. 739, 802-803, 1174)

77. According to Mr. Cundiff, the equipment costs computed for the claimed impacted items are not the direct accounting costs but a computed cost using actual equipment plus actual supplies costs incurred in a longer than impacted period, divided by total labor costs incurred for the same period, for items claimed to develop an equipment/labor ratio for a claimed item. (N.T. 725-727, 801-803)

78. At trial, the initial equipment/labor ratios computed varied for each item claimed as follows:

Maintenance and Protection	68.33% <sup>1</sup>	(N.T. 801)
Modification of Existing Parapets - as designed	16.82%	(N.T. 824-825)
Parapets - Type II	15.39%	(N.T. 741, 742)
Cement Overlay	19.32%	(N.T. 739)
Expansion Joint	17.01%	(N.T. 741, 742)

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<sup>1</sup>This figure was adjusted downward in Plaintiff's Reply Brief.

(Pltf. Ex. 7I)

79. Mr. Rubino, PennDOT's expert testified that Mergentime's claim used a total cost-type claim methodology within the impacted period. The methodology is essentially a cost-to-cost comparison accomplished by computing actual costs incurred during the claimed period and comparing them to the estimated unit cost to compute damages. He noted that such a presentation assumes a reasonable bid, with reasonable costs, no other way of discreetly computing damages and assumes the contractor did not cause cost increases. The methodology utilized in this claim is a modified total cost, according to Mr. Rubino. (N.T. 1110-1111, 1150-1153)

80. Mr. Rubino observed that labor costs claimed came from actual cost records and are traceable back to the cost records. (N.T. 1112, 1146, 1166)

81. According to Mr. Rubino, Mergentime's cost records have actual cost for equipment in them for the total project. Mr. Rubino reasoned that one could identify, from project documents, specific equipment or spreads of equipment that may have been impacted. Mr. Rubino did not comment on the specificity of supplies' costs that are equipment related. Mr. Cundiff maintained the equipment costs were not necessarily posted during the impacted period. (N.T. 739, 1112-1113)

82. On direct, Mr. Rubino highlighted that at least for the Maintenance and Protection of Traffic (hereinafter "M & P of Traffic") claim, the supporting accounting records contain equipment costs that would be purchased for this item of work. Mr. Cundiff, on cross-examination, could not explain why two equipment purchases for, \$35,149.14 and \$85,696.10, made on March 31 and April 1, 1985, were included in calculations for the impacted period. (N.T. 803, 806, 1113-1114, P-3A pages 29 & 34)

83. Mergentime in a Reply Brief admitted to the inappropriate equipment costs included in the equipment/labor ratio presented at trial for M & P of Traffic and computed a new ratio of 10.3%. (Reply Brief at page 11)

84. The equipment ratio presented on Plaintiff Exhibit 7I (Revised) and claimed equipment cost are revised as follows for M & P of Traffic:

Equipment labor ratio at @10.3%	\$15,976.54 (Line B Pltf. Ex. 7I Revised)
Total Actual Labor Equipment Cost	\$169,915.81 (Line C Pltf. Ex. 7I Revised)
Claim Total (Revised)	\$162,096.68 (Line I Pltf. Ex. 7I Revised)

(Reply Brief at page 11; Pltf. Ex. 7I Revised)

85. The average of all Equipment/Labor Ratio is 15.77% (10.3 + 16.82 + 15.39

+ 19.32 + 17.01) ÷ 5. (Record)

86. If owner liability is accepted then, Mr. Rubino assumed entitlement for equipment costs but did not support the use of the equipment/labor ratio. He preferred using use records for each piece of equipment impacted but admitted “[t]here is definitely judgmental factors put in when you assess how much that...that piece of equipment was impacted. So there are engineering type estimates that...are used. Perfectly appropriate to do so....” He admitted “...assuming entitlement, okay, it would be my assumption that there would be some equipment impact, all right.” Mr. Rubino, nevertheless, disagreed with Mr. Cundiff’s method of analyzing damages. (N.T. 1174-1176)

**F(2). Overhead**

87. Mergentime added a 42.77% overhead percentage applied to Period Labor Cost less the Estimated Period Labor Cost. Mr. Cundiff arrived at the 42.77 percent overhead ratio for Season I from the relationship of total indirect costs to actual total labor costs. (N.T. 730-731, 741, 901-902; Pltf. Ex. 3A, Pltf. Ex. 7I Revised)

88. Under cross-examination, Mr. Cundiff admitted that the 42.77% overhead markup was mistakenly applied to both labor and equipment overruns, not just the direct labor cost, and that the claim should be reduced accordingly. (N.T. 902-903; Pltf. Ex. 7I, 7I Revised)

89. Mr. Rubino testified that this project was planned and implemented in two Seasons thus inferring that much of the overhead that was incurred was period-type costs and it did not necessarily increase as a result of increased costs. (N.T. 1114-1115)

90. The initial damages presented in Plaintiff Exhibit 7I listed overhead charges based on 42.77% of Labor and Equipment costs totaling \$622,452.65 broken out by claimed items as follows:

Maintenance and Protection	\$88,723.30
Modification of Existing Parapets - as designed	\$13,149.44
Parapets - Type II	\$120,245.46
Cement Overlay	\$290,738.11
Expansion Joint	\$109,596.34
<b>Total</b>	<u>\$622,452.65</u>

(Pltf. Ex. 7I)

91. Mr. Cundiff revised the amounts claimed for additional project overhead and presented Plaintiff Exhibit 7I (Revised) applying the 42.77% to only the labor component for a total of \$660,110.20 in computed overhead as listed below:

Maintenance and Protection	\$43,876.39
Modification of Existing Parapets - as designed	\$118,539.74
Parapets - Type II	\$104,347.11
Cement Overlay	\$300,330.15
Expansion Joint	\$93,016.80
<b>Total</b>	<u>\$660,110.19</u>

(Pltf. Ex. 7I Revised)

92. Mr. Rubino noted that for the entire project, the actual overhead cost incurred was \$2,421,916.00 versus the bid estimated \$2,418,032.00 indicating a \$3,884.00 overrun. Mr. Rubino also testified that using Mergentime original submission, the overhead burden should be 14.63%, not 42.77%. (N.T. 1115-1118; Pltf. Ex. 3B)

**F(3). Parapet Modifications Damages - As Designed**

93. There were two parapet items in the original Contract. One (Item No. 1025-0140, “Modification of Existing Parapets as Designed”) called for complete demolition of the existing parapet and construction of a new parapet. The other (Item No. 1025-0143, “Modification of Existing Parapets, Type II”) called for partial demolition of the existing parapet and “blistering” of a new parapet upon the partial remains of the existing one. Both of the original parapet items had the same bid unit price - - \$100.00 per lineal foot. (N.T. 1003-1005; D-20; D-19)

94. At Mergentime’s request in May, 1985, part of the parapet modification done in the 1985 Season I was changed from cast-in-place to pre-cast. A new unit price was agreed upon by the parties for the pre-cast parapet of \$98.69 per lineal foot. Because there was a new price, there was a new Contract item - Item No. 2990-0801. The original quantity of this item for the 1985 Season was 4,242.5 lineal feet. The change from cast-in-place to pre-cast parapet was not made because of the quantity overrun in Type II Repairs. PennDOT paid Mergentime \$372,308.02 (98.69x3772.5 lineal feet) for this work in Season I. (N.T. 1005-1008; Ex. P-156, P-162, P-167, P-184; D-98)

95. Mr. Cundiff, during cross-examination, tried to connect the change to precast parapet to the overrun in Type II repairs and appeared to be unaware of the fact that this revision was initiated by Mergentime. Also, at trial, Mr. Mergentime was not aware of this fact. (N.T. 843-847)

**F(4). Parapets Type II**

96. On the west-bound curb lane of the mainline structure, the plans originally called for Item No. 1025-0140 (the complete demolition of existing parapets and construction of new parapets) from Station 367+91.73 to Station 393+50.30. The Department, by memo of August 14, 1985, directed the parapet at this location be constructed as Item No. 1025-0143 (the partial demolition and blistering). (N.T. 1008-1011; Ex. D-42)

97. Item 1025-0143 parapet design showed the use of the existing in-place parapet as part of the new construction. This design is referred to as “blistering” construction since the concrete forms are placed on the existing parapet and concrete is poured between the form and existing parapet. (N.T. 1004; P-2c S15382 sh 47 of 56; D-19)

98. Mr. Alberts testified that the change in contract items for the parapet from Station 367+91.73 to Station 393+50.30 was “[b]ecause the separation of the traffic from the work zone was by means of barrels, and if you had to remove the parapet per the original design, the total sidewalk and parapet, any out-of-control vehicle would have nothing to prevent it from ending up in the river. So for safety reasons we ... PennDOT determined that it would be best to retain the existing parapet....” This change was not related to any overrun in Type II deck repair but it was strictly for safety reasons according to Mr. Alberts. (N.T. 1009-1010)

99. The quantity of parapet items on which Mergentime based its bid and the final quantities paid for by PennDOT to Mergentime are as follows:

Contract Item Number	Plan Lin. ft	Actual Lin. ft	Unit Price Per Lin. ft	Amount Paid
1025-0140	10,451.0	5,556.7	100.00	555,670.00
1025-0143	7,187.0	8,842.4	100.00	884,240.00
2990-0801	0	4,242.5	98.69	418,692.32
Totals	<u>17,638</u>	<u>18,641.6</u>		<u>1,858,602.32</u>

(Exh. D-98)

100. Mr. Mergentime admitted that the parapet “as design” would require more demolition than the Type II Parapet Section VV Contract Item 1025-0143. (N.T. 419, 420)

101. Under cross-examination, Mr. Mergentime admitted that at no time during Season I did Mergentime request any additional compensation for the change for Contract Item 1025-0140 to Contract Item 1025-0143. Also, on October 2, 1985 Mergentime’s Mr. Miner signed

an agreement not to claim for the disputed work issue "Parapet on W.B. curring time." (N.T. 379, 425-426; P-210)

**F(5). Maintenance and Protection of Traffic (The M & P Traffic)**

102. Mergentime claims it estimated bid costs at \$215,308.00 for the M & P Traffic. Mergentime's claim for maintenance and protection traffic has been revised downward to \$162,096.68 from \$251,303.92. (Pltf. Ex. 7I Revised)

103. Mr. Cundiff included \$18,416.37 for clean up in his computation of total labor and equipment cost; however, zero dollars were included in the estimated bid cost. On cross-examination, Mr. Cundiff attempted to relate this additional cost to additional clean up of material for Type II and III repair which clean up would be associated and paid for under those contract items. (N.T. 461-462, 798-800)

104. Estimated equipment cost for M & P Traffic was only \$1,400 versus the revised cost of \$15,976.54. In addition, the final adjustment detail to Mergentime's bid shows an additional \$69,378.00 for M & P Traffic. (N.T. 463; Pltf. Ex. 4A, 4C, Def. Ex. 5A)

105. Mergentime's post-Season I cost report shows \$100,373.39 in actual subcontractor costs for M & P Traffic, but no estimated subcontractor cost was identified at trial. (Ex. D-7 page 185)

106. As per the Special Requirement of the contract, Mergentime on July 17, 1985 requested changes in the phasing and staging of the work in order to meet its approved schedule and avoid disincentive charges. The letter also stated "This plan will be put into effect at no additional cost to the state". (N.T. 396-402, 992-994, Def Ex. D-9, D-13)

**F(6) 4" Concrete Overlay**

107. Mergentime Bid Contract Item 2001-0499 57,308 sq. yards. Class AAA Cement Concrete Overlay, 4" reinforced at \$52.00 per sq. yd. for total Bid Price of \$2,980,016.00. (N.T. 888-889; Ex. D-1 page 21)

108. Mr. Cundiff acknowledged Mergentime's unadjusted estimated cost as \$1,237,823.00 for Contract Item 2001-0499. (N.T. 888-889, 892; Ex. D-5C)

109. The difference between Bid and the total unadjusted estimated cost was \$1,742,193.00. (\$2,980,016.00 - \$1,237,823.00) (N.T. 889, Ex. D-1, Ex. D-5C)

110. On direct, Mr. Rubino testified that in his view that large of a difference couldn't be accounted for by margin and indirects. "It is far too big I would think." "The amount of labor incurred and coded to cement overlay is so grossly higher than the estimated labor that it

would cause me to seriously question the contractor and the records to determine whether there's a good reason for that" .... Mr. Rubino also posed the question : "was there a cost that was picked up on bid day that they didn't ... they didn't pick up when they did bid spreads?" (N.T. 1120-1122)

111. Mr. Cundiff, under cross-examination, tried to explain the \$1.7 million difference by adjustment of indirects, overhead and profit. He also reasoned the difference in the figures was not really relevant to the claim itself. Mr. Cundiff, however, did establish that various items that make up the work involved in the cement overlay were contained on his original Exhibit 7I, those items including the cleaning slab and overlay, air clean after reinforcement placement, spray epoxy bonding, complete, place and strike off concrete, cover with burlap and polyethylene, set and remove screed rail, and set bulk head overlay. (N.T. 737, 892-894)

112. Mr. Mergentime during rebuttal explained that there were over 250 bid items, so you leave several items open for final adjustments. A summary sheet was maintained and final pluses and minuses based on subcontractor and supplier quotes are noted and a final number is used and placed in the open items. M & P Traffic and Cement Overlay items were left open to reach the desired bid total. (N.T. 1195 - 1200; Ex. P-4C, D-5A)

113. Mr. Mergentime explained how adjustments were made such as plus \$130,810.00 for premium time and minus \$43,516.00 for ready mix concrete. While this could explain the use of the two open items, it was evident that Mr. Cundiff did not take these adjustments into account for direct bid estimated cost alleged on Exhibit 7I Revised. (N.T. 1199-1204; Ex. P-4A, P-4C, P-7I Revised)

114. Mergentime's claim for addition cost for 4" cement concrete overlay shows \$195,652.38 for labor required to Clean Slab/Overlay versus an estimated zero bid estimate. (Ex. P-7I Revised)

115. Mr. Cundiff tried to explain that Mergentime had estimated the slab clean up under various other items such as expansion joints, epoxy spray and clean behind scarification which is a separate pay item and not part of this claim. Also Expansion joints are a separate pay item and a separate claim item. (N.T. 851-855, 859-864; Ex. P-4C, D-1)

116. Mr. Mergentime explained that on the day before bid the balance bid price or "plug number" was \$13,525,533 with two bid items left open to cover changes and pricing adjustments made on bid day. The final bid total was \$14,382,886.00. This \$857,353.00 addition was split between M & P Traffic \$260,000.00 and the change to \$2,980,016.00 for bid item 2001-0499, 4" AAA Concrete Overlay. (N.T. 1195-1205; Ex. P-4A)

117. On cross during rebuttle, Mr. Mergentime cited examples of adjustments made to the direct cost during the bid adjustment process that were contained in the "Adjustment Details". These were plus \$176,609.00 for rebar welded wire fabric, plus \$130,810.00 for premium time and \$43,516 for concrete ready mix which was subtracted out. (N.T. 1202-1203; Ex. D-5A)

118. Mr. Mergentime did explain that they “crewed” the cement overlay with a 10 man composite crew that did scupper, expansion and screed work, estimated in Group 9 (Pltf. Ex. 4A), in 75 estimated shifts and at a labor cost of \$21.64 per cubic yard. (N.T. 474-477; Ex. P-4A, D-5C)

119. It is important to note that Mr. Cundiff, though his overlay calculations were problematic, he did calculate the numbers taken out of the engineer’s or inspector’s reports in preparing Exhibit 7I and 7I Revised. Mr. Cundiff utilized the overlay item to explain his general methodology in preparing those exhibits. (N.T. 736-744)

## **F(7) Expansion Joints**

120. Contract drawings provided additional details and information concerning the expansion joints. The contract specifications showed three types of expansion dams and required the contractor to chose one of the three and identify same at the time of bidding. Mergentime selected Wabo - Maurer Stripseal Expansion, Model S-200 Item #2021-0101. (N.T. 788-789; Ex. D-1, D-57; Contract Dwg S-15382 Ex. P-2C Sheet 50 of 56)

121. As specified, Mergentime submitted a shop drawing, prior to fabrication, showing complete details, dimensions, size, type and characteristics of the seal and other information necessary for the fabrication and installation of the expansion joint item. PennDOT had approved the shop drawing. (N.T. 442-444; 788-789, 1014-1015; Ex. D-57, D-94 and D-95)

122. Mr. Gould established that there were existing expansion dams that had to be removed prior to milling off the existing asphalt because if the tungsten carbide bits hit the steel of the existing dams it was disastrous. (N.T. 514)

123. Under cross-examination, Mr. Mergentime acknowledged his company received the original 1957 construction plans for the Schuylkill Expressway during the bidding of the project. Mr. Mergentime also acknowledged that the original construction plans (S-2333) show reinforcing bars approximately 4" from the 1" Prem. Jt at Sec D-D. (N.T. 452, 455-458, Ex. D-97 sheet 19 of 75)

124. The contract drawings (S-15382) Section BE-BE shows new #5 Rebar @ 12" c-c but does not show any of the original construction rebars from the 1957 plans. (N.T. 453; Ex. D-56)

125. Neither the contract drawings for L. R. 67057 Section 500 nor the original construction drawings show any details regarding the existing steel expansion dams that Mergentime had to remove prior to removal of the existing asphalt surface and concrete scarification. (N.T. 552-555; Ex. P-2C, D-56 and D-97)

126. When Mergentime went to install the approved fabricated expansion joints a conflict with existing rebars was encountered and required adjustment to the planned method of

installation. (N.T. 319, 642-643, 1016)

127. Mr. Cundiff presented the claim for expansion joints that included line items with zero estimated labor. These items are Pre. Damns for Rubber at \$18,263.10 and Set Rubbers in Damns at \$10,371.70. (Ex. P-7I Revised)

128. In computing damages for expansion joint, Mr. Cundiff included actual labor cost associated with the installation of strip seal at expansion dams valued at \$28,634.80 (\$18,263.10+10,371.70). (Ex. P-7I Revised)

129. Mergentime agreed to waive all rights to claims for disputed work on October 2, 1985 for "installing strip seals at exp. dams". (N.T. 357, 652-653; Ex. P-210)

### **F(8) Excessive Amount of Concrete**

130. Mr. Cundiff added \$121,886.00 to the damages for excessive amounts of concrete "[t]hat [were] based on a bedding problem that was not and would not have been evident at the time of bid". (N.T. 742-744)

131. Mr. Cundiff did not visit the project site until a few weeks before trial, some 12 years after construction. He relied on project personnel and records to develop his expert opinions. (N.T. 775-776, 905)

132. Mr. Gould established that Mergentime had surveyors out on the job to set screed rail elevations to create the correct slope and line for the road surface as required by contract drawings. (N.T. 516-517)

133. Mr. Edward Hollander, who came to the project in the Fall of 1998 at the end of Season I, testified as to the required extra depth of AAA concrete on the University Avenue Ramp (Season II work) and the fact that there were discussions with PennDOT in February 1996 regarding the fact that "some areas got greater than a 4" overlay". (N.T. 563, 629-630; Ex. P-232 Page 3 Ref #13)

134. Mr. Cundiff alleged that the engineer directed screeds to be adjusted and that back up for this is found in the engineer's reports containing various depth measurements from the screed during "dry runs". He stated the average additional depth would be "roughly around 1 3/4 inches" and if you apply that over the entire roadway, it amounts to 2,200 cubic yards of concrete. (N.T. 743)

135. The specifications required the 1 inch scarification of the existing concrete to be done in two one half-inch passes. The depth of cut for each pass was set by the operator and sometimes when Mergentime, went through with the scarifying machine, it would encounter the existing rebar. Rather than lifting the cutting blades, as required by specification, it would go

straight through and damage a lot of the existing steel. PennDOT required rebar replacement and Type II repairs to the damaged concrete; however, where the rebar was only exposed and not damaged, a field decision was made at each location as to the nature of repair. There were variations in the scarification requiring adjustable chairs to support rebar. (N.T. 1051-1054, Ex. P-156; D-46, Item 2)

136. Mr. Alberts testified that the only issue, regarding additional depth, raised by Mergentime during Season I, was at one location where there was a sag in the existing deck and some additional concrete had to be placed. Mr. Alberts testified that PennDOT paid Mergentime an agreed price for the additional concrete to make up for the sag and achieve a level riding surface. (N.T. 1011-1012)

137. Shortly after the completion of Season II work PennDOT directed that cores be taken to determine why sections of the Latex modified 4" Cement Concrete overlay was failing. (N.T. 1022-1023; Ex. D-81)

138. The cores were taken in all lanes of the mainline roadway from Station 348+04.76 to 404+90 approximately 5,685 of 6,400 = feet of 4" AAA Cement Concrete overlay. The average depth for the EB right lane 4 3/4" (18 cores), the EB left lane 5 1/16" (9 cores), the WB right lane 4 9/16" (12 cores) and the WB left lane 4 3/8" (6 cores). The overall average for the 45 cores was 4 5/8" and the medium was 5". The thickest cores were East Bound (1) left (2) right lane at 6.0" and the thinnest cores were in the right lanes East Bound and West Bound at 3 1/4". (Ex. D-81)

139. Mergentime expended \$614,192.00 for 10,812 cu yds. of concrete material for an average unit price of \$56.81 per cu yd. Mr. Cundiff reasoned that for 44,152 sq yds. of 4" AAA concrete overlay there is 1,226 cu yds. per inch and arrived at an estimated additional cost of \$121,886.00 based on \$56.81 per cu yds. (N.T. 743, 744)

140. Mergentime filled all the Type II & III repairs monolithically with the placement of the 4" cement overlay. Mergentime anticipated a 5% overrun for waste in its bid estimate. There is no testimony or documentation presented at trial that these issues and the Type II repair caused by Mergentime's destruction of existing rebar with the scarification machine were given any credit toward the alleged overrun. Also, beyond Mr. Alberts testimony, there is no evidence that a credit was given, against the extra depth claim, for the additional concrete paid for by PennDOT to correct the "sag area". (N.T. 987-989, 1011-1012, 1051-1054; Ex. P-56, D-5C)

141. Mr. Cundiff, under cross-examination, admitted that the Type II and Type III repair required 400 cu yds. to 500 cu yds. of additional material and likewise additional concrete. Mergentime was paid for this concrete under the Type II and Type III repair items in the contract. (Ex. D-1)

142. Mergentime was paid \$52.00 per sq yd. for class AAA cement concrete

overlay 4" reinforced. While there were areas where the overlay was greater than 4" or less than 4" in depth, there was no documented testimony from witnesses that were on the Project or detail computations from the engineers' records to support the claim that 1- 3/4 inches in additional depth was in fact the average extra depth across the entire project. The core drill data would indicate that the average was approximately 4 5/8". (Ex. D-1, D-81)

143. Mr. Cundiff on cross admitted that he made no adjustments to any of the damages claimed caused by contractor error or inefficiencies during the period covered by the claim. (N.T. 900)

### **G(1) PennDOT Counterclaim / Additional Final Payment/Settlement Memorandums**

144. On August 7, 1985, the Commonwealth sent to Mergentime a letter discussing a request by Mergentime, of August 1, 1985, to allow Stage II to commence earlier than contractually permitted. PennDOT agreed to the proposal; however, the agreement to the proposal was dependent upon "Mergentime [waiving] their rights to all claims for extensions of time and related damages prior to the date of approval of this proposal." (Ex. D-17)

145. In its letter of August 7, 1985, Mergentime was permitted to reserve its rights to request "payment for additional work performed for which is has not received just compensation within the terms of the contract." Mr. Miner of Mergentime executed his agreement to this correspondence from PennDOT dated August 7, 1985, on August 7, 1985. (Ex. D-17)

146. On September 26, 1985, the Commonwealth directed a letter to Mergentime regarding discussions between the parties which had occurred during a job meeting the previous day. In that letter, the Commonwealth indicated it was prepared to waive the 7-day requirement for curing time on certain concrete barriers and instead accept a 5-day period. In return, Mergentime agreed to waive all rights to claims for extension of time and "disputed work issues for the 1985 season." (Ex. D-52)

147. In its letter of September 26, 1985, the Commonwealth provided a place for Mergentime to execute the letter, and above the place for signature appeared the following language:

Mergentime Corporation agrees to waive all rights to claims for extensions of time and \*disputed work issues up to the completion of the 1985 I/D related work. It is understood the contractor reserves its rights to request additional payment for force account work it may not have been justly compensated for and for payment on unit price work upon final determination of actual quantities.

(Ex. D-52)

148. Appearing below the signature line, on which Mr. Miner of Mergentime signed as vice-president, appears the following language:

\*The disputed work issues are as follows:

Installing Strip Seals at exp. dams.

Shld. (shoulder) crack repairs.

Type 2 bridge repairs

Parapet on W.B. curring time.

(N.T. 357-358, 1001, 1002; Ex. D-52)

149. Mr. Miner of Mergentime testified that he was attempting to limit the disputed work areas by putting the note on PennDOT's letter of September 26, 1985. Mr. Miner also established that he did not intend to surrender any impact claim that Mergentime may or may not have had, since there was no way of knowing what the impact was until all of the quantities were turned in, and as of September 26, 1985, there was no way of knowing the extent of the quantities and the impact they would have. (N.T. 361; Ex. D-52)

150. The Department and Mergentime entered into a written Settlement Memorandum dated September 9, 1987, which by its terms set forth the terms and conditions on which the parties settled certain disputes concerning work performed in the 1986 Season Two of the Project. (D-77)

151. At the time this settlement agreement was prepared, PennDOT was still in the process of determining final quantities and final payment to Mergentime. In addition, the parties, despite earlier and somewhat conflicting attempts at settlement of certain issues, specifically noted in the September 9, 1987 agreement (at paragraph 9) that Mergentime was excepting from settlement "any claim...for additional costs, losses and damages arising from.... Season One work under the Contract (i.e. work performed prior to December 31, 1985)...." The parties went on to state in the agreement of September 9, 1987 that Mergentime "was expressly, [reserving] the right to assert any claim for any cause whatsoever relating to Season One work..." and PennDOT was reserving all of its defenses to such claims, including those contained in the September 26, 1985 letter from PennDOT to Mergentime. (N.T. 1021; Ex. D-17, D-52 and D-77)

152. The Department agreed in the settlement memorandum of September 9, 1987, to make a full and final payment for "Season Two" (1986) work to Mergentime of \$757,504.96, with the amount of that payment to be adjusted if the final quantities on which the amount was based were adjusted. (D-77, page 2, para. 5)

153. The final payment made by PennDOT to Mergentime after all adjustments to final quantities, was \$472,582.84, plus \$65,203.55 in settlement of Docket No. 1265 as ordered by Board of Claims on October 4, 1989. The total amount of final payment owed on October 4, 1989 was \$537,786.39. (N.T. 387, 1021, 1022; Counter Reply to New Matter in Plaintiff's Reply to

Counterclaim)

154. At trial C. Mergentime on direct claimed that PennDOT should have paid \$757,504.96 as per paragraph 5 of the Settlement Agreement, minus some agreed to obligations of Mergentime, but the Commonwealth did not pay that amount. (N.T. 386; Ex. P-322)

155. By agreement Mergentime was obligated to pay PennDOT \$67,416.00 for M & P of Traffic associated with repainting and \$77,000 offset for a total of \$144,416.00. This was specifically acknowledged by Mr. Mergentime. (N.T. 387; Ex. D-77)

156. C. Mergentime confirmed that PennDOT paid the \$537,786.39 as stated in the pleadings. (N.T. 387, 392)

157. C. Mergentime reasoned that \$757,504.96 minus \$537,786.39 is \$219,718.57 minus the obligations of \$144,416.00 is \$75,302.57 which PennDOT still owes on the contract. (N.T. 387)

158. Mr. Alberts testified that at the time of the agreement final quantities were not completed and that Mergentime proceeded to the Board of Claims claiming \$110,000 which was settled by agreement and paid and the present claim for an additional \$75,302.57 is without merit. (N.T. 1021-1022; Ex. P-322)

### **G(2) Payment for M & P of Traffic**

159. Mergentime and PennDOT entered into a settlement memorandum of September 9, 1987 to settle disputes connected to Season II work and that agreement required certain payments to be made by both parties. (D-77)

160. Mergentime agreed to pay PennDOT \$67,416.00 for M & P of Traffic and certain inspection costs incurred by PennDOT in connection with repainting of Chestnut and Walnut Streets ramps during the period of January 1, 1987 to April 30, 1987. (D-77, para. 7)

161. Mergentime has not paid PennDOT the \$67,416.00 it agreed to pay for reimbursement of M & P Traffic and the Board finds that \$67,416.00 should be deducted from any award made against PennDOT. (N.T. 392, 1022, Ex. D-77)

### **G(3) Repair of Delaminated Overlay**

162. In the settlement memorandum concerning Season II work, the parties agreed that the Department would retain the right to recover from Mergentime up to \$200,000 in costs of repairing certain overlay defects described in a March 1987 report of Department consultant A.G. Lichtenstein & Associates, Inc. (D-77, pages 3-4, para. 8)

163. Shortly after completion of the project's Season I work, delaminations and failures in the overlay were evident in both the Latex Modified Concrete (LMC) and in the 4" AAA Concrete overlays. (N.T. 1022; Ex. P Supp. 14; D-81)

164. At the request of Mergentime, investigation of the failures in the overlays was initiated by Consulting Engineers Wiss, Janney, Elstner Assoc., Inc.; in April 1986 and continued through to February 1987, in both the EB and WB lanes of the overlays, constructed between April 1985 and October 1985. (Season I) (Ex. P-Supp. 14; D-81)

165. The Commonwealth's consultant also reviewed the delamination issue and a summary of the extent of the delamination was listed in A.G. Lichtenstein's report of March 5, 1987 as follows:

Type	Area Delaminated	% of Total Item
1 1/4" & transitial depth LMC	1770 Sq Ft	6.3%
4" Non Reinforce LMC	4200 Sq Ft	47.0%
4"AAA Concrete	6400 Sq Ft	2.3%

(N.T. 1023; Ex. D-81 Summary page 1)

166. The WJE's report indicated Probable Causes and noted: "[t]he usual reason for making the repairs to an expressway is to correct problems, particularly delamination, caused by chloride induced corrosion of the reinforcing steel. Cores indicate that some chloride-induced delaminations were detected during recent sounding of the pavement by PennDOT. Probably, a number of such delaminations are not recent, but were undetected by PennDOT soundings made before repairs . . . ." (Ex. P-Supp. 14 page 23)

167. WJE report contains general observations and conclusions summarized as follows:

- 1) EB lanes are in very good condition
- 2) Delaminations and cracks were more apparent in WB lanes
- 3) Passing traffic vibration is much more severe in WB lanes than the EB lanes
- 4) LMC repairs have more delaminations than AAA Concrete
- 5) Thick non-reinforced LMC overlay has more cracks than thin LMC
- 6) Cracks in the overlay are usually evident when curling delamination occurs
- 7) Longitudinal and transverse cracks in LMC may be associated with previous cracks in the existing concrete
- 8) Petrographic examination indicated fractured zone at the top of region of the original concrete in most cores
- 9) Observed delamination occurred inside substrate concrete close to the bond plane in upper regions of original concrete
- 10) Tensile strength specimens failed at low tensile stresses

- 11) WJE concludes that cracked zone is a zone of weakness
- 12) WJE observed that 3 of 12 cores examined had delamination caused by corrosion damage of rebar. . . More likely these delaminations were present but not detected when repairs were made.

(Ex. P-Supp. 14 Pages 28 and 29)

168. By contract specification the extent and type of deck repair areas performed by Mergentime was determined by PennDOT inspectors and the repairs were carried out under their direction. (N.T. 61, 62, 153, 324-325, 1100; Ex. D-1 page 57)

169. The contract specifications for LMC Wearing Surface Transition Bonded Course required the application of Epoxy Bonding Compound immediately prior to placement of the LMC. (Ex. D-1 page 91)

170. Mr. Alberts, while under cross-examination, established that Blauvelt Engineering, PennDOT's bridge designer of the project, had specified the epoxy bonding agent because they had "seen numerous latex overlays in the New York area which [had] failed and the epoxy was included in the specifications as added protection against unbonding". (N.T. 1090-1091; Ex. P-Supp 13)

171. Mr. Alberts further established that epoxy bonding agent, which was included in the contract specification for LMC work, was eliminated by PennDOT at a meeting held on January 7, 1985. (N.T. 1090-1091; Ex. P-Supp 13)

172. The results of the core drilling data, presented at trial, indicates that a significant number of cores broke below the bond between new 4" AAA overlay and old concrete. Some core breaks were as much as 1/2" to 3/4" below the interface. (Ex. P-Supp 14 page 28 #8; D-81 sheets 1-14, 26-43, 46-50, 52-58 & Supp 1)

173. During the design of this project A.G. Lichenstein reviewed the bridge plans for Sec. 500 University W.B. Ramp and stated: "[w]e believe that a very much larger area of Type 2 deck repairs will be required. A procedure for delamination detection and measurement should be established". (N.T. 114, Ex. P-119)

174. There was evidence that wood was detected in the 4" AAA concrete overlay for a total defect area of 10 sq. ft. or 1.11 square yards. (Ex. D-81)

175. A transmittal memo of the A.G. Lichtenstein Report signed by Albert Alberts, P.E. alleges that Mergentime is largely responsible for the delamination problem. (D-81 memo 3/11/87)

176. On cross, Albert Alberts admitted he does not have the technical background

to determine reasons for delamination and admitted Mergentime did an excellent job once it got that right management team on the project. (N.T. 1086, 1088, 1089)

177. PennDOT designated the areas of repairs to the existing delaminated concrete by specifying a 1 inch scarification of the existing concrete in two ½ inch cuts for Type II and III repairs and directed how and where those repairs were to be accomplished. Mergentime performed the repairs and overlay as specified under the watchful eye of PennDOT's inspector. Both the WJE and Lichenstein engineering reports indicate failures below the interface between new and old and neither reports conclusively found Mergentime liable for the delamination of the new overlays. (Emphasis Added) (N.T. 1047, 1052, 1086, 1100; Ex. D-81, Ex. P-Supp.14)

### **CONCLUSIONS OF LAW**

1. With the exception of one incomplete as-built report, PennDOT witnesses were unable to produce an as-built schedule report showing the actual completion dates for the length of time and quantity of deck repair.

2. The CMC and PennDOT knew or should have known from monitoring the as-built schedule the impact that the huge overrun in Type II repair was having on Mergentime's deck overlay and follow-up work items, but failed to initiate or recommend any adjustments whatsoever in the project control system to reflect the impact of the deck repair on the Critical Path.

3. By attempting to force Mergentime to incorporate into the 1986 Season II work schedule the "reasonably foreseen extra work" based on what the CMC stated was 1985 Season I experience, PennDOT and the CMC implicitly acknowledged that: (1) there is a direct relationship between the Season I and Season II structures pertaining to reasonable expectations of a large overrun of Type II and III deck repairs and (2) the serious scheduling concerns that were never compensated for during the 1985 Season I work were related to the overruns. It is evident that based on Season I results that the CMC and PennDOT raised the issue requiring Mergentime to incorporate the "expected" increases into the upcoming 1986 Season II work where an overrun in Type II repair work was a serious concern impacting the schedule for Season II.

4. The Board finds the testimony of Mr. Alberts regarding the schedule impact of the huge increase in Type II repair during Season I less than credible and not reflective of the facts. We find that the testimony of Mr. Cundiff and his supporting exhibits are more credible and descriptive of the facts regarding the interference to the originally planned lateral sequence of the concrete overlay operation on which Mergentime based its bid.

5. The Board accepts the use of Mr. Cundiff's modified total cost method of calculating damages as reasonable and appropriate under the circumstances of the instant claim.

6. The Board finds the 14.63% overhead burden suggested by the Commonwealth's expert to be more credible than 42.77% suggested by Mergentime's expert.

7. Mergentime's claim of \$419,431.62 is for parapets as-designed and pertains to a revision it requested and PennDOT agreed to, at an agreed price. The claim for this item is therefore denied by the Board.

8. In computing the damages for Parapet Type II, Mr. Cundiff included work done prior to the August 14, 1985 memo and there is no evidence that he established a credit for the "disputed work issue" (parapet on W.B. curring time), a claim waived by Mergentime on October 2, 1985. Mergentime's claim for this item, totaling \$385,470.77 is hereby denied.

9. There was no testimony or exhibits showing costs that were incurred by Mergentime in its recommended revised M & P Traffic plan nor did Mr. Cundiff provide any adjustments to the actual M & P Traffic costs to purge costs associated with Mergentime's revised plan. The Board finds that Mergentime committed to no additional costs to PennDOT for their recommended phasing of the project and the calculation of damages are defective by over statements of cost and under stating the value of the bid estimate for M & P Traffic. The Board finds no basis for computing an award of damages on this item.

10. The Board finds the inclusion for clean slab/overlay of \$195,652.38 claim verses a zero bid estimate to be unsupported by the facts presented at trial and should be removed from the damage calculations. This portion of the claim is therefore denied.

11. Mr. Cundiff did not present any testimony or indicate on Exhibit 7I Revised an item under Cement Overlay for \$130,810 premium time as testified to by Mr. Mergentime who maintained that amount was an addition bid item to the cement overlay items.

12. It is clear that Mergentime's estimated direct costs for cement overlay were adjusted upward on bid day and that these adjustments should have been added to the total direct costs presented. Also, the cost items to set and remove screed row and set bulkhead/overlay should not have had a zero direct cost estimate.

13. The estimated direct costs for cement overlay are under-stated as developed by Mr. Cundiff and should include the net addition of \$130,810.00 for premium time to the estimated direct costs of \$769,662.38. It is also appropriate to remove \$195,652.38 for clean slab/overlay from the actual cost of \$874,572.66.

14. The revised estimated cost for cement overlay is \$890,663.00 (\$759,853.00 +\$130,810.00). The Estimated Cost/Unit is revised to 15.72/sy (1,224,756 ÷ 57,308/sy) making the total estimated direct cost for the period \$429,909.14 (27,347.91/sy x 15.72/sy). The revised period labor total is adjusted to \$678,920.28 (\$874,572.66 - \$195,652.38).

15. The damages for cement overlay contained in Exhibit P-7I Revised are adjusted, based on the record as follows:

Period Labor Total	\$678,920.28
Equipment/Labor Ratio 19.32%	<u>\$131,167.40</u>
Actual Labor & Equipment Cost (revised)	\$810,087.68
Est'd Unit cost x Period Quantity (revised)	<u>\$429,909.14</u>
Item Claim Amount Without Overhead	\$380,178.54
Overhead Ratio revised @ 14.63%	<u>\$55,620.12</u>
 Revised Claim Total	 \$435,798.66

The Board finds that Mergentime is entitled to the amount of \$435,798.66 for extra work regarding cement overlay.

16. PennDOT knew or should have known that steel expansion dams were installed subsequent to the 1957 construction drawings S-2333 and what modifications, if any, were made to the original construction but failed to reveal any details to Mergentime prior to bidding.

17. PennDOT reviewed and approved Mergentime's shop drawing submission for the specified expansion dams prior to the start of fabrication with no indications that there was any conflict with existing rebars, which PennDOT knew or should have known would require field modification and extra work.

18. The Board finds that PennDOT's failure to reveal, in the contract drawings and again during the shop drawings approval process, the location of existing rebars, resulted in additional cost to Mergentime.

19. The Damages for Expansion Joint are reduced as they appear on P-7I and Revised as follows:

Period Labor	\$341,370.21 (\$370,009.01-\$28,638.80)
Add Equipment	\$ 58,067.07 (\$341,370.21x17.01%)
Labor Ratio @ 17.01	
Total Labor & Equipment Cost	<u>\$399,437.28</u>
Deduct Estimated Unit Cost	<u>\$176,708.96</u> (P-7I Revised)
Period Quantity	\$222,728.32
Add 14.63%	<u>\$ 32,585.15</u> (\$222,728.32x14.63%)
Revised Claim Total	\$255,313.47

The Board finds that Mergentime is entitled to the amount of \$255,313.47 for extra work on expansion joints.

20. There were some adjustments made by PennDOT to the screed elevations to achieve a smooth riding surface that may have resulted in overlay depths greater than the 4 inches as specified, which was not paid for at the price Mergentime and PennDOT agreed to, as well as over-cutting of existing concrete during the scarification operation.

21. The Board finds that it can not determine with any reasonable degree of certainty what, if any, additional compensation Mergentime is due over and above what PennDOT paid for this item of work, for additional concrete.

22. PennDOT designated the areas of repairs to the existing delaminated concrete by specifying a 1 inch scarification of the existing concrete in two ½ inch cuts and Type II and III repairs and directed how and where said repairs were to be accomplished. Mergentime performed the repairs and overlay as specified under the watchful eye of a PennDOT inspector. Both the WJE and Lichenstein engineering reports indicate failures below the interface between new and old and neither report conclusively found Mergentime liable for the delamination of the new overlays. Mergentime is not liable for the delamination of the new overlays.

23. Mergentime agreed to waive all rights to claims for disputed work on October 2, 1985 for “installing strip seals at exp. dams”.

24. As to Mergentime’s claim of \$121,866.21 for excessive concrete 4" (AAA Concrete), Mergentime filled all the Type II & III repairs monolithically with the placement of the 4" cement overlay. Mergentime anticipated a 5% overrun for waste in its bid estimate. There was no testimony or documentation presented at trial that these issues and the Type II repair caused by Mergentime’s destruction of existing rebar with the scarification machine were given any credit toward the alleged overrun. Also, there is no evidence that a credit was given, against the extra depth claim, for the additional concrete paid for by PennDOT to correct the “sag area”. Accordingly, this portion of Mergentime’s claim is denied.

25. Mergentime was paid \$52.00 per sq yd. for class AAA cement concrete overlay 4" reinforced. While there were areas where the overlay was greater than 4" or less than 4" in depth, there was no documented testimony from witnesses that were on the Project or detail computations from the engineers’ records to support the claim that 1- 3/4 inches in additional depth was in fact the average extra depth across the entire project. The core drill data would indicate that the average was approximately 4 5/8".

26. There was no evidence presented at trial to document that Mergentime did not perform its construction in reasonable conformity to the contract plans and specifications under the direction of PennDOT inspectors.

27. The “Special Reconstruction Notes” contained in the contract documents could not be reasonably construed to apply to overruns and the resultant impact that was incurred by the Claimant on the instant Project and fairness dictates not applying the language contained

therein, particularly when the contractor did not have available all pertinent information in PennDOT's possession. In addition, PennDOT acknowledged the original estimates for Type II repairs "significantly" exceeded original estimates.

28. To the extent the language conflicts as between Exhibits D-17, D-52 and D-77 with respect to alleged accord and satisfaction of settlement issues, we view the last document (dated September 9, 1987) executed between the parties (D-77), wherein the parties specifically except or exempt from settlement any "claims by Mergentime for additional costs, losses and damages arising from...Season One work", as controlling. We do not view D-17, D-52 or D-77 as constituting an accord and satisfaction but rather as contract modification attempts with inherently conflicting terms.

29. As to PennDOT's Counterclaim, there is no question Mergentime still owes PennDOT \$67,416.00 that it agreed to pay for M & P Traffic caused by repainting, and the \$77,000 offset (total = \$144,416.00).

### **OPINION**

This action was initiated by the Claimant, Mergentime Corporation ("Mergentime") against the Defendant, Commonwealth of Pennsylvania, Department of Transportation (hereinafter referred to as either "PennDOT" or the "Commonwealth") in the amount of Four Million Seven Thousand One Hundred Seventy-Three Dollars (\$4,007,173.00) on August 19, 1991. An Answer with New Matter and Counterclaim was filed by the Commonwealth of October 7, 1991. Mergentime replied to the New Matter on October 25, 1991 and a Counter Reply to New Matter was filed by the Commonwealth on December 2, 1991. Extensive discovery was conducted and attorneys withdrew appearances and entered appearances until December 15, 1995, when the Board rendered an Opinion staying the proceedings. After some additional discovery was conducted between the parties, on February 13, 1998, the Board received a letter from counsel for Mergentime requesting a hearing be scheduled. On March 30, 1998, hearings were scheduled for a two week period during December, 1998. Hearings were conducted during the month of December and transcripts of the hearings were received in January, 1999 and February, 1999. The parties' Proposed Findings of Fact and

Conclusions of Law, including Reply Briefs, were all submitted as of August 16, 1999.

This matter originated on or about October 30, 1984 when PennDOT advertised for the solicitation of bids which had been prepared by Blauvelt Engineering, Inc. (hereinafter "Blauvelt") for the repair, reconstruction and rehabilitation of a certain section of highway viaduct and bridges on the Schuylkill Expressway in the City of Philadelphia, known as Legislative Route 67057, Section 500, Traffic Route I-76 (hereinafter "Project"). On December 13, 1984, PennDOT received five bids for the Project and Mergentime was the lowest responsible bidder at Fourteen Million Three Hundred Eighty-Two Thousand Eight Hundred Sixty-Six Dollars (\$14,382,866.00). PennDOT accepted Mergentime's bid and on January 14, 1985, PennDOT's Chief Counsel approved Contract No. 065021 as to legality and form. The Contract was valued at Fourteen Million Three Hundred Eighty Thousand Eight Hundred Ninety Dollars (\$14,380,890.00).

The Contract itemized the specific documents that spell out the Project requirements. The Contract specifically referenced and incorporated, among other documents, the Contract drawings, the Special Provisions, Publication 408 Specifications, dated 1983, and various supplemental specifications. The basic scope of work required by the Contract was for Mergentime to remove the existing bituminous wearing surface, one inch (1") scarification of the underlying concrete deck, removal and repair of deteriorated concrete, installation of expansion dams in the deck of the mainline structure in approximately 100 feet intervals and placement of a new four inch (4") wire mesh reinforced concrete riding surface on top of the replaced concrete deck. Once the new reinforced concrete riding surface was placed and cured, the Contract required follow-up work such as the installation of new parapet walls, street lights, crash protection barriers, signing and other items. All of the rehabilitation of the Schuylkill Expressway work required Mergentime to maintain

traffic during construction.

The work described by the Contract to be performed in Season One involved approximately 6,409.5 linear feet of mainline structures and 3,641 total linear feet of ramp structures. The scope of the work also included re-decking, i.e. replacement of the full depth of the concrete deck slab, of approximately 1,318 linear feet of 3 ramp structures as well. The Contract broke the work down in 3 stages for traffic control, each stage was further broken down into phases. The first 2 phases were required to be completed on October 1, 1985 (Season One work). The Contract provided that work on the mainline and ramp structures S-15381, S-15378 and S-15379 be performed during the period from March 1, 1985 to October 1, 1985. The balance of the work on the remaining ramp structures was to be commenced on March 1, 1986 and completed on June 30, 1986. The dispute in the instant case involves the overlay work during the Season I in 1985.

The Contract had an "Incentive/Disincentive" provision that provided if Mergentime completed work earlier, they were to receive an incentive payment of Twenty-One Thousand Eight Hundred Seventy-Five Dollars (\$21,875.00) per day in addition to all other payments under the Contract. If Mergentime was late in completing its work, a disincentive payment of \$21,875.00 per day would be owed from Mergentime to PennDOT.

Per the Contract, Mergentime was to remove existing bituminous surface for approximately 2/3 of the entire project in the west bound lanes between station 367 + 90 and station 408 + 40. The Contract schedule of prices listed approximately 53,030 square yards total removal and the Contract set forth a unit price method of payment for removal of both contaminated (containing asbestos) and uncontaminated material. The Contractor was also required to scarify the existing concrete bridge deck to the depth indicated for the purpose of placing a concrete or mortar wearing surface. The

Contract schedule of prices listed approximately 122,372 square yards of total area for 1/2" depth of scarification.

The Contract also delineated concrete bridge deck repair, Type II and Item concrete bridge deck repair Type III, described as “removing and patching designated areas of deteriorated concrete of the bridge deck in preparation for placing a concrete or mortar type wearing surface of the type indicated.” Type I, Type II and Type III repairs were explained as follows in the Contract: Type I is described as “[a]reas where deteriorated concrete extends to a maximum of the top mat of reinforcing bars.”; Type II is described as “[a]reas where deteriorated concrete extends beyond the depth of the top mat of the reinforcement bars or where reinforcement bars are unbonded”; and Type III areas were described as “[d]eteriorated concrete or patching that extends to the full depth of the deck.”

The Contract also called for class AAA cement concrete overlay 4" reinforced, wherein the overlay specifications described the equipment, material and procedures for the construction of a concrete wearing surface. In this area, the specifications set forth the requirements for placement of the wire fabric mesh, placement of expansion dams and scuppers, placement of an epoxy bonding compound and placement and finishing of the overlay concrete. Specifications also provided for curing requirements and prohibited contact with construction equipment or traffic at least 10 days after the concrete had been placed and had attained a minimum strength of 3,000 psi. The specifications also required the Contractor to choose between 3 different types of expansion joints and Mergentime chose the Wabo Marurer Stipseal Expansion Joint, Model S200.

With respect to Type II and Type III repairs that relate to this claim, the Contract drawings provided additional details of the estimated quantities. Specifically, the total quantities for Type II

repairs were estimated at 1,600 square feet, while the total Type III repairs were estimated at 160 square feet. These estimates were for both Seasons I and II. The Contract drawings contain a “Special Reconstruction” note which indicated that the exact extent of the reconstruction work could not always be accurately determined prior to commencement of work. In this disclaimer, the following language appears: “These Contract documents have been prepared based on field expectation and other information available at the time. Actual field conditions may require modifications to construction details and work quantities. The Contractor performs the work in accordance with field conditions.”

We recognize that when contract terms are clear and unambiguous, the intent of the parties is to be determined from the express language in the contract writing. Robert F. Felte, Inc. v. White, 451 Pa. 137, 302 A.2d 347 (1973); see also Marcinak v. Southeastern Green School District, 375 Pa. Super. 486, 544 A.2d 1025 (1988). In the instant case, neither party could have possibly foreseen the incredible overrun in the Season I deck repair quantities. In balancing the terms contemplated by the Special Reconstruction Notes with the aforementioned overrun, we are mindful of the fact that when a contractor performs work above and beyond that called for in the contract, the contractor must be paid for the additional work performed. J.C. Orr & Sons, Inc. v. Commonwealth of Pa. v. Dep’t. of Gen. Serv., Pa. Bd of Claims Docket No. 908, Op. at March 7, 1986, citing Exton Drive-In v. The Home Indemnity Co., 436 Pa. 480, 261 A.2d 319 (1969) cert.denied, 400 U.S. 819 (1970). In this case, clearly it would be grossly unfair to simply point to the Special Reconstruction Notes and inform the Claimant that actual field conditions required “modifications” to the construction details and work quantities, given the remarkable deviations from the estimated quantities.

The Contract also specified a project control system that set forth a schedule of construction activities. The project control system was to be set up and maintained by a Construction Management Consultant (CMC) who was to schedule, report and recommend to the department work in progress, problem areas and solutions to maintain the established schedule. Referenced in the project control system portion of the specification attached to the specifications was a "Preliminary Construction Network Diagram" prepared by the CMC. The exact sequence of operations, and the time estimated by the Preliminary Construction Network Diagram, were not to be considered binding; however, the Contract completion date, and a milestone date for traffic restriction were binding. The Traffic Control Plan included in the Contract depicted certain parts of the project site as work areas for each phase and stage. Work in each area had to be completed in the phase and stage in which it was shown as a work area on the Traffic Control Plan. In order to move from one stage or phase to the next, Mergentime needed the written permission of PennDOT. The Project schedule was to be developed by Mergentime in cooperation with PennDOT's CMC. All information used to develop the CPM schedule, including durations, logic and sequences, was supplied by Mergentime. The CPM schedule was required to be updated periodically using information supplied by Mergentime and, in fact, the schedule was updated by the CMC based on the information supplied by the Claimant.

Charles E. Mergentime testified on behalf of the Claimant relative to Mergentime's estimate and bid for this project. Mr. Mergentime and others at Mergentime were qualified to properly estimate the project. In preparation for his estimate, and in accordance with company practice, Mr. Mergentime and others visited the site, took pictures and conducted field inspections prior to bid. Mergentime also purchased existing as-built drawings at the time of preparing the estimate.

Mergentime prepared its estimate on the project by breaking the work into 15 major groups, estimating crew size and production rates of those crews and pricing out the cost to build the job utilizing the planning in its estimate. At the time Mergentime did its estimate for the project, the company priced out the work based on a linear operation. Starting at the north end and proceeding south, one lane at a time, take-offs were calculated for the asphalt, scarifying the deck, placement of the 4" concrete and rebuilding the parapets. Mr. Mergentime stated that Type II repair was an incidental item in the scheme of 6,000 feet of roadway reconstruction at the time they priced out the work for the project. The operation was designed to proceed so that one item had to precede another item. Mr. Mergentime established that he relied on the quantities provided for in the Contract for the Type II and Type III deck repairs. Mergentime was not able to perform an independent take-off of these quantities as they did not appear on the plans, except for 700 square feet at the west bound university ramp and 300 square feet for Ramp D, which drawings contain detailed locations and approximate size of the Type II and Type III deck repairs. Given the limited time for bidding, no practical means existed for the prospective bidders to independently examine the condition of the asphalt covered concrete deck.

Mergentime established that PennDOT's estimate of Type II repair on the mainline superstructure was only 200 square feet, which was not shown at any mainline locations, and was considered minor, in relationship to 500,000 square feet of concrete deck replacement. It was only after the bid when this litigation started that Mergentime became aware of a pre-bid report concerning the conditions of some of the decks. However, this report was not provided to bidders as part of the pre-bid information. While this fact alone does not establish the constructive fraud allegation tendered by Mergentime, clearly the information should have been shared with all bidders.

Mr. Mergentime testified that had he known the true extent of Type II repairs prior to bid, his company would have bid the job differently. When estimating the project, Mergentime planned to make concrete deck pours of 500 feet in length that would total 75 to 80 pours for the entire mainline and ramps. Mr. Mergentime established that the huge overrun in Type II repairs which approximated 9,500 square feet for both the mainline and the ramps had a significant impact on Mergentime's ability to place the pours as planned. Instead of making 75 to 80 pours, Mergentime ended up making 130 to 140 pours.

After beginning work in early March, 1985, Mergentime was projected to be 29 days behind schedule as of April 26, 1985. Mr. Miner, Mergentime's project manager, testified that during the initial deck concrete placement, there was a problem with the application of the epoxy due to its viscosity and Mergentime achieved only 150 feet of production on its first 2 pours. Mr. Miner also established that the "Rolling Fours" shifting of labor on the project did not work out, so they switched back to a standard work week and two shifts. When the project was falling behind schedule in April, Mergentime, by its own admission, was experiencing problems with its labor productivity, with operation of equipment it had acquired to place the 4" concrete overlay of the deck on the mainline structure. Mergentime also had problems with delivery of concrete. The Claimant established that in addition to the aforesaid problems, Mergentime was also impacted by PennDOT inspectors who, after doing "soundings", indicated that additional Type II repairs were needed. As of April 26, 1985, Mergentime had been able to perform only 88.19 square feet of Type II deck repairs. Mergentime finished Stage I Phase I on June 15, 1985, 50 days late.

In May, June and July, 1985, Mergentime was required to perform more than 3,860 square feet of Type II deck repairs on the mainline, a 1,900% overrun. The company remained

approximately 26 days behind the approved schedule even with the addition of 2 more screeds in May of 1985. Mark Cundiff, Mergentime's expert, established that but for the overrun in deck repair, the additional screeds would have permitted Mergentime to finish work in advance of October 2, 1985.

From August 1985 until September 21, 1985, PennDOT required Mergentime to perform an additional 3,546 square feet of Type II deck repairs. Mergentime's as-built pour schedule shows the actual pours, and resequencing of the pours caused by Mergentime having to work around the impact of the huge overrun in Type II repairs. During the actual construction of the project, the surface was scarified and cleaned first, then PennDOT proceeded to sound out the deck and outline the areas of Type II deck repair. As indicated, on occasions, PennDOT would sound the surface again and direct more Type II repair ahead of the 4" concrete overlay. As permitted by Contract specifications, Mergentime elected to place the concrete in the Type II deck repair as part of the deck overlay. Mr. Cundiff, opined that the impact of the deck repairs on the cost of completing the deck concrete overlay could be described as interference of the Type II and Type III repairs, particularly the progression of the screeds that were utilized to place the overlay cement throughout the project. Those repairs caused the performance of out-of-sequence work and inhibited the progression of the screeds as they went down the roadway to where shorter pours had to be made as to the originally anticipated pour sequence. The screed on a number of occasions had to actually be picked up and moved to other locations to skip sections where work was being done out ahead of the Type II and Type III repairs that the screed could not pass over and lay cement.

In comparison, during Season II, Mergentime did not move men and equipment as much to account for the increase in the deck repair. The impact during Season II did not affect as much the

concurrent follow-on activities. In what can only be described as an eloquent explanation of the Claimant's frustration and knowledge gained from Season I, Edward F. Hollander, a project engineer for Mergentime, testified: "So by taking a step back and rethinking the thing, we're able to in effect save...on the impact cost on the whole operation and try to put some level of efficiency in and control into what they were asking us to do....And to the point that we were throwing men and equipment, money and hoping it all gets done on time, well, that wasn't going to work this time."

In an October 15, 1984 memorandum to file, the CMC documented scheduling details of work activities. It notes that the analysis of crews, durations, productivity, shifts, etc., has been incorporated into the bid documents for section 500. Other than the notation that 3 days were allotted for Type III repairs for Stage I, Phase I work, there is no mention of time requirements for deck repairs. The memo indicates that the CMC anticipated 600 feet of overlay poured per day. Mr. Mergentime stated that the schedule was kept by the engineer and the engineer took Mergentime's information and prepared the schedule. This was the schedule that they monitored; however, according to Mr. Mergentime, the engineer did not change the schedule to reflect the activities that physically took place in the field. We suspect it is precisely for this reason Mergentime needed to file a claim for additional compensation. In fact, Mr. Mergentime felt that had the original schedule been adjusted to reflect the actual scope of the deck repair, his company could have been entitled to a bonus. According to Mr. Mergentime, the Type II deck repair became so overwhelming that it slowed down the pouring of the overlay and forced the pouring of the overlay to go out of planned sequence. The Type II repairs became the critical item of work. While we will not speculate on Mergentime's possible entitlement to "a bonus" there is little doubt the Commonwealth, given the scope of the remarkable overruns, was obligated to adjust the Contract

schedule. This basic truth is illustrated by the fact that on March 12, 1986, PennDOT sent a letter to Mergentime suggesting that Mergentime give consideration to “schedule all reasonably foreseen extra work.” In that letter, PennDOT acknowledged that the Type II repairs on the university avenue ramp “significantly” exceeded those that were expected in the original documents. PennDOT acknowledged that this had been verified in the field, while at the time of their earlier progress meetings, it was only anticipated. Remarkably, the Season I Schedule was never altered to reflect these facts.

On February 19, 1986, PennDOT and Mergentime tallied the Season I deck repair quantities for the mainline, Ramp D and Ramp C. The specified total quantities for Type II repairs was estimated at 700 square feet, while the actual Type II repairs were an incredible 9,635 square feet. For Type III repairs, the specified quantities were listed at 90 square feet while the actual repairs came in at 1,152 square feet. As to Season II, Mergentime insisted on obtaining written direction from PennDOT allowing Mergentime to exceed the planned quantities. After much discussion between the parties, PennDOT agreed to pay for account for Season II work, notwithstanding the CMC’s expressed concern relating to the impact of the deck repair on the construction schedule. At this juncture, why no consideration was given to reviewing the Season I fiasco, and compensating Mergentime for the impact caused by the overruns, remains a mystery to this Board.

In early 1986, at trial, Mr. Alberts, PennDOT’s expert, expressed a different view and downplayed any schedule impact that the “very large overrun of actual quantity” had on the schedule during the 1985 season. Mr. Alberts opined that the large amount of deck repair would not be important information for scheduling the work because it could be “overcome by getting manpower out there to do the job so the critical path is not impacted.” He also testified that the weekly update

provided him with information that the overrun on the quantity “wasn’t impacting the critical path.” However, neither he nor Mr. Kohlman, the CMC Scheduler, were able to produce a copy of the weekly updates that supposedly showed as-built dates for Type II and Type III deck repair that supported the statement that there was no impact of the Type II deck repair on the critical path. Mr. Alberts also disagreed that the overlay work was slowed by the overrun in Type II and Type III deck repair. Suffice it to say, this Board finds Mr. Alberts’ testimony in this regard less than credible.

As with many claims filed before this Board, the damages portion of the claim as presented by Mergentime was complicated, problematic and subject to great debate. Mr. Mergentime established that his company had a formal policy manual that included how field cost data and cost coding system was to be utilized by project management; however, it must be noted that the remarkable overrun in Season I Type II deck repair, no doubt made it difficult to keep extremely accurate records relative to this project. Having said that, Mergentime did have a fully integrated accounting system to conform to the bid estimate and all work was given cost codes, breaking work down into work items and job classifications. It was the companies’ practice and requirement that costs be recorded contemporaneously utilizing time cards and vouchers. Mergentime’s cost report showed a total cost of the project in the sum of Nineteen Million Eight Hundred Seventy-One Thousand One Hundred Forty Dollars and Eighty Four Cents. (\$19,871,140.84).

Mergentime’s Complaint sets forth the following claims:

Maintenance and Protection (Item 0901-0001)	\$528,086
Modification of Existing Parapets - as designed (Item 1025-0140)	\$1,363,477
Parapets - Type II (Item 1025-0143)	\$502,811

Overlay (Item 2001-0499)	\$780,951
Expansion Joint (Item 2021-0101)	<u>\$811,878</u>
	\$3,987,203

The backup cost information supporting the claim was set forth in Mergentime’s Exhibit 3A, which contained copies of the cost records maintained by Mergentime in its regular course of business. Field cost data came from two sources. One was the foreman’s time cards which records the labor hours and description of the work performed. The office engineer then cost coded the time cards to specific work items. The other costs came from the home office for bills sent in for permanent materials, construction materials, and rental equipment that were used at the project.

As part of this case, Mergentime sought to isolate the impact of the deck repair disruption by isolating labor costs during the specific periods where there was noted significant Type II and Type III deck repair work. Mark Cundiff, Mergentime’s scheduling and impact claim expert, employed certain methodology in preparing his damage calculations. More specifically, Mr. Cundiff placed records of Type II and Type III repairs on a time chart utilizing PennDOT’s own records of quantities, he grouped repairs by particular months, he received the as-built pour sequence data, the timing of the repairs and identified the location of the deck repairs that impacted the progress of the work and indicated the direct link between Type II and Type III repair and screed operations, and he identified the “jumping” of the screed required to work around Type II repairs. Mr. Cundiff testified that he prepared Mergentime’s Exhibit 7I, which shows the weekly labor costs for the impacted work activity that he identified. He selected the period ending from June 15, 1985 through September 28, 1985 as the period most impacted by the Type II and Type III deck repair activities, which were outside the area admitted to being contractor-caused impacts. Mr. Cundiff

initially stated that he added on equipment and overhead factors and calculated the total impact claim at Two Million Seventy-Seven Thousand Six Hundred Ninety-Three Dollars and Ninety-Nine Cents (\$2,077,693.99).

Mergentime later revised Exhibit P-7I to total Two Million Three Hundred Eighty-Five Thousand Five Hundred One Dollars and Sixteen Cents (\$2,385,501.16) and added an additional One Hundred Twenty-One Thousand Eight Hundred Sixty-Six Dollars (\$121,866.00) for excessive amount of concrete for a total revised claim of Two Million Five Hundred Seven Thousand Three Hundred Sixty-Seven Dollars and Sixteen Cents (\$2,507,367.16). However, many aspects of Mergentime's damages were subject to question and hotly disputed.

As to the equipment/labor ratio, Mr. Cundiff indicated that for the impacted payrolls, he used actual labor costs broken down by major activity and costs categories for the periods June 15, 1985 through September 28, 1985. Mr. Cundiff acknowledged that he did not use the actual equipment costs incurred during the impacted period because he felt equipment and supplies were vouchered and booked into the system, independent of payroll data, and their entry into the cost reports were not necessarily related to time as is the labor payroll costs. According to Mr. Cundiff, the equipment costs computed for the claimed impacted items were not the direct accounting costs but a computed cost using actual equipment plus actual supply costs incurred in a longer than impacted period, divided by total labor costs incurred for the same period, for items claimed to develop the equipment/labor ratio for the claimed item. The various ratios were set forth on Mergentime's Exhibit 7I, as it was revised, and later additionally revised in Mergentime's Reply Brief.

Louis J. Rubino, Jr., PennDOT's expert, testified that Mergentime's claim used a total cost/type claim methodology within the impacted period. The methodology, according to

Mr. Rubino, was essentially a cost-to-cost comparison accomplished by computing actual costs incurred during the claim period and comparing them to the estimated unit cost to compute damages. Mr. Rubino felt that such a presentation assumes a reasonable bid, with reasonable costs, no other way of discreetly computing damages and assumes the Contractor did not cause cost increases. According to Mr. Rubino, the methodology utilized by Mr. Cundiff was a modified total cost method. However, Mr. Rubino felt that the labor costs claimed came from actual cost records and therefore were traceable back to cost records. Mr. Rubino indicated that Mergentime could have identified, from project documents, specific equipment or spreads of equipment that may have been impacted. By way of example, Mr. Rubino highlighted that at least for the Maintenance and Protection of Traffic (“M&P of Traffic”) claim, the supporting accounting records contain equipment costs that would be purchased for this item of work. During cross-examination, Mr. Cundiff could not explain why the two equipment purchases for approximately \$35,000.00 and \$85,000.00, made on March 31, 1985 and April 1, 1985 were included in calculations for the impacted period. Mergentime, in a Reply Brief, admitted to the inappropriate equipment costs in the equipment/labor ratio presented at trial for M&P of Traffic and computed a new ratio of 10.3%. The average of all equipment/labor ratios was determined to be 15.77%.

The total cost method of calculating damages is rather simplistic in theory in that a Claimant simply subtracts the estimated costs from the total costs incurred on the project. The Courts of this Commonwealth have established 4 requirements before the total cost method may be applied. The requirements are as follows: (1) The nature of the particular losses make it impossible to determine them with a reasonable degree of accuracy; (2) The contractor’s bid or estimate was realistic; (3) The contractor’s actual costs were reasonable, (4) The contractor was not responsible for the added

expense. Commonwealth of Pa., Dept. of Transportation v. DuBrook, Inc., Board's Docket No. 1011 (Opinion not reported); Glasgow v. Commonwealth of Pennsylvania, Department of Transportation, 108 Pa. 48, 529 A.2d 576 (1987); John F. Harkins Co., Inc. v. School District of Philadelphia, 313 Pa. Super. 425, 460 A.2d 260 (1983). In the instant case the Board feels that each of these requirements were met, thereby allowing Mr. Cundiff the ability to utilize a modified total cost method in the presentation of his damages. We are, however, compelled to indicate that Mergentime obviously may have fallen behind initially in the schedule due to some problems which have nothing to do with the overruns mentioned hereinabove. Having carefully considered that fact, we believe Mergentime would more than have made up for any of its own inefficiency by changing shifts and adding an additional screed to the project. Accordingly, the fourth prong of the four requisite test was determined to have been met thereby allowing Mr. Cundiff the latitude Mr. Rubino found objectional.

Mr. Rubino indicated that if owner liability was accepted, he would assume entitlement for equipment costs, but he still did not support the use of equipment/labor ratio. Mr. Rubino preferred using records for each piece of equipment impacted but acknowledged "[t]here is definitely judgmental factors put in when you assess how much that... that piece of equipment was impacted. So there are engineering type estimates that... are used. Perfectly appropriate to do so..."

Overhead calculations were no less tedious. Mergentime added a 42.77% overhead percentage applied to Period Labor Costs less the Estimated Period Labor Costs. Mr. Cundiff arrived at the 42.77% overhead ratio for Season I by applying the relationship of the total indirect costs to the actual total labor costs. During cross-examination Mr. Cundiff admitted that the 42.77% overhead markup was mistakenly applied both to labor and equipment overruns, not just the direct

labor costs and the claim had to be reduced accordingly. Mr. Rubino felt that since this project was planned and implemented in two seasons, one could infer that much of the overhead that was incurred was period-type costs and it did not necessarily increase as a result of increased costs. We will not go through the calculations set forth in the Findings of Fact as changed by Mr. Cundiff, but rather indicate only that Mr. Cundiff totaled the overhead charges at Six Hundred Sixty Thousand One Hundred Ten Dollars and Nineteen Cents (\$660,110.19). In response, Mr. Rubino noted that for the entire project, the actual overhead cost incurred was Two Million Four Hundred Twenty-One Thousand Nine Hundred Sixteen Dollars (\$2,421,916.00) verses the bid estimate of Two Million Four Hundred Eighteen Thousand Thirty-Two Dollars (\$2,418,032.00), indicating a Three Thousand Eight Hundred Eighty-Four Dollar (\$3,884.00) overrun. Mr. Rubino felt that the overhead burden should have been 14.63% rather than the 42.77% utilized by Mr. Cundiff. Without belaboring the point, we will simply note that each Claimant that comes before this Board must prove their damages with a reasonable degree of certainty. See Standard Pipeline Coding Company, Inc. v. Solomon & Teslovich, Inc., 344 Pa. Super. 367, 496 A.2d 840 (1985). As indicated in the Conclusions of Law, a number of Mergentime's claims, which otherwise might have been accepted by this Board, were dismissed for the very reason that the Claimant did not prove its damages with a reasonable degree of certainty.

As to parapet modifications and Mergentime's claim for damages related thereto, there were two parapet items in the original Contract. One called for the complete demolition of existing parapet and the construction of a new parapet (Modification of existing parapets-as designed). The other called for partial demolition of the existing parapet and "blistering of a new parapet upon the partial remains of the existing one (Modification of existing parapets, Type II). Both of the original

parapet items had the same bid unit price, i.e. One Hundred Dollars (\$100.00) per linear foot. At Mergentime's request in May of 1985, part of the parapet modification performed in the 1985 Season I was changed from cast-in place to pre-cast. A new unit price was agreed upon by the parties for the pre-cast parapet of Ninety-Eight Dollars and Sixty Nine Cents (\$98.69) per linear foot. Because there was a new price, there was a new Contract item as well. The change from cast-in place to pre-cast parapet was not made because of quantity overrun in Type II repairs. PennDOT paid Mergentime Three Hundred Seventy-Two Thousand Three Hundred Eight Dollars and Two Cents (\$372,308.02) for this work during Season I. During cross-examination, Mr. Cundiff tried to connect the change to pre-cast parapet to overrun in Type II repairs and appeared to be unaware of the fact that this revision was initiated by Mergentime. Remarkably, Mr. Mergentime was also not aware of this fact.

As to the modification of existing parapets, Type II, the Department, by memo of August 14, 1985, directed the parapet at the location between Station 367+91.73 to Station 393+50.30 be constructed under the new Contract Item, Item No. 1025-0143, due to safety concerns. Mr. Mergentime admitted that at no time during Season I did Mergentime request any additional compensation for the change from the original Contract Item (Item 1025-0140) to the new Contract Item 1025-0143. In addition, on October 2, 1985, Mergentime's Mr. Miner signed an agreement not to claim for the disputed work issue "parapet on W.B. Curring Time."

With respect to Maintenance and Protection of Traffic, Mergentime ultimately revised its claim to One Hundred Sixty-Two Thousand Ninety-Six Dollars and Sixty-Eight Cents (\$162,096.68). Mr. Cundiff included Eighteen Thousand Four Hundred Sixteen Dollars and Thirty-Seven Cents (\$18,416.37) for clean up in his computation of total labor and equipment costs,

although no dollars were included in the estimated bid cost. Mr. Cundiff's attempts to relate this additional cost to additional clean-up of material for Type II and Type III repairs were not well received, since that clean up would be associated and paid for under those items. Mergentime's post-Season I costs report shows One Hundred Thousand Three Hundred Seventy-Three Dollars and Thirty-Nine Cents (\$100,373.39) in actual subcontractor costs for M&P Traffic, but no estimated subcontractor cost was identified at trial. As per the Special Requirement of the Contract, Mergentime, on July 17, 1985 requested changes in the phasing and staging of the work in order to meet its approved schedule and avoid disincentive charges. This letter also stated "This plan will be put into effect at no additional cost of the state".

As to the 4" concrete overlay claim, Mergentime bid this particular Contract item at Two Million Nine Hundred Eighty Thousand Sixteen Dollars (\$2,980,016.00). Mr. Cundiff acknowledged Mergentime's unadjusted estimated cost at One Million Two Hundred Thirty-Seven Thousand Eight Hundred Twenty-Three Dollars (\$1,237,823.00), the difference between the bid and the total unadjusted estimated cost being One Million Seven Hundred Forty-Two Thousand One Hundred Ninety-Three Dollars (\$1,742,193.00). Mr. Rubino testified that in his view that large of a difference couldn't be accounted for by margins and indirects. Mr. Rubino also queried as to whether or not there was a cost picked up on bid day that Mergentime did not pick up when they did their bid spreads. Mr. Cundiff tried to explain the approximately \$1.7 million difference by adjustment of indirects, overhead and profit. He also reasoned that the difference in the figures was not really relevant to the claim itself; however, Mr. Mergentime, during rebuttal explained that there were over 250 bid items and that he generally leaves several bid items open for final adjustments. Mr. Mergentime cited examples of adjustments made to the direct costs during the bid adjustment

process that were contained in the “adjustment details”. Mergentime’s claim for additional cost for 4" cement concrete overlay shows One Hundred Ninety-Five Thousand Six Hundred Fifty-Two Dollars and Thirty-Eight Cents (\$195,652.38) for labor required to clean slab/overlay verses an estimated zero bid estimate. Although Mr. Cundiff’s attempts to explain away the clean slab/overlay issue were unsuccessful, Mr. Mergentime did explain that on the day before bid the “plug number” was Thirteen Million Five Hundred Twenty-Five Thousand Five Hundred Thirty-Three Dollars (\$13,525,533.00) with two bid items left open to cover changes and pricing adjustment made on bid day. Mr. Mergentime, who the Board felt was credible, testified that the final bid total was Fourteen Million Three Hundred Eighty-Two Thousand Eight Hundred Eighty-Six Dollars (\$14,382,886.00) and the approximately Eight Hundred Fifty Thousand Dollar (\$850,000.00) addition was split between the 4" AAA concrete overlay and another bid item. Although Mergentime’s calculation for the 4" concrete overlay was problematic, it was also abundantly apparent that Mergentime did lose money with respect to this particular claim item. As with a number of the claimed items, this Board re-calculated the damages based upon the testimony and the record.

With respect to the expansion joints, the Contract specification showed three types of expansion damns and required the Contractor to choose one of the three and identify the same at the time of bidding. Mergentime selected the Wabo-Maurer Stripseal Expansion and as specified, Mergentime submitted a shop drawing, prior to fabrication, showing the complete details, dimensions, size, type and characteristics of the seal. PennDOT had approved the shop drawing. Mr. Mergentime acknowledged his company received the original 1957 construction plan for the Schuylkill Expressway during the bidding of the project. Those plans show reinforcing bars approximately 4" from the 1" Prem. Jt. at Sec. D-D. However, neither the Contract drawings for

LR67057 Section 500 nor the original construction drawings show any details regarding the existing steel expansion dams that Mergentime had to remove prior to removal of the existing asphalt surface and concrete scarification. When Mergentime went to install the approved fabricated expansion joints, a conflict with existing rebars was encountered that required adjustment to the planned method of installation. Mr. Cundiff presented the claim for expansion joints that included line items with zero estimated labor. These items are "Pre Dams for Rubber" at Eighteen Thousand Two Hundred Sixty-Three Dollars and Ten Cents (\$18,263.10) and "Set Rubbers and Dams" at Ten Thousand Three Hundred Seventy-One Dollars and Seventy-One Cents (\$10,371.71). In computing the damages for the expansion joint, Mr. Cundiff referenced his Exhibit P-7I revised and included actual labor costs associated with the installation of stripseal at expansion dams valued at Twenty-Eight Thousand Six Hundred Thirty-Four Dollars and Eighty Cents (\$28,634.80). However, Mergentime could not make a claim for installing stripseals at expansion dams prior to October 2, 1985, since Mergentime agreed to waive all rights to those claims.

As to the excessive amount of concrete, as indicated earlier herein, Mr. Cundiff added One Hundred Twenty-One Thousand Eight Hundred Eighty Six Dollars (\$121,886.00) to the damages for excessive amounts of concrete that were reportedly based upon a bedding problem that was not and would not have been evident at the time Mergentime submitted its bid. Mergentime established that it had surveyors out on the job to set screed rail elevations to create the correct slope and line for the road surfaces required by the Contract drawings. Mr. Edward Hollander, who came to the project in the Fall of 1985, at the end of Season I, testified as to the required extra depth of the AAA concrete on the University Avenue Ramp (Season II work) and the fact that there were discussions with PennDOT in February 1986 regarding the fact that some areas got more than the required 4"

overlay. In addition, the specifications required the 1" scarification of existing concrete to be done in two 1/2 inch passes. The depth of cut for each pass was set by the operator and sometimes, when Mergentime went through with the scarifying machine, it would encounter existing rebar. Rather than lifting the cutting blades, as required by specification, Mergentime would go straight through and damage a lot of the existing steel. PennDOT required rebar replacement and Type II repairs to the damaged concrete; however, where the rebar was only exposed and not damaged, a field decision was made at each location as to the nature of the repair. There were variations in the scarification requiring adjustable chairs to support the rebar.

Mr. Alberts testified on behalf of the Commonwealth regarding this particular claim and indicated that the only issue, regarding additional depth, raised by Mergentime during Season I, was at one location where there was a sag in the existing deck where some additional concrete had to be placed. According to Mr. Alberts, PennDOT paid Mergentime an agreed upon price for the additional concrete to make up for the sag and achieve a level riding service. Mr. Cundiff noted that Mergentime expended Six Hundred Fourteen Thousand One Hundred Ninety-Two Dollars (\$614,192.00) for 10,812 cubic yards of concrete material for an average unit price of Fifty-Six Dollars and Eighty-One Cents (\$56.81) per cubic yard. Mr. Cundiff reasoned that for 44,152 square yards of 4" AAA concrete overlay, there is 1,226 cubic yards per inch and arrived at an estimated additional cost of One Hundred Twenty-One Thousand Eight Hundred Sixty-Six Dollars (\$121,866.00) based on \$56.81 per cubic yard. Mergentime filled all Type II and Type III repairs monolithically with the placement of the 4" cement overlay. There was no testimony or documentation presented at trial that these issues and the Type II repair caused by Mergentime's destruction of existing rebar with the scarification machine were given any credit toward the alleged

overrun. Other than Mr. Alberts' testimony, there is also scant evidence that the credit was given against the extra depth claim for the additional concrete paid for by PennDOT to correct the "sag area". However, Mergentime was paid Fifty-Two Dollars (\$52.00) per square yard for class AAA cement concrete overlay 4" reinforced. While there were areas where the overlay was greater than 4" or less than 4" in depth, there was no documented testimony from witnesses or detailed computations from engineer's records to support the claim that 1 3/4" in additional depth was in fact the average extra depth across the entire project. The core drill data would indicate that the average was approximately 4 5/8 inches, and we adjusted the Claimant's calculations accordingly in our award.

On August 7, 1985, the Commonwealth sent to Mergentime a letter discussing a request of the Claimant, dated August 1, 1985, to allow Stage II work to commence earlier than contractually permitted. While PennDOT agreed to the proposal, the agreement was dependent upon "Mergentime [waiving] their rights to all claims for extensions of time and related damages prior to the date of approval of this proposal." Mergentime was permitted to reserve its right to request payment for additional work performed which the company had yet to receive just compensation for within the terms of the Contract and Mergentime executed the agreement the same day of the date of the letter, i.e. August 7, 1985.

On September 26, 1985, the Commonwealth directed another letter to Mergentime regarding discussions between the parties which had occurred during a job meeting the previous day. In that letter, the Commonwealth indicated it was prepared to waive the 7-day requirement for curing time on certain concrete barriers and instead, accept a 5-day period. In return, Mergentime agreed to waive all rights to claims for extensions of time and "disputed work issues for the 1985 season";

however, the disputed work issues were specifically delineated by Mr. Miner of Mergentime as installing stripseals at expansion dams, shoulder crack repairs, Type II bridge repairs, and parapet on westbound curbing time. Mr. Miner testified that he was attempting to limit the disputed work areas by putting the note on PennDOT's letter of September 26, 1985 and he established he did not intend to surrender any impact claim that Mergentime may or may not have had, since at the time, there was no way of knowing the extent of the quantities and the impact, Mergentime might want to claim.

Yet another written Settlement Memorandum was entered into between the Commonwealth and Mergentime on September 9, 1987, which by its terms set forth the terms and conditions on which the parties settled certain disputes concerning work performed during the 1986 (Season II) of the project. At the time this agreement was prepared, PennDOT was still in the process of determining final quantities and final payment to Mergentime. In addition, the parties, despite earlier and somewhat conflicting attempts in settlement of certain issues, specifically noted in the September 9, 1987 agreement (paragraph 9) that Mergentime was excepting from settlement "any claim... for additional costs, losses and damages arising from... Season I work under the Contract...". The reference to Season I work, of course, was a reference to work performed prior to December 31, 1985. The parties went on to state in the agreement of September 9, 1987, that Mergentime was expressly reserving the right to assert any claim for any cause whatsoever relating to Season I work and that PennDOT was reserving all of its defenses to such claims, including those contained in the September 26, 1985 letter from PennDOT to Mergentime. The Department agreed in the Settlement Memorandum of September 9, 1987 to make a full and final payment for Season II (1986) work to Mergentime in the amount of Seven Hundred Fifty-Seven Thousand Five Hundred Four Dollars and

Ninety-Six Cents (\$757,504.96), with that amount to be adjusted if the final quantities on which the amount were based had to be adjusted. The final payment made by PennDOT to Mergentime after all adjustments to final quantities was Four Hundred Seventy-Two Thousand Five Hundred Eighty-Two Dollars and Eighty-Four Cents. (\$472,582.84) plus Sixty-Five Thousand Two Hundred Three Dollars and Fifty-Five Cents (\$65,203.55) in settlement of Docket No. 1265, as ordered by the Board of Claims on October 4, 1989. While the Commonwealth goes to great lengths to assert an “accord and satisfaction” legal issue, we disagree. The elements of accord and satisfaction are: (1) a disputed debt (2) a clear and unequivocal offer of payment in full satisfaction and (3) acceptance and retention of the payment by the offeree. PNC Bank, N.A. v. Balsamo, 430 Pa. Super. 360, 634 A.2d 645 (1993), appeal denied, 538 Pa. 659, 648 A.2d 790 (1994). An element essential to the defense of accord and satisfaction is an actual and substantial difference of opinion as to the amount due. Hayden v. Coddington, 169 Pa. Super. 174, 82 A.2d 285 (1951). In the absence of such a controversy, the payment of a part of the amount due under a contract, even though accepted by the creditor as in full satisfaction of the debt, does not work a discharge of the entire indebtedness for the reason that there is no consideration for the creditor’s agreement that it should so operate. Lucacher v. Kerson, 355 Pa. 79, 48 A.2d 857 (1946). In the case at hand, the language in the various attempts of the parties to resolve certain issues is anything but unequivocal. There appears to be an intent on the part of the Commonwealth to effectuate a “waiver” of rights in the August 7, 1985 letter to Mergentime, and a “reservation” of rights by Mergentime. Similarly, in the September 26, 1985 letter from PennDOT to Mergentime, the parties engage in the same “waiver of all rights” vs. “retention of certain rights” discourse. While the Commonwealth was attempting to have Mergentime waive all rights to claims for extension of time and “disputed work issues” for the 1985

season, Mergentime was contemplating an impact claim and defining work issues as being limited to only four items. Under the circumstances, we have attempted to give effect to parties' intent as contract modifications; however, it is clear to this Board, no complete accord and satisfaction was effectuated between the parties. The final (September 9, 1987) "Settlement Memorandum" only serves to strengthen our resolve in arriving at this conclusion.

We also believe Mergentime's claims, other than as noted in the Findings of Fact and Conclusions of Law, to be essentially "impact" in nature and mostly outside the purview of the parties' settlement efforts. In addition, and as set forth in Conclusion of Law 28, to the extent there was a good deal of conflicting language as between the various settlement attempts by the parties, we view the last document dated September 9, 1987 (D-77) as controlling; although we have attempted to give good legal effect to the parties settlement efforts, as they were.

Mr. Mergentime stated during the trial of the instant claim that PennDOT should have paid the aforementioned total amount of Seven Thousand Fifty-Seven Five Hundred Four Dollars and Ninety-Six Cents ( \$757,504.96), minus some agreed to obligations of Mergentime. By agreement, Mergentime was obligated to pay PennDOT Sixty-Seven Thousand Four Hundred Sixteen Dollars (\$67,416.00) for M&P of Traffic associated with repainting, along with a Seventy-Seven Thousand Dollar (\$77,000.00) offset, according to Mr. Mergentime's own admission, for a total of One Hundred Forty-Four Thousand Four Hundred Sixteen Dollars (\$144,416.00). Mr. Mergentime reasoned that PennDOT still owes, under the Contract, Seventy-Five Thousand Three Hundred Two Dollars and Fifty-Seven Cents (\$75,302.57) ( $\$757,504.96 - 537,786.39 = 219,718.57 - 144,416.00 = 75,302.57$ ); however, Mr. Alberts testified that at the time of the last agreement, final quantities were not completed and Mergentime proceeded to the Board of Claims claiming One Hundred Ten

Thousand Dollars (\$110,000.00) which was settled by agreement.

With respect to the repair of the delaminated overlay, there is no question that in the Settlement Memorandum, concerning Season II work, the parties agreed that the Department would retain the right to recover from Mergentime up to Two Hundred Thousand Dollars (\$200,000.00) in costs associated with repairing certain overlay defects described in a March 1987 report by the Department consultant A.G. Lichtenstein & Associates, Inc. There is also no question that shortly after completion of the project's Season I work delaminations and failures in the overlay were evident in both the latex modified concrete (LMC) and in the 4" AAA concrete overlays. At the request of Mergentime, consulting engineers Wiss, Janney, Elstner & Assoc., Inc. conducted an engineering study of the problem and the Board has reviewed both reports very carefully. We find that the report of Wiss, Janney, Elstner & Assoc., Inc. persuasive for the reasons set forth in the Board's Findings of Fact, although neither report conclusively found Mergentime liable for the delamination of the new overlays. PennDOT designated the areas of repairs to the existing delaminated concrete by specifying a 1" scarification of the existing concrete in 2 1/2" cuts for Type II and Type III repairs and directed how and where those repairs were to be accomplished. Mergentime performed the repairs and overlay as specified under the watchful eye of PennDOT's inspector and having said that, we do not believe Mergentime can be responsible for the delamination. Rather than painfully summarize all of the above information, we will recapitulate with the entry of an appropriate Order.

**ORDER**

**AND NOW**, this 30th day of August, 2000, it is hereby **ORDERED, ADJUDGED** and **DECREED** that the Claimant, Mergentime Corporation, is hereby awarded Four Hundred Thirty-Five Thousand Seven Hundred Ninety-Eight Dollars and Sixty-Six Cents (\$435,798.66) for the cement overlay claim, Two Hundred Fifty-Five Thousand Three Hundred Thirteen Dollars and Forty-Seven Cents (\$255,313.47) for the Expansion Joint portion of the claim, and the balance of Mergentime's claims are **DENIED**. The Commonwealth's Counterclaim is hereby **DENIED**, although Mergentime's award shall be reduced by One Hundred Forty-Four Thousand Four Hundred Sixteen Dollars (\$144,416.00), representing Sixty-Seven Thousand Four Hundred Sixteen Dollars (\$67,416.00) Mergentime was obligated to pay the Commonwealth for M & P of Traffic associated with repainting, and Seventy-Seven Thousand Dollars (\$77,000.00) offset which the parties agreed to, per the Claimant's testimony. The net award of Five Hundred Forty-Six Thousand Six Hundred Ninety-Six Dollars and Thirteen Cents (\$546,696.13) shall be awarded thereon at the rate of six percent (6%) per annum from August 19, 1991, the date the Complaint was filed.

Upon receipt of said award, the Claimant shall forthwith file with the Board of Claims a Praecipe to mark the case "closed, discontinued and ended with prejudice".

Each party to bear their own costs and attorneys' fees.

Opinion Signed

BOARD OF CLAIMS

\_\_\_\_\_  
David C. Clipper  
Chief Administrative Judge

Aug. 30, 2000

\_\_\_\_\_  
Louis G. O'Brien  
Engineer Member

\_\_\_\_\_  
James W. Harris  
Citizen Member