BEFORE THE
MARYLAND STATE BOARD OF CONTRACT APPEALS

Appeals of HENSEL PHELPS CONSTRUCTION COMPANY	)	Docket Nos. MSBCA 1080 and 1167
Under MTA Contract No. 07-07	)	

July 21, 1992

Equitable Adjustment - Delay - Computation of Day Rate
Compensable days of delay can be calculated using a day rate incorporating time sensitive elements which reasonably reflect the actual costs of delay.

APPEARANCE FOR APPELLANT: John B. Tieder, Jr., Esq.
James L. Lester, Esq.
Watt, Tieder, Killian & Hoffar
McLean, Virginia

APPEARANCE FOR RESPONDENT: Charles M. Kerr, Esq.
Robert J. Proutt, Esq.
Maurice F. Ellison, Jr., Esq.
Steven J. Kmieciak, Esq.
Baltimore, MD

PROPOSED OPINION BY MR. MALONE AND MR. PRESS

This is an appeal by Hensel Phelps Construction Company (Appellant or "HP") of its claim for an equitable adjustment of $603,679 under the Maryland Mass Transit Administration's (Respondent, State or "MTA") contract No. 07-07 for the relocation of the Leahigh Railroad Yard belonging to the Western Maryland Railroad (Railroad or "WMRR"). The claim consists of fifteen counts for time extensions and direct and delay damages due to alleged suspensions of work, differing site conditions and changes in the manner of contract performance. MTA has asserted a counterclaim for $201,994 composed of a claim for overpayment of $155,994 and liquidated damages of $46,000. MTA's claim for overpayment was appealed by HP as MSBCA 1167. MTA's claim for liquidated damages was asserted as an affirmative defence to HP's claim in MSBCA 1080.

Findings of Fact

Count I - Delayed Site Access

1. MTA issued a Notice to Contractor in April, 1978 that it would receive bids for the relocation of the Leahigh Railroad Yard. This project was in conjunction with MTA's ongoing Baltimore subway system. The project basically consisted of earth excavation and grading, laying of new track, removal of old track, construction of retaining walls, site drainage and certain utility work.

2. A pre-bid meeting was held on May 2, 1978 but HP and Diaz Contracting, Inc. (Diaz), HP's subcontractor for railroad trackwork, did not attend. Bids were received on June 6, 1978. HP submitted the second low bid.

3. The low bid of Sessingham and Ostergaard, Inc. was rejected when it was determined that an error had been made. On June 22, 1978 MTA requested HP to extend its bid for an additional 30 days which HP agreed to do. MTA advised HP in early August 1978 that it was MTA's intention to award the contract to HP.

4. By this time, however, MTA was still in the process of acquiring the balance of the property necessary to perform the work called for by the contract. MTA was anxious to have this project begin because it was so important and had such impact on the other subway construction. Therefore, it had its general consultant Daniel, Mann, Johnson, Mendenhall/Kaiser Engineer ("DMJM") review the specifications to ascertain what work could be accomplished without the full site being available. DMJM determined that major portions of the contract work could be accomplished on the property that MTA then owned. Based on DMJM's recommendation MTA decided to award the contract to Appellant and to proceed with the work even though MTA was still trying to acquire the balance of the property. When MTA

notified HP in early August, 1978, that it was to be awarded the contract, HP learned for the first time that not all of the contract property had been acquired.

5. A pre-construction meeting was held on September 7, 1978 with HP to review the Leahigh yard project. At this meeting HP's representative brought up the suggestion for the first time of possibly substituting the retaining walls called for by the contract specifications with a soldier pile, precast concrete panel retaining wall. HP had recently used a similar construction method on another project. HP was asked to submit a formal proposal for this wall for MTA's review. MTA took HP's suggestion to its design consultant who gave it an initial favorable response.

6. Notice to Proceed (NTP) with construction was issued to HP on September 13, 1978 indicating that HP should begin work on or before October 9, 1978. The NTP also indicated the areas of the job site that that were not yet available for HP; the areas needed to construct the north retaining wall and tracks 5, 6 and 7.

7. Another pre-construction meeting was conducted on October 17, 1978 where HP reviewed its construction sequence and again discussed the possible substitution of the retaining wall. HP indicated that on the property that was available it could clear and grub; do some general excavation; and construct the south retaining wall. HP indicated that under its proposed soldier pile retaining wall the construction of the support system and the permanent wall would be combined into one operation which would save time and money over the as-bid retaining wall design. HP was asked by MTA to submit a formal proposal for the wall design.

8. The contract required the project work to be completed in 212 calendar days from NTP. Since the NTP issued to HP required work to begin by October 9, 1978 the project was projected to be finished by May 8, 1979. The contract also provided for liquidated damages in the amount of $1,000 per day in the event the work was not completed timely (Contract Special Provision 1.03).

9. The contract also required that the contractor furnish to MTA certain progress schedules (GP-8.04; SP § 01300). Special Provision § 01300-1.02 required a preliminary progress schedule to be submitted within 15 days after the effective date of the NTP. HP complied by submitting a preliminary progress schedule on October 20, 1978 in the form of a bar chart depicting the manner HP planned to perform the work as-bid.

The same Special Provision section also required a detailed Critical Path Method (CPM) network diagram to be submitted to MTA within 45 days of the NTP, stating a logical sequence of the work to be performed. It further provided that the CPM was to be revised when a change or delay significantly affected the activites or when the contractor changed any sequence affecting the critical path. HP complied with this section by submitting its As-Bid Progress Schedule Network Analysis on November 22, 1978.

10. Both the Preliminary Progress Schedule and the detailed CPM contained the same overall concept of how the job was going to be performed. HP's original plan provided for the concurrent construction of the two retaining walls from approximately the middle of November, 1978 through the middle of February, 1979. Temporary walls using soldier piles and wood logging were to be used followed by excavation to the bottom of the proposed footings.

Wood forms were then to be constructed and concrete poured for the permanent walls. Waterproofing was then to be applied to the walls, followed by backfill behind the permanent walls.

Following the permanent retaining walls the drainage systems were to be constructed using a V-ditch at the top of the walls and a U-drain (30 inch CMP) installed on the front side of the walls.

HP's track subcontractor, Diaz, was then to install the tracks, one at a time, in a continuous operation from the south to the north. Before Diaz was to begin laying the track, HP was to have the area for each track graded and covered with sub-ballast material.

Diaz's plan for constructing the track involved building turnouts at the south end; placing ties by offloading them directly from a truck; placing the tie plates; placing the rail on the ties directly from trucks; dumping ballast onto the tracks from a railroad car and finally tamping, aligning and spiking down the tracks.

The final major activity was for Diaz to remove the existing tracks.

11. The contract required that the CPM schedule to be submitted by HP was to utilize the "IJ" method of scheduling. However, HP submitted its CPM schedule utilizing the "precedence" method. MTA rejected HP's CPM schedule on December 14, 1978 because it did not utilize the "IJ" method. HP never did submit a CPM schedule utilizing the "IJ" method. HP had requested that it be allowed to use the "precedence" method but MTA refused.

12. HP's idea of substituting the as-designed retaining walls, first suggested at the September 7, 1978 pre-construction meeting, was more formally presented by HP in early November, 1978. HP orally presented its preliminary design which called for eliminating both the north and south retaining walls

and replacing both walls with soldier pile, precast panel designed walls. HP suggested that this design would provide a savings of approximately $400,000. This was to be followed by a formal written proposal.

13. HP submitted the formal written proposal for the new retaining wall construction on December 5, 1978 as a Value Engineering Change Proposal ("VECP") pursuant to the language of Supplementary General Provision § 4.02. This provision allows the contractor to submit value engineering change proposals to change the terms of the contract. To qualify as a VECP the proposal must (1) be identified as a VECP proposal; (2) require a change to the contract; (3) decrease the contract price; and (4) provide an equivalent product and not require an unacceptable extension of contract time. The decision of the MTA as to acceptance of the VECP is final and is not subject to the Disputes provisions of the contract. The net savings resulting from a VECP is to be shared equally between the contractor and the MTA. The net savings under a VECP are calculated by deducting from the VECP's estimated gross savings the contractor's costs of developing and implementing the proposal and the estimated amount of increased cost to the MTA from the VECP.

14. The estimated gross saving of the VECP, earlier estimated in November, 1978 at approximately $400,000, was now on December, 1978 estimated at approximately $243,765. This was the difference between the estimated cost of constructing the VECP wall system of $388,451 and the value HP placed upon the as-designed wall system of $632,216.

15. HP provided MTA more detailed information concerning the VECP on December 21, 1978 which included design calculations, a record of soil exploration, and sketches indicating various methods of excavation.

16. From October 9, 1978, the effective date of the NTP, through the end of that year, HP accomplished very little work. HP did clearing and grubbing, subsoil testing for the VECP and began excavation.

17. The Ralph M. Parsons Company ("RMP" or Parsons"), MTA's Construction Manager, along with DMJM, reviewed HP's proposed VECP in early January, 1979. Both expressed concerns about HP's proposed method of subsurface rock removal among other things but by late January, 1979 the general concept of the VECP was approved by both Parsons and DMJM.

18. At a meeting held on February 6, 1979 HP was asked to submit more detailed drawings for the VECP and a revised schedule reflecting the new wall construction to begin about March 1, 1979. HP submitted no scheduling data in either February or March, 1979.

19. At a meeting held on February 13, 1979 HP was orally advised that tracks 5, 6 and 7 were going to be removed from the contract and on March 2, 1979 HP was formally notified when it received MTA's February 27th letter that these tracks and the north retaining wall would be deleted and that no additional right of way would be required for the performance of the contract work. At the meeting HP was also given oral direction to begin construction of the VECP wall even though the final details remained to be worked out, HP did not submit detail drawings of the VECP wall until February 26, 1979.

20. HP began its drilling operation on March 12, 1979 for the VECP wall even though shop drawings had not been approved. They were finally approved in early April.

21. At an April 5, 1979 meeting with MTA, HP advised that its subcontractor, Diaz, would begin its work by April 20. However, HP never advised Diaz that it had to be on the job site by that date.

22. A meeting was held on April 20, 1979 to discuss scheduling since HP had not revised the schedules it submitted in October and November, 1978 as required by Special Provision § 01300-1.02 (See Finding of Fact No. 9). As a result of this meeting HP submitted a revised schedule in the form of a bar chart on April 24, 1979, which reflected the installation of the VECP wall. This new schedule called for a contract completion date of September 28, 1979. The cover letter accompanying the bar chart, however, requested a contract extension of 162 working days or 227 calendar days as a result of design changes and claims which would result in a revised completion date of December 21, 1979. HP never prepared updates of its original CPM schedule.

23. When HP prepared its bid for this project the plans and specifications indicated that the contractor would have access to the site at the south end through Mortimer Avenue and at the north end through Menlo Drive. Mortimer Avenue, a paved street, emptied directly onto the site. Menlo Drive, while a paved street, did not empty directly onto the site. To get from Menlo drive onto the site a dirt trail had to be crossed which was over a piece of property which MTA did not own. The trail was covered with brush and general debris. In its bid preparation HP anticipated and provided for an amount to cover the preparation of this part of the north access.

24. When it was finally assertained that MTA would not obtain the private property for the Menlo Drive access, HP in late March, 1979, at its own expense, leased a piece of property known as the Wailes property, located approximately 200 feet south of the Menlo Drive access. In late March 1979 HP constructed a temporary access road across the Wailes property. Costs associated with the Wailes property access road are shown on HP's records as cost account No. 97001.

25. HP claims $14,349 for the expenses related to the Wailes property access road. HP's claim is based on an estimate prepared by its consultant, of the costs to construct and maintain the access road, not on its cost records.

MTA paid HP $4,252 for the rental plus markup for the Wailes property under Change Order No. 007.

Count II - Extension of South Retaining Wall

26. When tracks 5, 6 and 7 and the north retaining wall were removed from the contract because of the lack of right-of-way, the remaining retaining wall needed to be lengthened approximately 144 linear feet. This extension was covered by change order No. 003 which, among other items, compensated HP for its direct costs only related to the wall extension. Delay costs and time extensions were not resolved by the change order.

27. The soldier piles related to the extension of the wall were installed from June 27 through July 5, 1979 and from July 23 through July 25, 1979 for a total of 12 days. The concrete panels related to the extension of the walls were installed from August 6 through August 14, 1979, and on September 13, 1979 when some of the panels were re-set.

28. The time spent installing the soldier piles for the extension of the wall was on the project critical path. However, the installation of the concrete panels was not on the critical path, except for the one day in September, 1979. MTA concedes that HP is entitled to 13 days of compensable delay.

Count III - Extension of 30 inch CMP Underdrain

29. The project as designed, with north and south retaining walls, called for the installation of approximately 1,350 linear feet of 30 inch corrugated metal pipe ("CMP") underdrain. HP estimated that it needed approximately 1,388 linear feet and this is the amount upon which it based its unit price bid.

30. When tracks 5, 6 and 7 and the north retaining wall were removed from the contract approximately 316 linear feet of CMP underdrain were eliminated from the project.

31. With the additional CMP underdrain added to the VECP wall construction HP had installed approximately 1,253 linear feet. HP was paid its direct costs only for additional installation of CMP pipe by Change Order No. 003.

32. While HP claims 12 days of delay it also admits that these days were not on the critical path of the project.

Count IV Replacing of Subgrade Material

33. HP encountered certain unsuitable subgrade material between stations 31+60 and 47+50 and was instructed by MTA on April 17, 1979 to remove and replace it with sub-ballast material.

34. The excavation work was performed between April 25 and May 2, 1979 by a subcontractor while HP's staff was working on the wall construction, which was on the project critical path wall construction, and utility work. The replacement sub-ballast was installed at a later date in mid-June, 1979.

35. HP claims this work caused seven calendar days of delay to the trackway excavation. This in turn delayed the placement of sub-ballast, which delayed the release of subgrade to Diaz for track construction.

36. HP was paid in full for all of its direct costs for removing and replacing the unsuitable subgrade material by Change Order No. 003. Unilateral Change Order No. 007 granted HP a time extension of 14 compensable days for the work. While HP accepted Change Order No. 003 it did not accept Change Order No. 007.

Count V - Blasting Restriction

37. HP's original plan of construction provided for the installation of the 30 inch CMP underdrain after the north retaining wall and most of the south retaining wall were finished. The original wall construction plan did not require HP to remove substantial rock since it utilized a spread footing design. However, HP did plan to encounter rock in the underdrain construction.

38. HP formally submitted its VECP wall proposal to MTA on December 5, 1978. Its cover letter provided that "[t]he borings indicate that the subgrade at the design elevation will be extremely wet. If this is so, we will install the designed underdrain system before beginning work on the retaining walls." (Ex. R-42).

39. HP submitted a more detailed plan of construction for its VECP wall on December 21, 1978, and on February 26, 1979 submitted detailed engineering drawings and design calculations. Apparently based on this information MTA gave HP oral instruction in late February, 1979 to begin work on the VECP wall even though all of the details had not been resolved.

40. A meeting was held on March 14, 1979 where HP was advised that it could proceed with construction based on the shop drawings as marked up by RMP and MTA. One of the guidelines placed on the drawings (drawing VE-2) by MTA was that HP would be prohibited from blasting rock within 75 feet of concrete encased soldier piles. This of course caused HP to consider constructing the 30 inch CMP underdrain before constructing the wall, not withstanding the possible wet conditions of the soil.

41. Construction had begun on the VECP wall on March 12, 1979 and water was encountered almost immediately as well rock. On March 15, 1979 HP determined to stop the drilling and begin mass excavation of the overburden

south of the tennis building. HP excavated from March 16 through March 23, 1979 from the beginning of the south end of the wall up to the south end of the tennis building.

42. HP began installing the 30 inch CMP underdrain on March 27, 1979. This had the effect of providing immediate drainage of the subsurface area at the south end of the project. HP proceeded with installing the CMP underdrain until late April when it finally reached a point that it could begin the wall construction and not be affected by the 75 foot blasting restriction. HP came back and finished the drain construction in August, 1979.

43. HP claims 23 days of delay of work which was on the critical path of the project.

Count VI - High Rock

44. Under the terms of its contract with MTA, HP was responsible for the initiation of any VECP. In preparing its VECP proposal HP employed National Foundation in November, 1978 to perform additional subsoil testing along the VECP wall line. Test borings indicated the presence of a high elevation of rock in certain areas.

45. The original contract design of the retaining walls called for spread footings that required relatively shallow subsurface penetration. However, HP's VECP design which utilized soldier piles imbedded in concrete, had a tip elevation of 16.5 feet below subgrade.

46. HP encountered unanticipated high rock in the vicinity of stations 28+00 to 29+40 from August 2, 1979 through August 16, 1979. HP alleges that this delayed the project's critical path by four calendar days.

47. While MTA conceded four days of compensable delay for high rock in its Response Cross Statement, Counterclaim and Requested Admission No. 68, it now alleges that HP is not entitled to the four compensable days based on

testimony presented at the hearing. MTA alleges that HP anticipated and included all of the rock it actually encountered as part of the VECP, therefore, it is not now entitled to any days of delay.

Count VII - Sanitary Sewer and Shoring Material

48. The contract required HP to uncover and encase a 54 inch concrete storm drain pipe and a 10 inch sanitary sewer pipe. The work on the 54 inch pipe, except for the backfill, was done between May 15 and May 17, 1979.

49. While uncovering the 10 inch sanitary sewer pipe on May 18, 1979, HP discovered that the line was deteriorating and was saturating the ground. On the same day MTA directed HP to replace the 10 inch sanitary sewer line. By May 30th approximately 31 feet of the 10 inch line had been installed.

50. The work on the 54 inch and 10 inch pipes took place at approximately station 37+25. While there was some testimony that HP did not have access to the north part of the project past station 37+25 during this period, the Board finds that based on the record HP did have limited access adjacent to the excavation area for equipment to pass to the north end and Diaz was able to perform work there such as the removal of track. HP performed grading work on the old railroad bed at the north end. While all of the work was going on at the north end HP was also constructing the retaining wall at the south end.

51. HP claims a delay of 22 calendar days from May 18 through June 15, 1979 caused by the work at station 37+25. This work was on the critical path of the project. HP has been paid all of the direct costs of this utility work by Change Order No. 003.

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Count VIII Suspension of Excavation

52. The record is clear that the excavation in front of the tennis building always was of critical concern to MTA due to the need to maintain the structural integrity of that building. The plans called for the area in front of the tennis building to be excavated to a grade approximately 20 feet below the grade adjacent to the tennis building. The retaining wall to be built was to provide permanent support for the embankment in front of the tennis building after the excavation was complete. The record is clear that HP was aware of MTA's concern for the integrity of the tennis building both in the originally designed wall as well as with HP's VECP concept of the wall.

53. The VECP provided for two methods of excavation for the wall construction. Where no rock was encountered, HP would excavate to a height equal to the approximate top of the finished wall. From this height soldier pile holes would be augered to a depth of 16.5 feet below subgrade. The over burden was to be excavated panel-by-panel, the panel installed and immediately backfilled before excavating for the next panel.

Where rock was encountered, excavation was to begin at the top of the slope and proceed down at a 45 degree angle, to a point intersecting the bottom of the wall. Soldier pile augering would begin from that elevation.

RMP & DMJM expressed some concern about the excavation methods proposed by HP in its VECP. They were particularly concerned about the removal of rock that was below the wall panels.

54. HP's shop drawings submitted February 26, 1979 were rejected on March 13, 1979 by MTA. A meeting was held March 14, 1979 to discuss with HP what was needed to gain final approval of the shop drawings. HP was given approval to proceed with the VECP construction as long as the suggested

modifications were adopted into the drawings particularly those dealing with the one to one slope in front of the tennis building. (See Finding of Fact No. 40).

55. The notes that had been added to the first VE-2 drawing indicated that:

> (1) The limits of excavation behind the wall panels consists of a 1:1 slope from the top of cut to the top of subgrade; ....
>
> (2) Along the length of the tennis facility the earth will be excavated in 8 foot ± segments, one panel installed and immediately backfilled prior to installing the next panel.

56. As noted above (Finding of Fact No. 39) HP had been given oral authority to begin work on the VECP wall in the vicinity of the tennis building about March 1, 1979. The notes on drawing VE-2 noted above were added to that drawing by MTA after HP was given the oral authority to begin work. Actual construction was begun by HP on March 12, 1979. On that date there were no limitations on the size or the scope of the VECP excavation outside the limits of the tennis building.

57. HP's excavation in the area in front of the tennis building consisted of three stages: (1) an initial cut 6 to 8 feet deep and 22 feet from the edge of the tennis building which was made in December, 1978; (2) a bench cut approximately 4 feet deep and 22 feet from the edge of the tennis building which was made in March, 1979; and (3) after the soldier piles were installed, HP excavated to the bottom of the wall and immediately placed and back-filled the concrete panels one at a time.

58. In late April, 1979 HP experienced difficulty in its drilling in the vicinity of the tennis building because of the existence of extensive rock. During the first two weeks of May HP performed some blasting of subsurface rock in the area of the southern corner of the tennis building. This blasting caused some cracking in the bank adjacent to the BG&E yard.

59. Because of the difficulty HP was experiencing augering due to the extensive rock, it retained National Foundation Co. to determine the subsoil condition in front of the tennis building. Their report indicated extensive rock was present where HP had to drill.

60. HP requested its design consultant to redesign the VECP wall in an attempt to minimize the need to drill in the vicinity of the tennis building. On May 21, 1979 HP submitted to MTA a revised design for the VECP wall in that area which called for the deep installation of soldier piles to be replaced by the use of a shallow, rectangular concrete slab anchoring soldier piles.

61. During May, 1979 representatives from RMP and DMJM visited the job site and noticed for the first time the excavation performed by HP which had now been in place since the latter part of March, 1979 with no apparent effect on the tennis building. DMJM wrote to MTA voicing their concern that the slope in front of the tennis building was steeper than one to one and that the blasting at the southern end had caused some failure in the embankment in front of the BG&E property.

62. On May 24, 1979 MTA's Resident Engineer issued a Stop Work Order for the retaining wall construction adjacent to the tennis building or within 50 feet of either end of it. The SWO had been based on the observations of the DMJM and RMP representatives of the condition of the excavation. They had reported that excavation in the area was almost vertical and almost down to

final grade. HP alleges that the excavation was in fact 10 to 12 feet above the final grade. Prior to the issuance of the SWO HP had not been notified of alleged deficiencies in the contract excavation requirements for the VECP.

63. The SWO was issued at the same time MTA was reviewing HP's revised design for the VECP wall which it had submitted on May 21.

64. The SWO was partially lifted on May 31 to permit some work at the south end of the site. On June 1 HP submitted another redesign for the VECP wall. On June 6 the redesign of the VECP was rejected by MTA and HP was instructed to proceed with the VECP as approved. HP began work again on June 13, 1979.

65. HP claims that the SWO caused a delay of 12 calender days, all on the critical path of the project.

Count IX Failure to Remove Box Car

66. The Contract, at Special Provision Section 01011-1.13(X)(2) states:

> The Railway shall be given sufficient notice in accordance with the approved Progress Schedule prior to the date when changes to the track and other railroad facilities will be required in order that the Railway may properly schedule their operations. This notice shall be given to the Engineer in writing, and the Engineer shall advise the Railway of the Contractor's schedule of work.

67. A meeting was held on May 24, 1979, where HP, Diaz, RMP and the railorad were represented. It was agreed at this meeting that the north ladder track would be taken out of service for two weeks beginning June 4, 1979 to allow Diaz to remove track.

68. On June 4, when Diaz planned to begin removal of track, there was a box car on the north ladder track and the switch had not been spiked shut. When Diaz made an inquiry of the railroad's representative he stated that he had not been notified by MTA that Diaz was going to begin work on that date.

69. Also on June 4, 1989 HP advised Diaz that it could not work on the job site that date because of the poor weather conditions.

70. The boxcar was still on the tracks on June 5 but Diaz found other work for its crew to perform. By June 6 the boxcar had been removed, the track was spiked shut and Diaz was able to begin removing the track.

71. While HP claims two days of delay it admits (APF of 173) that the track removal activity was not on the critical path of the project.

Count X - North Ladder Design Errors

72. The contract required the contractor to construct storage tracks 2, 3 and 4 as they were shown on the contract drawings and specifications. The contractor was required to use No. 8 turnouts in constructing these ladder tracks. Turnouts, in the shape of a "Y", are used to permit trains to switch from one track to another. A No. 8 turnout has a standard angle. Diaz was to install three No. 8 turnouts at specific work points.

73. Diaz discovered that it could not install the No. 8 turnouts in the area provided. The full complement of switch timbers for each turnout could not be used without making certain field adjustments and several of the ties from adjacent turnouts would have to be interlaced to keep from overlapping.

74. General Provision - 5.03 of the contract, Discrepancies in the Contract Documents, provides:

> In the event the Contractor discovers any discrepancies in the Contract Documents, he shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Contract.

Special General Provision - 5.03 of the contract, Coordination and Interpretation of the Contract Documents, provides:

> C. Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Contract Documents, the Contractor shall apply to the Engineer for such further written explanations as may be necessary and shall

conform to the explanation provided as part of the Contract. If doubts or questions arise regarding the true meaning of the Contract Documents, reference shall be made to the Engineer whose decision thereon shall be final.

75. Pursuant to these sections of the contract, Diaz notified the Resident Engineer on June 29, 1979 of what it perceived as a design discrepancy. Diaz's foreman also suggested a solution to the Resident Engineer but the Resident Engineer wanted to clear the alleged discrepancy and solution with the railroad's representative. The railroad did not give its approval until July 6, 1979.

76. HP alleges 9 days of delay for Diaz as a result of resolving the discrepancy, from June 29 to July 6. The claimed nine days of delay related to work on the critical path of the project.

Count XI - Heel Blocks

77. The parties allege that the following sections of the Contract Special Provisions concern the issue of whether the contract required the contractor to supply heel blocks:

Special Provisions, section 01011 - Construction Procedures subsection 1.13-Work on Western Maryland Railway Company Property

E. The Contractor shall conduct his operations fully within the rules, regulations and requirements of the Railroad. The Contractor shall be responsible for acquainting himself with such requirements as the Railroad may demand.

* * *

R. Every bidder is required to ascertain from said railroad company their rules, regulations and requirements and what, if any, delays that he shall be subject to, or scheduled days when work would be permitted, in connection with the supporting of tracks, and in connection with other railroad operations, and every bidder will be assumed to have included in his bid price all costs and expenses and all risks of loss and damage to him, due to such delays, rules, regulations and requirements.

Special Provision, section 02851-Railroad Trackwork Part 1: General, subsection 1.01-Description

C. All track materials and construction shall comply with the current Chessie System Book of Roadway and Track Standards, American Railway Engineering Association (hereinafter designated AREA) "Manual for Railway Engineering" and Portfolio of "Trackwork Plans," as modified by these specifications or the contract drawings. In the event of disparities between the Chessie System Book of Roadway and Track Standards and the AREA publications, the Chessie System Book will govern.

Part 2: Products, subsection 2.10-Special Trackwork

A. Special trackwork in railroad track shall conform to the current standards of the Chessie System or in lieu of established standards, shall conform to the current requirements of the AREA "Portfolio of Trackwork Plans" as modified herein.

1. All turnout material shall be new and comply with the requirements specified for track construction materials.

2. All turnouts shall be constructed of the same rail weight and section furnished for connection tract construction. Turnouts shall be of bolted construction with hard center self guarding frog.

3. Adjustable rail braces conforming to the current requirements of AREA Plan No. 224 shall be provided in all turnouts.

4. If the Contractor so choses, he may furnish and install prefabricated or panelized turnouts.

B. No. 8 Non-Insulated Turnouts: No. 8 Non-Insulated turnouts shall be fabricated in accordance with the standard drawings of the Chessie System with one piece manganese steel guard rails.

1. Switch operating mechanisms for each turnout shall be manually operated rods conforming to Chessie System standards.

2. Switch position indicators for each turnout shall be manually operated rods conforming to Chessie System standards regarding size, color, and manufacture.

Part 3: Execution, subsection 3.07 Surfacing and Lining of Track

Turnouts:

1. Turnouts shall be constructed as specified herein at the locations shown on the contract drawings and shall be the type shown thereon.

78. Drawing entitled "The Chesapeake And Ohio Railway Company, The Baltimore and Ohio Railroad Company, No. 8 Crossover And Turnout" (Appellant's Exhibit No. 235).

> Note No. 1 provides as follows: "On Interlocked or Machine Operated Switches Heel Blocks Per Drawing No. 280 Shall Be Used. Heel Blocks May Be Used At Other Locations As Approved By The Chief Engineer."

79. The tracks in this contract were not interlocked or machine-operated.

80. A heel block is a steel casting which acts as a pivot point at a switch in railroad tracks. It is bolted to the rail and serves to stabilize the switch and to prevent it from going out of adjustment. The heel block essentially maintains the proper gauge, which is the space between the two tracks on a railroad line.

81. The issue of whether the contract required heel blocks was often discussed and on November 21, 1979 HP notified Diaz that heel blocks were required and should be installed. Diaz finally installed the heel blocks in April, 1980.

82. HP makes a claim for direct costs only on behalf of Diaz for the purchase and installation of six pairs of heel blocks in the amount of $7,548. MTA maintains the actual cost was only $3,922.

Count XII - South Spur Design Error

83. The contract required the installation of a south spur track approximately between stations 20+25 and 24+00. HP claims that the location of this spur line conflicted with an existing billboard that was not shown on the contract plans. HP notified the MTA of the alleged conflict on September 25, 1979. MTA responded that "[t]he sign will not be removed. Build the south spur track according to the DWG." (Appellant's Ex. No. 178).

84. HP installed the south spur track as directed. Only a slight adjustment to the curvature of the track was needed to avoid the leg of the billboard. The distance between the south spur and the adjacent track No. 4 was within six inches of the 18 foot center set forth in the contract drawings.

85. HP has not identified the specific six days that it was delayed because of the billboard. HP admits that the claimed six days of delay were not on the critical path of the project and that they only affected Diaz's work.

Count XIII - Acceleration

86. Diaz entered into its subcontract agreement with HP on December 18, 1978 which incorporated by reference HP's contract with MTA.

87. At a meeting on January 10, 1979, where both HP and Diaz were represented, MTA advised them that tracks 5, 6 and 7 may be deleted from the contract. Diaz was specifically told to refrain from purchasing materials for those tracks. At the same meeting Diaz requested a copy of the Chessie System current standard specifications and was advised how to obtain them.

88. On April 10, 1979 HP advised MTA at a meeting that Diaz would be starting its work about April 20, 1979. However, the record does not reflect that HP advised Diaz of this start date.

89. At a scheduling meeting on April 20, 1979 HP advised MTA that it would submit a delay claim by April 26 and in fact HP submitted its claim on April 24, 1979. HP asked for a time extension of 227 calendar days which translated into a revised completion date of December 21, 1979 (Exhibit R83A). Accompanying the claim was a bar chart schedule which indicated that all construction would be completed by September 29, 1979 (Exhibit R83B).

90. In the minutes of the April 20, 1979 meeting it is stated that "Page Cowart stated that a letter was being drafted pertaining to the completion date of contract NW-07-07. As this date is approaching the contractor will be notified that liquidated damages could be assessed". (Exhibit A-112).

91. Up until this time HP had only requested delay days because of severe weather: i.e. January 23, 1979 letter to MTA requesting an extension of 17 working days for severe weather from November 1, 1978 to December 31, 1979, (Exhibit A-78); March 2, 1979 letter to MTA requesting an extension of 16 working days for severe weather from January 1, 1979 to January 31, 1979, (Exhibit A-86); March 2, 1979 letter to MTA requesting an extension of 17 working days for severe weather from February 1, 1979 to February 28, 1979, (Exhibit A-87); and April 4, 1979 letter to MTA requesting an extension of 10 working days for severe weather from March 1, 1979 to March 31, 1979, (Exhibit A-98).

92. HP sent Diaz a letter on April 26, 1979 advising Diaz that it could begin work on the north end of the project on May 1, 1979 and to be finished its work by July 1, 1979. HP also advised Diaz that HP had requested certain submittal information from Diaz in November, 1978 but it was not supplied until April 20, 1979 and therefore HP would not be held liable for any delays experienced by Diaz for approval or delivery of material since the information had not been supplied in a timely fashion.

93. At a meeting on March 2, 1979 between HP and Diaz it was agreed Diaz would begin its work at the north end on May 29, 1979 and be finished by July 27, 1979. At the time of this meeting Diaz was not aware that HP had submitted a request for a time extension on April 24, 1979 or that HP had advised MTA that Diaz would begin its work about April 20, 1979.

94. HP made additional requests for delay days due to severe weather; i.e. May 1, 1979 letter to MTA requesting an extension of 9 working days from April 1 to April 30, 1979, (Exhibit A-114); June 4, 1979 letter to MTA requesting an extension of 7 working days from May 1 to May 31, 1979, (Exhibit A-143).

95. On May 4, 1979 HP made two claims to MTA for delay days. The first was for 5 working days based on the fact that survey control monuments had been destroyed (Exhibit A-117). The second for 2 working days was based on buried WMRR cables and utilities, (Exhibit A-118).

96. In a letter summarizing a May 24, 1979 meeting between Diaz and the WMRR to discuss track installation, Diaz made no claim for a time extension due to resequencing. At this meeting WMRR advised Diaz that it had not received inspection tests or certificates of compliance on material as required by the contract.

97. Diaz did not see HP's as-bid schedule until the end of May, 1979. After seeing that schedule Diaz did not file a claim for resequencing with HP even though it was going to begin its work at the north end of the project rather than the south as originally planned.

98. Diaz arrived at the job site on May 20, 1979 and mobilized to begin construction until June 3, 1979.

99. On June 5, 1979 Diaz informed HP that it intended to file a claim for additional costs and a time extension due to the WMRR leaving a boxcar on the track and the switch not having been spiked shut. There was no reference to resequencing of work. (Exhibit R-119).

100. From June 13 through June 22, 1979 Diaz could not start new track work at the north end because HP had not finished preparing the subgrade and installing subballast.

101. From July 31 through August 9, 1979 Diaz was delayed by HP not releasing more subgrade.

102. Diaz was required to deliver a certification of its ballast to HP for approval but it was not done until June 14, 1979.

103. Diaz attempted to use materials which did not conform to the contract specifications, i.e. switch ties, joint bars, the plates and certain rail. On June 29, 1979 HP wrote to Diaz complaining about its use of unapproved materials and threatening to withhold payment of Diaz's invoices pending acceptance of materials by MTA (Exhibit R-131). HP also advised Diaz on September 26, 1979 to exercise greater quality control particularly with regard to railroad ties, (Exhibit R-138).

104. Diaz had material delivery problems throughout the job. It often ran out of spikes, ties, plates and joint bars. It also had equipment delivery and breakdown problems during the job.

105. During the summer months of June, July and August 1979 Diaz performed no work on weekends or holidays.

106. The record reflects that Diaz had financial and administrative problems, particularly with its checking account, at its Baltimore field office. HP often had to help Diaz meet its payroll. Diaz also had difficulty with its local union because of a dispute over wages.

107. On June 29 and July 5, 1979 HP requested of MTA the status of its requested time extensions, (Exhibits A-163 & A-166).

108. On August 23, 1979 HP wrote to MTA in response to MTA's August 21st request for summary information on HP's delay claims. In its August 23rd letter HP stated, "[t]he failure to grant formal or, at least, an interim time extension by the Engineer for the delays that occurred prior to April

25, 1979 has required resequencing our original planned performance schedule in an attempt to minimize the over-run in construction time. . ." (Exhibit A-174).

109. HP made an additional request for delay days in 1979 due to severe weather for the months of June (Exh. A-165), July (Ex. A-172), August (Ex. A-175), September (Ex. A-179), October, (Ex. A-182) and November (Ex. A-188).

110. HP prepared a "Report of Performance To-Date" on Diaz's performance in December, 1979 in which HP places most of the fault of Diaz's problems on Diaz, (Exhibit R-160A). There is no mention of resequencing problems caused by MTA's actions. Finally, on December 31, 1979 HP wrote to Diaz advising that HP would take steps necessitated by Diaz's inability to complete the work in accordance with Diaz's own schedule. Diaz was also reminded that HP had advanced Diaz money above the contractual amount agreed upon. HP threatened to finish the work itself and back-charge Diaz, (Ex. R-162).

Count XIV Weather Delays

111. The Contract General Provisions, § GP-8.08 Termination for Default, Damages for Delay, Time Extension, provides in pertinent part as follows:

> D. The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:
>
> (1) The delay in the completion of the work arises from causes other than normal weather beyond the control and without the fault or negligence of the Contractor, including but not restricted to acts of God, acts of the public enemy, acts of the State or Federal Government in either their sovereign capacity or the Administraiton in its contractual capacity, acts of another contractor in the performance of a Contract with the Administration, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and ....

112. The Contract Supplementary General Provisions, § 8.04 Termination for Default, Damages for Delay, Time Extensions (GP-8.08), provides as follows:

A. The Administration has determined that the following table will be used as the basis for determining allowable time extensions to the contract for "other than normal weather conditions".

Month	Working Day Delays to the work which may be expected to occur as a result of normal weather conditions.
January	3
February	3
March	2
April	2
May	2
June	2
July	2
August	3
September	1
October	1
November	1
December	2

B. Time extensions for working day delays during the months as listed above will only be allowed for working day delays in excess of those numbers listed above and only when those excess days of delay affect the critical path of the work involved required to meet the specified contract times or dates. Further, the calendar days or dates extensions will be developed by multiplying the allowable working days extension by one of the following factors, as applicable

1. Factor of 1.4 for those activities scheduled for five day work week.

2. Factor of 1.2 for those activities scheduled for a six day work week.

3. Factor of 1.0 for those activities scheduled for a seven day work week.

113. HP and MTA have agreed to the number of days lost due to weather for each month of contract performance as follows:

Month	Total Weather Days	Anticipated Weather Days	Excess Weather Days (Total-Anticipated)
MARCH 1979	3	2	1
APRIL 1979	6	2	4
MAY 1979	2.5	2	0.5

Month		Total Weather Days	Anticipated Weather Days	Excess Weather Days (Total-Anticipated)
JUNE	1979	4	2	2
JULY	1979	1.5	2	0
AUG.	1979	4.25	3	1.25
SEPT.	1979	4.13	1	3.13
OCT.	1979	6.5	1	5.5
NOV.	1979	1.25	2	0

HP claims that weather delays after June 22, 1979 were a change to the contract and therefore compensable. MTA on the other hand maintains that HP is only entitled to 22 excusable weather delay days though it does concede HP is entitled to 4 compensable days related to weather during October, 1979.

Count XV - Failure To Pay Retainage

114. The work to be performed under the contract included the removal of track from the old yard by HP after the new yard track was constructed. (See Special Provisions sec. 01000 Summary of The Work subsec. 1.02). Work could not begin on the new subway tracks until the old railroad tracks were removed.

115. WMRR accepted the new storage yard tracks on or about November 23, 1979. HP then proceeded to remove the old tracks into December 1979. By its own admission HP did not finish this work until at least December 14, 1979 (HP Brief at 149).

116. A certificate of substantial completion was issued on December 28, 1979 after an inspection of the project was made. Accompanying the certificate of substantial competition was a punch list of work still to be completed, (Ex. R-319).

117. HP alleges substantial completion was on November 23, 1989 when WMRR accepted the new storage yard. MTA maintains that substantial completion was not until December 28, 1989 when the certificate was issued.

118. HP maintains that under the language of General Provision 9.04 Acceptance and Final Payment, MTA was required to tabulate final quantities within 60 days of final acceptance of the Contract. If the contractor had a claim outstanding, and no agreement is reached within 30 more days, the Engineer must unilaterally process the Acceptance and Final Payment and release the retainage. Under this language HP maintains that its retainage should have been released by February 1, 1980.

MTA's Affirmative Defense of Overpayment

119. HP's original preliminary VECP retaining wall proposal in November, 1978 provided for a savings of approximately $400,000 to be split equally between HP and MTA. This was based on an estimated credit of approximately $620,000 for the as-bid walls minus the cost to build the VECP wall of $220,000.

120. By December, 1978 when HP submitted a formal written VECP proposal the savings had been reduced to $243,756. This was the difference between the now estimated cost of constructing the VECP wall system of $338,451 and the $632,216 value HP now placed upon the as-delayed wall system.

121. On March 2, 1979 HP was formally notified that tracks 5, 6 and 7 and the north retaining wall were to be deleted from the contract.

122. HP received oral instructions to begin construction of the VECP wall in February, 1979, and actual construction began in the middle of March, 1979. Neither final details, nor a final revised cost proposal, had been agreed upon at this time.

123. By the end of April, 1979 HP knew that the VECP wall would be extended and what the increased wall length would be.

124. HP submitted a revised VECP cost proposal on May 7, 1979. The credit value now placed on the two as-designed walls was $607,093, down from the $632,216 value placed on them in December, 1978. It should be noted that this credit was for the two as-delayed walls even though the north wall had been removed from the contract by this time. The cost for the VECP wall system had increased from $338,451 in December, 1978 for two walls, to $539,192 for only one, the south wall. The savings had decreased from $243,765 in December, 1978 to $67,901.

125. The credit analysis used by HP in May, 1979 was different from the one it used in December, 1978 to determine the value of the as-designed walls. Also the quantities for bid items for structural excavation and structural backfill represented to MTA in the May 7, 1979 cost proposal differed from the December, 1978 quantities. Apparently, DePauw, who prepared the May 7th cost proposal, intended for HP to be paid for structural excavation and structural backfill through the appropriate bid items as well as through a single lump sum payment for the VECP wall construction.

126. HP submitted another updated cost proposal on May 14, 1979. The credit for the two as-bid walls of $607,093 was the same as in the May 7th proposal. However, the cost to build the one south wall increased to $594,546 in the new proposal.

127. Apparently based on HP's May cost proposals which gave credit for two as-designed walls but charged for only one new wall which gave the illusion of a large savings to be split between HP and MTA, MTA decided to wait until after construction of the VECP wall was complete and to pay HP based on HP's actual costs plus a reasonable markup.

128. While HP was building the wall MTA paid them through existing bid items so that when the VECP cost was finally agreed upon, adjustments would be made reflecting the prior bid item payments. HP received payment through bid items for structural excavation, structural excavation-work, structural backfill, previous backfill and support of excavation.

129. VECP wall construction was substantially complete by mid September, 1979. In October, 1979 HP submitted another VECP cost proposal to MTA allegedly based on the costs it incurred. This cost proposal was not acceptable to MTA because there was no itemized cost support based on actual costs.

130. It was decided at about this time that the 144 linear foot extension to the south VECP wall would be paid for also by a lump sum payment. This was to be based upon the cost of the VECP wall which would be divided by its length to determine a linear foot cost.

131. Not having received the desired cost information from HP by mid February, Browning wrote to DePauw specifically requesting a breakdown of HP's VECP costs. In response DePauw gave to Browning on February 21, 1980 a spread sheet which DePauw represented contained all of HP's actual costs for the construction of the VECP wall. Based on the information in the spread sheet Browning believed that HP's cost plus a reasonable markup to construct the VECP wall was $544,806. The credit for deleting the as-bid south retaining wall was agreed on as $577,418.93. This resulted in a gross savings of $32,612.93 to be divided between HP and MTA.

132. All of the bid item credits for both the north and south walls had been reduced to zero with the exception of bid items 007 structural excavation and 010 structural backfill. Small amounts remained for these two bid items.

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133. HP was eventually paid for the VECP wall by Change Order NO. 002 and for the wall extension by Change Order No. 003. Both change orders called for payment by a lump sum.

134. Robert Leas (Leas) became the resident engineer for this project in July, 1980. By December, 1980 Leas advised HP that he would no longer negotiate with DePauw and that he wanted to negotiate with HP's management with regard to outstanding matters.

135. In January, 1981 meetings were held between MTA and HP to discuss final quantities. As a result of the meetings it was agreed that HP would be paid through bid items 007 structural excavation, 008 structural excavation-rock, and 010 structural backfill. These construction activities had been paid for in full through Change Order Nos. 002 and 003 for the VECP wall and wall extension. These final quantities were paid for by MTA through Change Order NO. 006.

136. MTA alleges that in Change Order No. 006, in addition to the duplicative payments through the bid items noted above, certain bid items were measured erroneously. Bid item 005, trackway excavation, was based on truck count but should have been measured by the average end area method (Standard Specification § 02200-4.01(F)). Bid item 009, embankment, was based on the volume of earth behind the retaining wall but should have been measured based upon the average end area method (Standard Specification § 02200-4.01(F)).

137. The project was accepted by MTA in April, 1981. Final payment was made on October 8, 1981. MTA's claim for overpayment to HP was not made until June, 1983 when it was first asserted as a counterclaim in MTA's Answer to HP's Amended Complaint in this action, MSBCA 1080. MTA's claim for overpayment later became an independent action, MSBCA 1167.

138. As a result of HP's claim in MSBCA 1080- MTA performed an audit of HP's books and records. More specifically MTA's Horace Carmichael (Carmichael) performed a comprehensive review of HP's cost account records for this project. Based on Carmichael's review MTA asserts that the actual cost to HP, plus reasonable mark-up, to construct the VECP wall was $418,151.00, $126,655 less than the $544,806 claimed by DePauw as the actual construction cost. Carmichael determined that MTA had been charged (1) for labor which was not related to wall construction, (2) for direct overhead items which were also included in the percentage mark-ups, (3) for work that should have been charged to the extension, (4) for materials that were not related to VECP construction, and (5) duplicative charges for certain materials.

139. Based on Carmichael's review of the HP's VECP construction costs MTA also asserts that it overpaid $15,916 for the wall extension since that cost was based upon a linear foot calculation of the VECP construction cost.

140. The total amount of MTA's claim of overpayment to HP is $155,994 which breaks down as follows: $63,326 for VECP wall construction; $15,916 for wall extension construction; $13,884.88 for incorrect methods of measurements for bid items 005 and 009; and $62,867.12 for duplicate payments through bid item Nos. 007, 008 and 010.

Decision

Count I

There are certain facts which are undisputed with regard to the first count. MTA awarded the contract to HP without acquiring all of the necessary real property needed to perform all of the contract work. Notice to proceed was issued effective October 9, 1979 and 145 days later on March 3, 1979 HP began construction on the VECP designed wall rather than the as-bid designed walls. Both MTA and HP agree there was a 145 day delay

caused by the MTA's lack of adequate property acquisition, however, they disagree whether it was an excusable delay caused by both MTA and HP or a compensable delay caused only by MTA. That is the main issue in Count I to be decided by this Board and it will be necessary to examine what took place between the award of the contract to HP and March 3, 1979.

HP relies on the first sentence of General Provision - 8.07.B. Suspension of Work, to support its position as follows:

> B. If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Engineer in the administration of this Contract or by his failure to act within the time specified in this Contract [or if no time is specified, within a reasonable time, an adjustment shall be made for any increase in the cost of this contract (excluding profit)] necessarily caused by such unreasonble suspension, delay, or interruption and the Contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent (1) that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or (2) for which an equitable adjustment is provided for or excluded under any other provision of this Contract.

Of course MTA relies on the second sentence of the above section to support its position and maintains that HP contributed to the delay. The cases also generally provide that where government caused delays are concurrent with other delays, for which the government is not responsible, the contractor cannot recover delay damages. See Volpe-Head Joint Venture, ENG BCA No. 4726, 89-3 BCA ¶22,105 (July 14, 1989); Freeman-Darling, Inc., GSBCA No. 7112, 89-2 BCA ¶21, 882 (April 27, 1989); Steve P. Rados, Inc., AGBCA No. 77-130-4, 82-1 BCA ¶15,624 (February 8, 1982).

MTA argues that HP contributed to the delay or would have caused its own delay during this 145 day period in two primary ways; i.e. HP's failure to abide by the scheduling requirements of the contract and HP's VECP proposal effectively suspended work during this period.

MTA's primary argument concerns HP's failure to comply with the scheduling requirements of the contract. The language of GP-8.04 and SP § 01300 is clear as to what they require from the contractor and there is no need to repeat that language here. (See Finding of Fact No. 9). There is substantial argument by MTA that HP never complied with these scheduling requirements. Likewise, there is substantial rebuttal and assertions by HP that there was compliance. But for purposes of MTA's argument here we believe MTA has failed to demonstrate how HP's alleged failure to comply with the scheduling requirements in and of itself was a delay to the contract work sufficient to find there was concurrent delay with MTA.

HP's alleged noncompliance with the scheduling requirements of the contract was a procedural problem that may have hindered MTA's ability to determine the extent of other delays but we find no evidence or creditable argument that it was itself the cause of an HP delay. Even MTA makes the point in its brief at p. 47, "Hensel Phelps failed to submit the proper scheduling data to MTA, thereby preventing MTA from accurately analyzing and assessing the impact of the property acquisition difficulties on [this project] as well as on other related subway contracts." Theoretically, HP might not have filed required schedules but still have been able to perform the required work in a timely fashion. Noncompliance with this contract language under the facts found in this case did not in of itself cause a delay. Noncompliance here only goes to the issue of proving entitlement due to other delays. The schedules are management tools used by the contractor as its guide on how to build the project and under the facts of this case as perceived by MTA the schedules are really evidentiary tools. Utley-James, Inc., V. U.S., U.S. Claims Court No. 759-85C, 34CCF ¶75,478, et. p. 81,563 (May 5, 1988). The real problem MTA faced is explained in its brief at p. 51

where MTA argues that HP may have intentionally not filed schedules which shifted the burden to MTA to prove which delays claimed by HP were or were not on the critical path of the project during this period. In other words MTA maintains that HP was using this evidentialy tool to its advantage.

We also note the following enforcement language found in GP-8.04:

> D. Failure of the Contractor to comply with the requirements of the Engineer under this provision shall be grounds for determination by the Engineer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the Engineer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with GP-8.03 of these General Provisions.

Whatever concerns MTA may have had with HP's noncompliance with the scheduling requirements we are aware of no evidence in the record which reflects that the point was ever reached where the Engineer took the above prescribed corrective measures.

The second alleged delay caused by HP during the 145 day period was that the VECP proposal effectively suspended contract work. The theme of MTA's argument, outlined in its brief at p. 47, is that HP knew that the wall construction was the major component to this project. Having made representation to MTA that it could construct its designed wall botn cheaper and faster, HP was no longer a passive participant during the 145 day suspension. HP's wall which it initiated and promoted effectively halted major construction.

However, a brief chronology of VECP events reveals that MTA was fully aware and supportive of HP proceeding with its proposal and that it would be inappropriate to charge HP with this delay to the project. By early August, 1978 MTA had received bids for this project but it was still in the process of acquiring the balance of the real property needed to perform the

work called for by the contract. MTA was anxious for this work to proceed and based on assurances from its consultant that major portions of the contract work could be accomplished it decided to award the contract. HP learned of MTA's property acquisition problem in early August, 1978 when MTA advised that it was awarding the contract to HP. (Finding of Fact No. 4). At a pre-construction meeting on September 7, 1978, held before the NTP was issued, HP suggested for the first time the concept of a retaining wall combining the support system and the permanent wall into one operation. HP advised that it had used this concept on another job and believed that it would be less expensive and quicker to construct than the as-bid designed walls. (Finding of Fact No. 5). MTA took the idea immediately to its design consultants who gave it a favorable response. (Finding of Fact No. 5).

At the pre-construction meeting on October 17, 1978 HP again brought up the proposed new design of the retaining wall, but with more detail. Already having its consultant's initial approval MTA asked HP to prepare a formal proposal (Finding of Fact No. 7). As Respondent states in its Brief at p. 46, "[f]aced with the uncertainty of site aquisition, these representations by Hensel Phelps [that the VECP wall would be less expensive and faster to construct] encouraged MTA greatly".

HP made a more formal oral presentation of its idea in early November, 1978 (Finding of Fact No. 15) and submitted the formal written VECP proposal on December 5, 1978 pursuant to SGP § 4.02 (Finding of Fact 13). HP provided more detailed information on December 21, 1978 (Finding of Fact No. 15). By late January, 1979 the general concept of the VECP was approved by MTA's consultants (Finding of Fact No. 17). At a meeting on

February 13, 1979 HP was given oral direction to begin construction of the VECP wall and began work on the wall on March 12, 1979. (Finding of Fact No. 19&20).

The reasonable interpretation of these events is not that HP was an active promoter of the VECP wall but rather a contractor who recognized, even before the NTP was issued, that the owner had a problem that was going to prevent it from moving ahead with its contract. This was a contractor with an idea that was trying to assist the owner get the project completed on time because larger subway contracts were dependent on this one being finished timely. MTA appears to take inconsistent positions. On one hand MTA wants HP to assume full blame for initiating and promoting the VECP wall and any delay consequences that might flow from that. On the other hand MTA was enthusiastic with the idea when it was first discussed in September, 1978 and appeared to urge HP forward with the idea almost from the beginning. MTA took the design idea right to its consultants who gave it preliminary approval. MTA acknowledged in its Brief that HP knew that the wall was the major portion of the construction on this project. Likewise, MTA knew and realized the same thing in September, 1978. When it realized that the north retaining wall was not going to be built so quickly MTA was gratified to receive a design idea that could save time later on after it acquired the necessary property. That is why MTA did not just sit idly by and let the VECP wall idea expire but rather asked HP to submit a formal proposal. HP's wall concept probably would not have been proposed had it not been for the MTA property acquisition problem.

MTA is also inconsistent when it argues that HP was required pursuant to the language of SGP-4.02C to remain obligated to perform in accordance with the terms of the Contract until MTA accepted or rejected the VECP

proposal. In other words HP should have started construction on the as-bid designed south wall until the VECP was finally accepted by MTA. But this is inconsistent with MTA's support of the concept of HP's designed wall. From the very beginning MTA had to realize the consequences of proceeding with the development of the VECP. It had to know that proceeding with building the as-bid designed south wall was impractical while waiting for the submittal for its review and approval of a totally different designed wall.

Based on the above discussion we find that neither HP's failure to abide by the scheduling requirements of the contract nor HP's VECP proposal effectively caused a delay to this project sufficient to find that there was concurrent delay with the 145 delay caused by MTA's failure to acquire all of the real property. Accordingly, we find that the 145 day delay is compensable to HP. Direct costs were fully paid under Change Order 007.

Count II

As discussed above a CPM schedule can be both a management tool and an evidentiary tool. The use of CPM diagrams as evidentiary tools could not be more clearly illustrated than as they are used in this Count II.

The critical path of a project is the longest path of construction activity that must be performed in sequence from beginning to end of the project in order to complete the project within the time required. Volpe-Head (Joint Venture), supra. Construction phases on the critical path represent the key components of the construction and a delay on the critical path will cause a delay in the construction of the project. All activities are not on the critical path and those that are not do not necessarily have to be

performed exactly in the order shown on the CPM diagrams. A delay to a non-critical activity does not necessarily delay the job. Each non-critical delay must be analyzed on its merits to determine its impact on the project.

The contract required HP to submit an "I-J" type CPM network analysis to MTA and to keep it updated to account for revisions and changes to the work. (Findings of Facts No. 9, 10, & 11). This would have allowed MTA to monitor the planned construction sequence. As a potential evidentiary tool MTA could compare what actually occurred on the job with what was supposed to happen as evidenced by the scheduling data. But HP never submitted an initial acceptable CPM using the required "I-J" method though it did submit a CPM using the "precedence" method for the "as-bid" schedule. HP never submitted updates of the CPM schedule which reflected the affect of the VECP wall on the construction sequence. (Findings of Fact No. 18&22).

In order to substantiate and prove its claims on this project HP had to employ an expert, Jack Weber (Weber), who prepared two CPM diagrams using the "as-built" sequence. The first schedule was the "As Built Schedule with Owner Caused Delays Identified" and the second was the "As Built Schedule Absent Owner Caused Delays". (Exhibit A-28). On the first schedule alleged owner caused delays are indicated on the CPM though not specifically when they actually occurred but rather all the delay days for an activity are accumulated and shown as a group at the end of that activity. This CPM schedule, therefore, does not reflect actual construction activity and can be misleading. When using this type of CPM schedule one does not have the opportunity to compare actual performance with what was intended by the contractor at the time of construction.

To support its position MTA prepared two CPM time analyses for its Cross Statement (Exhibit R-1). Both were based on the HP schedules prepared by Weber and both reflect HP's "as-built" critical path for this project. The first is called "Appellant's Time Analysis As Adjusted By MTA", (Exhibit R-13), and the second is called "MTA Time Impact Analysis" (Exhibit R-14). MTA's "Appellant's Time Analysis As Adjusted By MTA" matches up to HP's "As Built Schedule with Owner Caused Delays Identified" and MTA's "MTA Time Impact Analysis" matches up to HP's "As Built Schedule Absent Owner Caused Delays". The critical path is the same on both of MTA's CPM analysis. However, on the "Appellant's Time Analysis As adjusted by MTA" the MTA has applied to the CPM its analysis of where the delay days actually took place. This analysis was taken from the Inspectors Daily Reports (Exhibit R-7) and other documents. The MTA schedule also depicts when bad weather days were experienced throughout the job. This is an approach to depicting what took place on this job.

In this Count HP is claiming 18 days of compensable delay for the construction of the 144 linear feet of extension to the VECP retaining wall pursuant to the provisions of GP-4.05, Changes. HP claims 12 days for pile placement and 6 days for concrete wall panel placement. HP has shown this delay on the critical path of its "As Built Schedule with Owner Caused Delays Identified" as the period of August 2 through August 16, 1979 and August 29 through September 3, 1979. MTA on the other hand indicates that the soldier piles were installed for the wall extension from June 27 through July 5, 1979 and from July 23 through July 25, 1979 for a total of 12 calendar days. MTA acknowledges that the soldier pile work was on the critical path of the project and that HP is entitled to 12 days of compensable delay for this activity (Finding of Fact No. 28). MTA indicates that

the concrete panels installed for the wall extension were placed from August 6, 1979 through August 14, 1979 and were not on the critical path of the project. It is also indicated that a panel was placed on September 13, 1979 and that this date was on the critical path. MTA therefore concedes that HP is entitled to 13 days of compensable delay for this project.

HP has the burden of proving the fundamental facts of MTA liability, causation and resulting damage. HP must prove the nature and extent of the delays for which it alleges damages and connect the delays to the acts of MTA. Wunderlich Contracting Co. v. U.S., 351 F2d. 956, 968, (Ct. Cl. 1965); Malissa Company, Inc., v. U.S., 18 Ct. Cl. 672 (1989).

We find that HP has not met his burden of proving the nature and extent of the delay days for the concrete panel placement for the wall extension. Its method of arbitrarily showing the accumulated delay days at the end of a construction activity rather than when the delay work days actually took place is misleading and self-serving. Therefore the alleged 6 days of delay for extension wall panel placement is not considered compensable since the work was not on the critical path and could have been performed while other work was taking place. Since HP has been compensated for its direct costs for this change to the contract under Change Order No. 003, it is entitled to delay costs for the 13 days that have been found to be compensable.

Count III

HP was required to extend the 30 inch CMP underdrain in front of the south retaining wall approximately 255 linear feet after the north wall and tracks 5, 6 and 7 were removed from the contract. HP claims this extended the 30 inch CMP underdrain activity by 12 calendar days. However, HP

admits that these days were not on the critical path of the project (Finding of Fact No. 32). Since these days were not on the critical path they are not compensable to HP.

HP suggests in its Brief, at p. 107-108, that these delay days were made a part of this appeal because they affected the performance of its subcontractor Diaz. However, HP makes no attempt to demonstrate the relationship, and we are aware of nothing in the record that demonstrates the relationship, between this noncritical delay to HP and the work performance of Diaz. HP has not met its burden of showing MTA's liability, causation and resulting damage to Diaz. Wunderlich Contracting Co. v. U.S; Malissa Company, Inc. v. U.S., supra. Therefore, these claimed 12 days of delay are denied.

Count IV

HP seeks 7 days of compensable delay for the replacement of unsuitable subgrade material. MTA directed HP on April 17, 1979 to remove the material and to replace it with an equivalent amount of sub-ballast material. (Finding of Fact No. 33). HP acknowledges that the claimed seven days of delay were not on the critical path of the project but argues that this work caused delay to the trackway excavation which delayed the placement of sub-ballast, which delayed the release of the subgrade to Diaz for track construction. (Finding of Fact No. 35). HP has been compensated for its direct costs related to this changed work by Change Order No. 003.

While we cannot say with precision how many days of delay there were, we find that this change to the contract did contribute to a delay to Diaz. This, along with the replacement of the sanitary sewer discussed in Count VII, affected Diaz's performance.

There also appears to be an inconsistency in MTA's argument. On one hand it argues at p.23 of its Reply Brief that the alleged link between this non-critical activity and the release of subgrade to Diaz two months later is too tenuous to impose any liability on MTA. On the other hand, in unilateral Change Order No. 007 (Exhibit A-248) MTA recognized that HP was entitled to a compensable time extension for the delay in completion of the work which arose from "3. [a]dditional work of removing and replacing unsuitable subgrade material."[1] MTA also proposed awarding compensation to HP for adjustment towards extended overhead. Using a jury verdict method of arriving at a decision we determine that Diaz was delayed by 4 days.

Count V

In this Count HP is seeking 23 calendar days of compensble delay pursuant to the provisions of GP-4.05, Changes. It argues that the note placed on drawing VE-2 by MTA which prohibited blasting within 75 feet of the concrete-encased soldier piles was a change to the contract. Because it was necessary to remove rock in order to install the 30 inch CMP underdrain HP argues it was required to change its planned construction sequence which caused the delay. MTA makes three basic arguments which are discussed below.

First MTA maintains that HP knew or should have known about the 75 foot blasting requirement because of the language in Standard Specification sec. 02952-3.02 "Blasting", which provides as follows, "...No blasting within 75 feet of concrete less than five days old." However, we disagree with MTA here for several reasons. First, the language in the note on Drawing VE-2 (Exh. R-16) is more restrictive than the above quoted language. The note

[1]Unilateral Change Order No. 007 proposed granting a compensable time extension, a total of 30 calendar days for delay attributable to 3 different works.

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provides "Where Rock Removal By Blasting Is Performed To Install 30" Underdrain Pipe, The Blasting Shall Be Completed Prior To The Concrete Encasement Of Any Piles Within A Distance Of 75 Feet." Under sec. 02952-3.02 blasting would be allowed within 75 feet once the concrete was more than five days old, but not so under the language of the note on drawing VE-2. Second, we believe that it would be unreasonable to hold that HP should have had knowledge of sec. 02952-3.02 prior to it being brought to its attention. This section is a sub-section within section 02952 "Rock Tunneling", which is itself a sub-section to section 02950-"Tunneling". Neither the VECP retaining wall nor the 30" CMP underdrain was a tunneling procedure. There was no tunneling procedure in this project. There was no reason for HP to familiarize itself with this language unless tunneling was to take place. Finally, if MTA believed that HP should have had knowledge of sec. 02952-3.02 and that that section applied to the construction procedures involved here, why was it necessary to place the specific note on Drawing VE-2. We think it was necessary because sec. 02952-3.02 did not apply and it was unreasonable to think HP had a working knowledge of that section.

Next, MTA maintains that HP placed the underdrain before building the wall because of the wet conditions at the site and not because of the 75 foot blasting restriction placed on Drawing VE-2. HP knew that wet conditions possibly existed where the VECP wall was to be constructed and that the underdrain may have to be built first. (Finding of Fact No. 38). However, HP points out that while the underdrain installation did help drainage at the VECP wall site, HP built the underdrain only to the point where it was sufficiently advanced to allow placement of the soldier piles to begin. (Finding of Fact No. 42). This is a clear indication that HP's intended construction sequence was to build the wall prior to installing the underdrain. It is also

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clear that the blasting restriction was controlling here because even if there were dry conditions present HP was responsible for complying with the blasting restriction.

MTA's final argument is that the VECP was governed by SGP-4.02, Value Engineering Change Proposals. As such, MTA maintains that the VECP is the sole responsibility of HP and delays resulting from its design and implementation are HP's responsibility, not MTA's. Ordinarily MTA might be correct with this argument, however, under the facts of this case we find that HP can proceed under the Changes clause, GP § 4.05. The VECP wall proposals had been discussed over a long period of time and on February 26, 1979 HP submitted detailed engineering drawings and design calculations. Based on this information MTA gave HP oral instructions in late February, 1979 to begin work on the VECP wall. (Finding of Fact No. 39). We view this as at least committing MTA to accepting the VECP as submitted and particularly the construction sequence HP planned to use. It was reasonable, therefore, for HP to assume that when it began wall construction on March 12, 1979 that the construction sequence could be used and would not be subject to change. So when on March 14, 1979 at a meeting after HP had started wall construction it was advised that its construction should proceed based on the shop drawings as marked up by RMP and MTA, it was the first time HP became aware of the blasting restriction on the drawings. (Finding of Fact No. 40). And this was a change to the construction sequence which HP had reasonably proceeded on and was a change to the contract even though it appears on the VECP drawing submitted by HP which became a part of the contract. We also note that MTA on several occasions makes the argument that the blasting restriction placed on the drawing was reasonable.

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The blasting requirement may very well have been reasonable but that does not change the way it was presented to HP and does not alter the fact that it was a change to the construction sequence.

Based on the above discussion we find that HP is entitled to 20 calender days of compensable delay due to the blasting restriction. MTA claims that April 5, 9 and 10, 1979 were concurrent weather days when work was not performed. HP claims that they did perform underdrain work on these days. A review of the Project Logs (Exh. A-16) for these dates reveals that work was performed on April 5th and 10th but on April 9th only 1-1/2 hours of work was completed and should not be treated as a delay day.

Count VI

This is a claim by HP for 4 calender days of compensable delay because of unanticipated high rock in the vicinity of stations 28+00 to 29+40, from August 2, 1979 through August 16, 1979. HP makes its claim pursuant to the provisions of GP-4.04 - Differing Site Conditions. While MTA conceded these 4 days of compensable delay prior to the hearing in its formal pleadings, it now alleges that HP is not entitled to the delay days based on testimony presented at the hearing. (Finding of Fact No. 47). MTA now alleges that HP anticipated and included all of the rock it actually encountered as part of its VECP proposal, therefore, it is not entitled to any delay days because of a differing site condition. HP argues that MTA cannot now change its position on this issue because it was formally admitted in the pleadings.

Maryland Rule 2-424-Admission of Facts And Genuineness of Documents clearly provides as follows:

> (d) Effect of Admission. - Any matter admitted under this Rule is conclusively established unless the court on motion permits withdrawal or amendment. The court may permit withdrawal or amendment if the court finds that it would assist the presentation of the merits of the action and the

> party who obtained the admission fails to satisfy the court that withdrawal or amendment will prejudice that party in maintaining the action or defense on the merits. Any admission made by a party under this Rule is for the purpose of the pending action only and is not an admission for any other purpose, nor may it be used against that party in any other proceeding.

While the Board's rule (COMAR 21.10.06.15.B) generally provides for a party to serve upon the other party a Request For The Admission of Facts, it does not contain similar language quoted above from Rule 2-424. However, the Board supported the underlying principal of Rule 2-424 in Machinery And Equipment Sales, Inc., MSBCA 1171, 1 MSBCA ¶70 (February 20, 1984) where we recognized that estoppel by admission long has been accepted in this State, relying on Van Royen v. Lacey, 266 Md. 649 (1972). Indeed the primary function of a request for admission "is to avoid the necessity of preparation, and proof at the trial, of matters which either cannot be or are not disputed." Mullen Co. v. International Business Machines Corporation, Et Al., 220 Md. 248, 260 (1958). Whether the specific language quoted above from Rule 2-424 is a part of a rule for admissions or not, it seems clear that for any rule for admissions to fulfill its function, the admission produced by the rule must be conclusively binding. "A contrary interpretation would reduce the rule to a 'useless appendage'". Murnan v. Joseph J. Hock, Inc., 274 Md. 528, 534 (1975). "'A man shall not be allowed to blow hot and cold, to claim at one time and deny at another." Cave v. Wills, Court of Exchequer, 7 H.&W. 927.

MTA had access to all the information prior to the hearing through proper discovery and upon motion could have withdrawn the admission or amended its admission. Based on the above we find that MTA cannot now

come to the Board with a changed position from that admitted in prehearing pleadings. We find that HP is entitled to the 4 days of compensable delay claimed.

Count VII

HP seeks a time extension and delay costs for 22 calendar days of compensable delay pursuant to GP-4.05 Changes, for the period May 18 to June 15, 1979 for the replacement of a 10 inch sanitary sewer line. MTA directed HP on May 18, 1979 to replace the deteriorating 10 inch sanitary sewer line. (Finding of Fact No. 49). HP acknowledges that this work on the 10 inch sanitary sewer line was not on the critical path of the project (HP's Brief p. 107) and in fact HP was accomplishing work on the retaining wall at this same time. HP argues, however, that this work delayed Diaz's work at the north end of the site.

As we noted in our discussion earlier in Count IV of HP's claim for compensable delay for the replacement of unsuitable subgrade material, the replacement of the sanitary sewer discussed in this Count VII also affected Diaz's performance at the north end of the site. As in Count IV we cannot say with precision how many days of delay were caused by the sewer line work but we find that this change to the contract did contribute to a delay to Diaz. The only access to the north end of the project during this period was through the excavation area and we found this to have limited Diaz's access. (Finding of Fact No. 50). The passage of equipment by the excavation area at station 37 + 25 was affected. In addition to the restricted access the preparation and release of the subgrade to Diaz was also affected.

HP has been compensated for its direct costs related to this changed work by Change Order No. 003. Because there is an absence of precise evidence in the record with regard to the delay sustained by Diaz we will

apply the jury verdict method similar to what we did in Count IV. Using this method we find that Diaz was delayed 3 calendar days because of the repair work to the 10 inch sanitary sewer line.

Count VIII

HP seeks a time extension and delay costs for 12 calendar days, from May 24 to June 4, 1979, due to the suspension of excavation activities for the retaining wall in the vicinity of the tennis building. HP proceeds pursuant to the provisions of GP-8.07, Suspension of Work, which provides in pertinent part as follows:

> A. The Engineer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as he may determine to be appropriate for the convenience of the Administration.
>
> B. If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Engineer in the administration of this Contract or by his failure to act within the time specified in this Contract [or if no time is specified, within a reasonable time, an adjustment shall be made for any increase in the cost of this contract (excluding profit)] necessarily caused by such unreasonable suspension, delay, or interruption and the Contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent (1) that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or (2) for which an equitable adjustment is provided for or excluded under any other provision of this Contract.

In applying the Suspension of Work Clause of the contract, the reasonableness of the government's suspension must be determined and this includes the reasonableness of the government's interference. Thus, if the suspension of work was reasonable, but the work was suspended beyond a reasonable period of time, the contractor can recover. If the government's interference itself was unreasonable the entire suspension period is regarded as unreasonable. Davho Company, Inc., VACAB No. 1005, 72-2 BCA ¶9683.

In the matter before us HP claims that MTA's action of issuing the Stop Work Order was unreasonable for several reasons while MTA of course argues that it was reasonable. The dominant positions concern their respective interpretations of the excavation note placed on drawing VE-2. (Finding of Fact No. 55). MTA contends HP's excavation near the tennis building violated the note which provided that the limits of excavation behind the wall panels would be a one to one slope from the top of the cut to the top of the subgrade. HP argues that the one to one slope requirement only applied to excavation for the wall panel installation and did not apply to preliminary site excavation such as the cuts made in December, 1978 and March, 1979. HP further argues that the DMJM representative made incorrect observations of the depth of the excavation (Finding of Fact No. 61) in the report to the Resident Engineer. HP maintains that it was not in violation of the VECP since the slope was safe and stable. HP also argues that since the Stop Work Order was issued approximately two months after the bench cut was made in March, 1979, MTA's Resident Engineer acquieced in the slope of the excavation.

Under the provisions of GP-8.07, quoted above, as well on GP-5.01C, Authority of the Engineer, the Resident Engineer is given broad authority to suspend the contract work for the convenience of the MTA or due to the failure of the contractor to carry out provisions of the contract. This Board needs to determine whether the Resident Engineer exceeded the allowable limits of the exercise of this discretionary authority. We need to determine whether the exercise of such discretion has been so unreasonable, arbitrary or capricious as to constitute a compensable suspension of work. We will not

substitute our discretion and judgement for that of the Resident Engineer. The burden is on HP to show that such discretion has been abused. See Hoedad's, Inc., AGBCA No. 76-168-4, 83-1 BCA ¶16,288 (February 10, 1983).

In light of the facts and circumstances underlying the Resident Engineer's decision to issue the Stop Work order, we conclude that he did not abuse his discretion or exercise it in an unreasonable, arbitrary or capricious manner. We find that it was reasonable for the Resident Engineer to react to the report it received from the DMJM representative by issuing the Stop Work Order since the excavation in front of the tennis building had always been of critical concern and the integrity of that building needed to be maintained. The DMJM representative also reported on the results of the blasting in front of the BG&E property which caused some failure in the embankment. The Resident Engineer did not know if the conditions being reported to him were the same ones he may have observed or if they were new ones. Therefore, his reaction was responsible and reasonable under the circumstances.

While we find the issuance of the Stop Work Order to be reasonable we must also find that the length of the Stop Work Order was unreasonable. If there was any justification for the issuance of the Stop Work Order it was the apparent urgency of the matter to the Resident Engineer. This urgency likewise required a quick solution, if any, from the Resident Engineer. He had an obligation to promptly give HP some direction to correct what the Resident Engineer thought HP had allegedly done wrong. Had the Resident Engineer checked the findings of the DMJM representative promptly he may have determined that their findings were not accurate or that the existing slope in front of the tennis building had been in place at least two months with no apparent negative results. The fact that HP was eventually directed

to continue to build the original VECP wall with no changes made in HP's construction techniques reflects that the urgency may have been exaggerated by the DMJM representative's report. Prompt action by the Resident Engineer would have corrected this sooner.

The rule for determining what constitutes a reasonable or unreasonable suspension time was stated in Lee Electric Company, FAA CAP No. 67-26, 67-1 BCA ¶6263, p.28,993 as follows:

> The government may delay a contractor for a reasonable time in order to make changes in contract specifications or drawings. [citations omitted]. A contractor's costs resulting from such reasonable delay by the government are not compensable under the suspension of Work Clause. [citations omitted]. What constitutes a reasonable time is not reducible to a precise formula but depends on the circumstances of the particular situation. [citation omitted]. The rule was succinctly stated in BOB ELDRIDGE CONST. CO., ASBCA No. 6926, 1963 BCA ¶3776:
>
> "What is reasonable must be considered in light of the change made, the posture of the job at the time the change is contemplated, and the period available for construction."

Based on this rule and on the record before us we conclude that a reasonable time for the Resident Engineer to have given any necessary instructions to HP to correct the alleged errors in the excavation in front of the tennis building was three calendar days. Accordingly the remaining nine calendar days were unreasonable delay to HP and are compensable. MTA points out that May 24, 1979 was a concurrent allowable weather day and HP's compensable days should be reduced by one. Since May 24 is the first day of the reasonable delay period we disagree and will not reduce HP's compensable days.

Count IX

HP seeks 2 calendar days of compensable delay, June 4 and 5, 1979, due to the alleged failure of MTA to notify the Western Maryland Railroad to remove a boxcar on the north ladder track on the day that Diaz was ready to commence work there. HP alleges that it gave timely notice to MTA that

the north ladder track would be out of service for two weeks beginning June 4 to permit track removal by Diaz and that pursuant to Special Provision sec.01011-1.13(X)(2) MTA was responsible for notifying the railroad. (Findings of Fact No. 66 & 67). HP alleges that MTA's failure to notify the Railroad caused a constructive suspension of the work for two days. However, HP admits that these days were not on the critical path of the project (Finding of Fact No. 71). Since these days were not on the critical path they are not compensable to HP.

HP argues in its Brief, at p. 105, that this constructive suspension of work actually affected the performance of Diaz. However, HP makes no attempt to show how this non critical delay to HP affected the work performance of Diaz other than to state that Diaz could not commence this work as planned. HP does not mention that on June 4 there was rain and muddy conditions at the site and Diaz was advised by HP it could not work on the job site that day. (Finding of Fact No. 69; Exhibit R-7). On June 5 Diaz's employees were still unloading new rail at the job site. (Finding of Fact No. 70; Exhibit R-7). HP has not met its burden of showing that MTA's action, or non action, of not notifying the railroad caused the job to be extended in any way for two days. Wunderlich Contracting Co. v. U.S., Malissa Company, Inc. v. U.S., supra. Therefore the claim of 2 days delay is denied.

Count X

This is a claim for a time extension of 9 calendar days along with direct and delay costs resulting from an alleged design error in the north ladder track which resulted in a suspension of work. Diaz discovered what it thought was a design error on June 28, 1979 when it realized what it alleged was insufficient distance between the work points for tracks Nos. 3 and 4 in

order to properly install the No. 8 turnouts required by the contract. Pursuant to the provisions of GP-5.03, Discrepancies in the Contract Documents, and SGP-5.03, Coordination and Interpretation of Contracts Documents (Finding of Fact No. 74) Diaz reasonably notified the Resident Engineer on June 28, 1987 of its perceived design discrepancy and suggested a solution to the problem (Finding of Fact No. 75).

The Testimony and MTA's Brief (p.74) acknowledge that the full complement of switch timbers for each turnout could not be used and because of the 14 foot track centers, several of the ties from adjacent turnouts would have to be interlaced to keep from overlapping (Finding of Fact No. 73). However, MTA maintains that this was not a design error and that any competent railroad track foreman would have known how to make the appropriate adjustments in the field as a matter of course, without undue delay.

We note that MTA puts great emphasis on the fact there was no error in the design of the north ladder track. Based on the testimony of Diaz's former employee, Edwin Gribbon, and MTA's expert, Edward Zacharis, we concur that there was no design error here. However, we believe that there was sufficient reason for Diaz to think there was a discrepancy in the Contract Documents and that Diaz acted prudently in notifying the Resident Engineer of its findings. We find that the conditions described above should have raised a reasonable question in Diaz's mind and that pursuant to GP-5.03 and SGP-5.03 Diaz had a duty to bring the conditions to the attention of the Resident Engineer for a clarification, interpretation or explanation. The fact that the Resident Engineer wanted to clear the alleged discrepancy and solution with the railroad's representative (Finding of Fact No. 75) lends support to the fact that there was at least some discrepancy in the Contract Documents that needed clarification. If the conditions discovered were as

rudimentary as MTA's expert, Mr. Zacharis, would have us believe, i.e. that an appropriate adjustment should have been made in the field as a matter of course, then why did MTA's Resident Engineer seek his own clarification?

What is important in this claim is not whether there was a design error but whether the response time by MTA to HP's responsible request was reasonable. We determine that it was not reasonable and that MTA caused a constructive suspension of Diaz's work. See, Larco Painting Company, ASBCA No. 6005, 60-1 BCA ¶2655 (May 1960); Lewis Construction Co., ASBCA No. 5509, 60-2 BCA ¶2732 (July 1960). Diaz did not seek the opinions of or a clarification from the railroad. This was the action of MTA's Resident Engineer. The fact that the railroad did not provide a timely response until July 6th was not due to something Diaz did. Based on our discussion earlier of what constitutes a reasonable or unreasonable suspension of work (See Lee Electric Company, Supra) we conclude that a reasonable time for the Resident Engineer to have responded to Diaz's inquiry was three calendar days. The remaining six calendar days were unreasonable delay to Diaz and are compensable.

Count XI

This is a claim for only the direct costs associated with Diaz providing heel blocks for the track turnouts which it maintains it was not required to do. Since there appears to be no real dispute as to the facts here, our decision will require the application of well established principles of contract interpretation.

MTA maintains that pursuant to the language of Special Provision Section 01011-1.13E (Finding of Fact No. 77), both HP and Diaz were responsible for acquainting themselves with and conducting their operations

within the rules, regulations and requirements of the Railroad. Had they inquired timely they would have received from the Railroad a copy of the Chessie System Maintenance Rules which required heel blocks on all new track.

HP and Diaz maintain, on the other hand, that pursuant to the language of Special Provision Station 02851-1.01C (Finding of Fact No. 77) "[a]ll track materials and construction shall comply with the current Chessie System Book of Roadway and Track Standards, American Railway Engineering Association (hereinafter designated AREA) 'Manual for Railway Engineering' and Portfolio of 'Trackwork Plays', as modified by these specifications or the contract drawings," (Underlining Added). And Note No. 1 on the drawing entitled "The Chesapeake and Ohio Railway Company, The Baltimore And Ohio Railroad Company, No. 8 Crossover And Turnout" provides that heel blocks are to be used only on interlocked or machine operated switches. Heel blocks may be used at other locations. Since the tracks in this project were not interlocked or machine operated Diaz argues heel blocks were not required. (Finding of Fact No. 78 and 79).

An interpretation of a contract which gives a reasonable meaning to all parts of the instrument is preferred to one which leaves a portion useless, inoperative, meaningless or superfluous. A provision should not be construed as being in conflict with another unless no other reasonable interpretation is possible. Hol-Gar Manufacturing Corp. v. United States, 169 Ct. Cl. 384, (1965); Wright Associates, Inc., ASBCA No. 22492, 79-2 BCA ¶14,102 (1979); Dominion Contractors, Inc., MSBCA 1040, 1MSBCA18 (MAY 1982); Cleve-con-Au-Vianini (A Joint Venture), MDOT 1007 & 1013, 1MSBCA32 (January, 1983). MTA argues that Diaz should have been held responsible for providing the heel blocks because they were called for in the Railroad's Maintenance

Manual. We would have some difficulty in requiring Diaz to read the maintenance manual to find out that heel blocks are required for new track construction. However, we would have to give effect to all parts of the contract, including the drawings, if we did find that Diaz was required to read that manual. MTA's interpretation gives no effect to the note on the contract drawing which provides that heel blocks are to be used only on interlocked or machine operated switches. MTA's interpretation creates an ambiguity.

From a reasonable reading of all parts of the contract including the drawings, we find that the contract did not create an ambiguity with regard to the heel blocks and that Diaz was not required to provide them for the turnouts. This was a change to the contract, and Diaz is entitled to be compensated for its direct costs for providing them. The Board finds the actual costs to be $3,922.00.

Counts XII

This is a claim for a six calendar day time extension with direct and delay costs due to an alleged design error caused by an alleged conflict of the south spur track with an existing billboard which was not shown on the contract drawings. The record is not clear if this claim is based on additional time needed to allocate the track or the time Diaz had to wait for a decision from MTA on how the track was to be adjusted. In either case the record lacks sufficient evidence to support a finding that there was a delay. There is no evidence that any additional time was needed to allocate the track since it was installed, after a slight adjustment to the curvature, within six inches of the location called for by the contract drawings (Finding of Fact No. 84). Likewise, there is a lack of credible evidence in the record to support a finding that there was an unreasonable six day delay in MTA's

response for directions from Diaz. HP made its request for directions on September 25, 1979 (Exhibit A 178) and MTA's response is written on the bottom with no response date noted. We find no evidence to support the length of time it took MTA to respond.

HP appears to make the simple argument that the billboard was in the way of the track as designed, therefore, there must have been delay. But that is not sufficient. HP has the burden of showing MTA's liability, the causation and the resulting damage. Wunderlich Contracting Co. v. U. S.; Malissa Company, Inc. v. U.S., supra. HP has not met its burden of proof here, and the claimed 6 days of delay and direct costs are denied.

Count XIII

This is a claim for direct costs only due to alleged acceleration. HP argues it made many requests to MTA for time extensions because of matters which were allegedly the responsibility of MTA, but MTA failed or refused to grant HP's requests within a reasonable time. HP also argues that MTA required HP to adhere to the contract's original completion date and despite HP's requests for time extensions, MTA advised HP that liquidated damages could and would be assessed not completing on time. As a result of the above, HP alleges MTA changed the contact and required HP and Diaz to accelerate their performance and alter their sequence. HP claims that as a result of this and as a result of the claims set out in Counts IX, X and XII above, Diaz incurred additional direct costs of $30,624 with overhead costs and HP incurred additional direct costs of $5,933 for additional demobilizations and remobilizations and $1,680 to clean and repair sub-ballast, and overhead costs.

In order to recover for the increased costs of acceleration under a changes clause, appellant must establish three things: (1) that any delays giving rise to the order to accelerate were excusable, (2) that the contractor was ordered to accelerate, and (3) that the contractor in fact accelerated performance and incurred extra costs. Norair Engineering Corporation v. U.S., 666 F2d 546, 229 Ct.Cl. 160, (1981). We determine that the facts of this case do not support the inferences suggested by HP in its allegations of acceleration and that some of the above elements necessary to establish a finding of acceleration are not satisfied.

The facts suggest that the usual type of acceleration environment did not exist. In the usual construction situation the contract has a stated starting date and the work is to be accomplished within a stated period of time. However, the unusual aspect of this case which has overiding significance for consideration is the influence of the VECP proposed by HP right at the begining of the contract period. HP had control over the preparation of its VECP proposal and it knew that the completion date would be changing on this project. It had to assume the responsibility for completing the job on time since it was establishing the new completion date. The VECP also impacted the as-bid sequence and schedule. MTA was not given the information of what the new completion date would be until April 24, 1979 when HP finally submitted a bar chart indicating a contract completion date of September 28, 1979 (Finding of Fact No. 22). Up to this time HP had only requested delay days due to weather which had little significance since HP did not begin construction of the wall until March, 1979.

We have acknowledged earlier in this decision that HP was delayed 145 days at the beginning of the contract period until March, 1979. But there was no significant construction work which took place during this period, therefore

HP could not have accelerated before March, 1979. HP filed its claim on April 24, 1979 and there was no apparent acceleration up to that time. The record does not reflect that there was any acceleration during the summer of 1979 since HP was waiting to hear what MTA was going to do with its April 24, 1979 claim. In fact, there is no suggestion of acceleration by HP until its letter of August 23, 1979 to MTA (Exh. R-134, A-173) in response to MTA's August 21, 1979 request for additional information on HP's claims. Up to this time HP thought it was going to receive in due course its requested delay days. Therefore, if there was any acceleration it took place August 23, 1979. There is also no convincing evidence in the record that MTA threatened in anyway to impose liquidated damages or otherwise demanded that HP or Diaz accelerate their work.

All of the examples of HP's alleged acceleration which it points to were the result of the VECP, not the result of anything MTA said or did to HP. The additional mobilizations for trackway excavation, the installation of the 30 inch CMP underdrain, the sub-ballast and ballast installation as well as the fouling of the sub-ballast by HP's subcontractor, were all the result of the VECP and were not caused by MTA.

Any acceleration performed by Diaz was the result of either it's own inefficiency or that of HP. See for example Findings of Fact No. 100 to 106. Finally, in December, 1979 HP prepared a report of Performance To-Date on Diaz which placed most of Diaz's problems on Diaz and not MTA. On December 31, 1979 HP wrote to Diaz advising that it would take steps necessitated by Diaz's inability to complete the work and threatened to finish the work itself (Finding of Fact No. 110).

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HP and Diaz have not met their burden of proof here. HP fails to identify when any alleged acceleration began or took place. There really is no competent proof that HP or Diaz ever accelerated their work. Because of the above this claim is denied.

Count XIV

HP seeks weather delays under the theory of a change to the contract after June 22, 1979. The Board disagrees. HP entitlement for compensable delay for weather "other than normal" must be supported by delay of the project. MTA conceds 4 compensable days of delay due to weather. The Board finds HP entitled to an additional 12 days of compensable delay under this Count.

Count XV

Final payment was made October 8, 1981. Thereafter claims and counter claims resulted in MTA's refusal to pay retainage. This Board consistent with the reasoning given in MSBCA 1101 as to retainage denies this claim. MTA under the facts in this case had the right to withhold retainage in light of the outstanding claims and counter claims.

HP QUANTUM

The Board will not disturb the agreement of the parties in the record as to any direct costs. The Board consistent with MSBCA 1101 will calculate compensable delay damages on a per diem basis based upon the actual cost of extended home office G&A and extended field expense of $651.83 for HP. For the subcontractors where entitlement has been found a similar analysis will be made.

Diaz Quantum

The record suggests MTA would have stipulated to $137.00 as a day rate under MSBCA 1101 which was not accepted by HP.

The Board has previously given analysis to the categories employed in HP's Proof of Costs as to the day rate items which the Board considered appropriate in MSBCA 1101 and consolidated appeals. That same reasoning will be applied here.

The Board accepts $133.32 per day under Eichleay for Home Office G&A, as a reasonable reflection of the extended costs for that element of the rate.

However the Board will only approve part of the claimed extended field expense for labor and overhead other than labor for inclusion in the day rate calculation.

The labor amount (AKA Job Site Overhead) of $29.58 is acceptable to the Board. The claim for equipment rental and small tools and other job costs would not be part of the delay claim. These types of direct cost items the Board finds are absorbed in the bid and Change Orders. The Board previously considered whether to include idle equipment as part of the day rate in a delay claim. Generally, this is a direct cost in the bid or change order. We declined to include HP's claim for idle equipment in the day rate. We find the records for idle time of equipment are not time sensitive. These records are generally kept in the normal course of business for other uses. The Board finds there is an absence of specific contemporaneous information supporting delay for idleness of the equipment. The Board is cognizant that the records do reflect idle equipment, but reasons vary. Therefore, idle equipment is excluded from the day rate. The Diaz rate is $162.90 per day.

Entitlement is granted as follow:

HP Count 1	145	X	$651.83
HP Count 2	13	X	$651.83
Diaz Count 4	4	X	$162.90

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HP Count 5	20	X	$651.83
HP Count 6	4	X	$651.83
Diaz Count 7	3	X	$162.90
HP Count 8	12	X	$651.83
Diaz Count 10	6	X	$162.90
Diaz Count 11	Direct cost heel blocks $3,922.00		
Diza Count 14	12	X	$651.83

MSBCA 1167

The Contract provides for correction of payment errors. GP9.04. MTA's claim is for $155,994.00 overpayment errors consisting of several different errors under various pay items. The articulations of what overpayments were made wander through various Change Orders, lump sum settlements, credits, and asserted defenses to claims. Ultimately MTA resorted to a consultant to attempt to untangle the relationships for payments and overpayments which resulted in a review of HP's cost account records.

The Board finds there was a savings of VECP wall construction and extension for which MTA is entitled as an overpayment. (Resp. Cross Claim and Counter Claim).

The Board further finds bid items 005 and 009 were incorrectly measured giving MTA entitlement to credit.

The Board further finds that bid items 007, 008 and 010 were paid twice by MTA and MTA is entitled to a credit. The Board finds total credits for overpayment of $155,994.00.

The Board further finds MTA entitled to pre-decision interest at the rate of 8% from August 31, 1983 to the date of this Decision and thereafter at the rate of interest on judgements until paid.

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MTA also claims under its Time Impact Analysis liquidated damages.

The Board is not persuaded by Respondent's argument. The construction began with a method of delay calculation which was abandoned by the parties. Liquidated damages are not favored and are punitive in nature. MTA fails to meet the burden of proof necessary to sustain a claim for liquidated damages, which is denied.

Dated: July 21, 1992

Neal E. Malone
Board Member

Sheldon H. Press
Board Member

*** *** ***

I certify that the foregoing is a true copy of the Maryland State Board of Contract Appeals decision in MSBCA 1080 and 1167, appeals of Hensel Phelps Construction Company, under MTA Contract No. 07-07.

Dated: July 21, 1992

Mary F. Priscilla
Recorder