BEFORE THE
MARYLAND STATE BOARD OF CONTRACT APPEALS

Appeal of THE DRIGGS CORPORATION	)	
	)	Docket No. MSBCA 1235
Under SHA Contract No. B-698-514-472	)	

January 16, 1987

Specification and Drawings - Paragraph 5 of Article 35.12-1 of the State Highway Administration (SHA) Specifications for Materials, Highways, Bridges and Incidental Structures, March 1968, incorporated into Appellant's contract required the SHA to provide a staked working line for each of several bridge structures located on a curve.

Specifications and Drawings - Contra Proferentem - Even if Paragraph 5 of Article 35.12-1 could possibly be interpreted to require only a single staked working or center line when more than one bridge structure on a curve was involved, such other possible interpretation is so subtle as to call into operation the rule of contra proferentem, that ambiguities in a contract are construed against the drafter (SHA).

Breach of Contract - Change - SHA's breach in failing to provide the staked working lines for each bridge structure is constructively treated as a change by virtue of the "all disputes" clause of the contract (GP-5.15).

Breach of Contract - Burden of Proof - SHA's failure to provide staked working lines for each bridge structure was not shown to have either caused or resulted in failure to detect error in substructure orientation of the bridge structures. Thus Appellant was not entitled to an equitable adjustment.

Suspension of Work - Action by a contracting agency to halt redesign work necessary to remedy problems resulting from error in substructure orientation of bridge structures in an attempt to coerce the contractor to forego any rights it might have under the "all disputes" clause of the contract constituted an unreasonable suspension under the first sentence of paragraph (2) of the suspension of work clause of the contract (GP-8.07).

APPEARANCES FOR APPELLANT: Lewis J. Baker, Esq.
Andrew D. Ness, Esq.
Lewis, Mitchell & Moore
Vienna, Virginia

APPEARANCE FOR RESPONDENT: William A. Kahn
Assistant Attorney General
Baltimore, Maryland

OPINION BY CHAIRMAN HARRISON

Appellant[1] appeals a State Highway Administration (SHA) procurement officer's final decision denying its claim for an equitable adjustment for alleged costs associated with an erroneous layout of the substructure for bridge crossings in connection with construction of a portion of I-795 in Baltimore County, Maryland. Only the issue of entitlement is before the Board. While acknowledging that it is contractually liable for the performance of the layout, Appellant asserts, alternatively, that SHA (1) either breached or changed the contract by failing to stake a working line or center line for each bridge crossing, (2) is liable for a portion of any damages involved under a proportional risk allocation standard, or (3) reacted to the discovery of the erroneous layout in a manner that constitutes an unreasonable suspension of work.

Findings of Fact

1. This dispute arises out of a contract awarded by SHA involving construction of a portion of I-795 (commonly referred to as the Northwest Expressway or "NWX"). The NWX originates at the Baltimore Beltway near Old Court Road and proceeds in a northerly direction towards Owings Mills, Maryland.

Specifically, the contract called for construction of 1.09 miles of the NWX, commencing at a location just north of McDonough Road and proceeding across the Western Maryland Railway facilities to a terminus point approximately 0.37 miles beyond the railway facilities. The northbound and southbound roadways of the NWX were separated by a median, and each roadway consisted of three traffic lanes and two shoulders. A portion of the Maryland Mass Transit Administration (MTA) subway extension from Reisterstown Road Plaza to Owings Mills was to be constructed in the median in conjunction with the roadway project.

2. Bids were opened on April 1, 1982 and Appellant was identified as the low responsive bidder. Subsequently, Appellant was issued a notice of award on May 13, 1982 and commenced work under the contract on June 3, 1982. (Stipulation of the Parties, May 12 Tr. 28-29).

3. The instant dispute focuses on a 600 foot portion of the project commencing at approximately Station 134+00 near the Western Maryland Railway facilities. Within this area, Appellant was to construct bridges to carry the NWX north and southbound roadways and the MTA subway line over the Western Maryland Railway facilities. At least three separate structures were to be constructed by Appellant for this purpose.[2]

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[1]At the time of the events described herein, Appellant (The Driggs Corporation) was known as the Atec Contracting Corporation.

[2]There is some question concerning how many structures are involved. SHA asserted in Answers to Interrogatories that three separate structures were required. (May 12 Tr. pp. 78-79). Mr. Dale Lang, Assistant Chief of SHA's Bureau of Construction Inspection, testified that three structures were involved. (May 12 Tr. 33-34). Mr. Duncan Smith, an employee of Rummel, Klepper & Kahl (RK&K), the project designers, and the project engineer for this project testified that in his view the project involved the construction of

4. Since the land through which the project passed was heavily wooded and wet in its initial state, the project schedule called first for clearing the trees and underbrush and then installing a storm drainage system in the low lying areas to permit earthwork to proceed without interruption from flooding and wet conditions. (May 12 Tr. 72-74).

5. The design of this project was performed by Rummel, Klepper & Kahl (RK&K) under a separate consulting contract with SHA. With respect to the bridges crossing the Western Maryland Railway facilities, the design called for each structure to be built along a curve. All of the bridge structures had the same radius point and hence were concentric. (May 12 Tr. 249-250).

The three span bridge structures included abutments at each end and two piers in between. Each structure was greater than 20 feet in span length. The piers for the northbound and southbound NWX roadway bridges consisted of capless columns, while the MTA bridge piers for the subway extension in the median consisted of the more traditional columns with pier caps. The abutments and piers for the different bridges generally did not parallel each other. (May 13 Tr. 147).

6. The geometric layout for these bridge structures was presented graphically on Contract Drawing Sheet No. 21 of 85 (Drawing 21).[3] Drawing 21 depicts a curved work line for each bridge structure and a curved baseline of construction. The centerlines of the abutments and piers intersect these work lines and the baseline of construction at severe angles (skews). Drawing 21 also includes a schedule of angles, which provides a tabulation of the angles to be measured between each centerline of abutments or piers and each of the work lines and the baseline of construction. However, because an angle commonly is measured between two intersecting straight lines, Drawing 21 indicates that the angles contained in the schedule are to be measured between the local tangent[4] to the curved work lines or baseline and the centerline of the piers or abutments.

Although in designing the project, RK&K generated coordinates for each of the control points necessary to the layout and construction of the bridge structures, only the coordinates for the spiral to curve point (S.C.) at Station 119+28.08 and the curve to spiral point (C.S.) at Station 158+90.57 were actually provided in the contract documents.

7. The complexity of the layout of the curved structures required to be constructed under the contract was apparent both to SHA representatives and RK&K prior to bid opening. Mr. Duncan Smith of RK&K testified that

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four separate bridge structures over the Western Maryland Railway facilities. (May 13 Tr. 138-139). Mr. Marris German, the SHA project engineer, testified at his deposition that the project was multi-structured. However, at the time of the hearing of the appeal he testified that only one structure was involved. (May 13 Tr. 73-75). For purposes of its decision the Board finds that at least three structures are involved.

[3]Reference to Sheet 21 of 85 is to the unrevised version which was relied upon by bidders and was used in the layout of the project. (See Board Exh. 1).

[4]A local tangent is a line drawn perpendicular to the radius line at a given point on a circle.

the existence of curved structures and the absence of complete parallelism among the piers and abutments made both the layout and verification process more complex than it would have been had the structures been straight and the piers and abutments mutually parallel. (May 13 Tr. 147-148). In June 1981, during final design review of similar curved structures for an earlier I-795 project (the Station 50 structures) to the south of this contract work also designed by RK&K, SHA had requested RK&K to include a tangent line (a straight line intersecting the curved baseline of construction at a single point) on the contract drawings and to reference all control points to be located in the field to this line. (May 13 Tr. 143-145). However, in view of the time required to make this change and the need to move the Station 50 structures project to the bid phase, SHA did not press its request for a tangent line.

RK&K also chose to design the geometry on the instant contract around the use of local tangents, and in final design review in the Fall of 1981, RK&K again was requested by SHA to put a tangent reference line on the geometric layout drawing (Drawing 21) in order to simplify layout and verification. (May 12 Tr. 34; May 13 Tr. 145). Again, in view of time constraints, SHA did not press its request and permitted RK&K to use the geometric layout based on local tangents to curved work lines and the curved baseline of construction. (May 13 Tr. 146).

8. Article 35.12 of the SHA Specifications for Materials, Highways, Bridges and Incidental Structures, dated March 1968, and incorporated into Appellant's contract, addresses construction stakeout. Paragraph 5 of this Article provides as follows:

> For structures over 20 foot span (Measured along center line of roadway).
>
> The Engineer shall furnish the Contractor a staked-out center line or working line whichever applies, with stations not over 100 feet apart and extending at least one hundred feet beyond the end of the structure. When the structure is on a curve, the Engineer will furnish a staked-out center line or working line whichever applies, consisting of stations not over 100 feet apart and including the P.C. [Point of Curvature], P.I. [Point of Intersection], and P.T. [Point of Tangency] and at least one point on the tangents beyond each end of the curve. When the structure is on a spiral, suitable points will also be given. At least two benchmarks, one on each end of the structure, will be established by the Engineer.
>
> From the aforementioned data, the Contractor will proceed with his layout work, but before any actual construction work is done, the Contractor shall re-run the Engineer's lines and grades to check same, then establish all center line or working line intersections with the center line or center line of bearing of all piers, bents and abutments.
>
> From these field layouts, he shall check the proposed span lengths by chaining. Such measurement shall be compensated for temperature, sag and horizontal alignment. He shall also check the location of the structure to affirm its correct location with relation to existing structures, roads and/or existing conditions that are to

> remain in their original positions. If any discrepancies are found, the Contractor shall notify the Engineer at once in writing. Otherwise, it will be assumed that all planned dimensions, grades and field measurements are correct. All lines established on the ground shall be preserved and/or well referenced, marked and kept available at all times. (Underscoring added).

Mr. William Kirk, then Appellant's President, and chief corporate official responsible for the project, a knowledgeable contractor with some thirty years experience in highway and heavy construction type work testified that the underscored portion of the above specification was applicable to the structures on this project such that SHA was required to provide staked working lines (and control points) in the field for each of the structures (at least three) involved in the project. (May 12 Tr. 76-80, 91-92, 142). At his deposition on April 17, 1986, Mr. Marris German, the SHA project engineer on the project, who had worked for SHA for 18 years as an inspector and project engineer, stated that it was his consistent belief since issuance of the specification in March 1968 that the underscored portion applied to the project and required SHA to provide staked work lines (and points) in the field for each structure. However, at the time of the hearing of this appeal, he had revised his thinking that the project was multi-structured, believing upon reflection that it consisted of only one structure such that the single staked out center line (baseline of construction and points) provided by SHA sufficed to comply with the specification. (May 13 Tr. 73-76, 78-79).

9. In the Spring of 1982, a survey party assigned to the SHA Bureau of Plats and Surveys staked the baseline of construction for this project in the field by placing wooden survey stakes in the ground at 50 foot intervals along the baseline. (May 12 Tr. 52, 155). Additionally, the survey party established a number of reference points at some distance away from the baseline in order to permit its re-establishment in the event that the stakes were destroyed during the construction process. (May 12 Tr. 52; May 14 Tr. 67; Resp. Exh. 23, pp. 31-34). The work lines for each structure, as depicted on Drawing 21, were not staked by SHA. (May 12 Tr. 158).

10. Although SHA had staked the baseline of construction prior to the notice to proceed on this contract, Appellant's clearing operation (see Finding of Fact No. 5) destroyed those stakes that had been placed. This required the baseline to be re-established.

11. Appellant's layout work was performed by its field engineer, Mr. Karl Reiter. Mr. Reiter's first task was to re-establish the baseline of construction using the reference points that were placed in the field by the SHA surveyors. These reference points were identified in the SHA field survey notes given to Mr. Reiter by Mr. German. (May 12 Tr. 157, 160; Resp. Exh. 23).

After the baseline of construction was re-established in the field, Mr. Reiter proceeded to chain the distance along the baseline between Stations 134+00 and 140+00. In so doing, Mr. Reiter found an error of 0.15 feet along this portion of the baseline. (May 12 Tr. 181). Mr. Reiter informed Mr. German of this error and was advised to hold the point established at either Station 134+00 or Station 140+00 and make all measurements from that point. (May 13 Tr. 86). Mr. Reiter elected to hold the point established at Station 140+00, because the greater portion of the bridge structures were to be

located closer to this station. (May 12 Tr. 181-182). After proceeding to establish the baseline stationing by measurement from Station 140+00, Mr. Reiter was ready to layout the bridge structures.

Mr. Reiter began the layout of the structures by locating the points where the baseline of construction intersected the centerlines of bearing of the piers and abutments. These points are identified by station number on Drawing 21. Once these intersection points were determined in the field, Mr. Reiter then set his transit directly on each such point and turned the angles shown on Drawing 21 to find the centerline of the respective piers and abutments. When the centerlines of the piers and abutments were determined, Mr. Reiter then was able to locate the various work points and turning points along these centerlines by chaining the appropriate distances. The location and staking of these work points and turning points along each centerline of piers and abutments constituted the initial layout of these structures. (May 12 Tr. 158-160).

12. Mr. Reiter completed his initial layout of these structures on or about July 16, 1982. (May 12 Tr. 160). At this time, Mr. German was asked to check the accuracy of the layout. (May 12 Tr. 161). Verification of the contractor's layout of a bridge structure customarily is performed by SHA personnel to determine that the footings for the substructure are in the correct location. (May 12 Tr. 31-33).

Although verification of the layouts of structures is sometimes undertaken by an SHA project engineer or inspector, Mr. German in this instance requested that the SHA District 4 Survey Party[5] come to the job site and perform this function. The District 4 Survey Party, led by Mr. William Pechulis, the Survey Party Chief, was at the job site for this purpose on July 27 and 28, 1982. (May 13 Tr. 70-71). On July 28, 1982, Mr. Pechulis met with Mr. Reiter and informed him of an error that his SHA party had detected in turning an angle on Pier C, as well as some chaining discrepancies. Mr. Reiter, while in the presence of Mr. Pechulis, re-turned the angle in question and re-chained the distances that were in dispute. Mr. Pechulis proceeded to check Mr. Reiter's work and, thereafter, indicated his satisfaction with the layout. (May 12 Tr. 160-163). Mr. German was informed by Mr. Pechulis that the layout was satisfactory on July 28, 1982, and Appellant commenced excavating the footings. (May 13 Tr. 71-72).

13. Once a structure has been laid out in the field, the evidence of record indicates that there are a number of acceptable methods to verify the accuracy of the layout and the location of concrete formwork during construction. Messrs. Leroy deBriun and Henry Spies, expert witnesses in surveying techniques, employed respectively by Appellant and SHA, both testified that coordinates for critical workpoints and turning points could be calculated and then used to verify that the proper distance and bearing between such points existed in the field. (May 13 Tr. 35-37; May 14 Tr. 19-21). Mr. George Safford, who served for a time as Appellant's project manager, and who is an experienced surveyor, testified that he would have used the coordinate data and measured diagonals as a check. (May 12 Tr. 201-206, 247-249). Mr. Spies would not have measured diagonals but would have measured span lengths. He testified that the coordinates could be used to verify the span length dimensions, which dimensions could in turn be

[5]The project is located in SHA District 4.

used to verify the accuracy of the layout by physically measuring between piers and abutments to ascertain if these dimensions actually existed in the field. (May 14 Tr. 36-37, 39-41). Mr. Spies also was of the opinion that verification in this manner should have detected any error, including one involving the turning of an angle. (May 14 Tr. 41). Repetition of the layout process also could be used to verify the accuracy of a layout unless the same mistake consistently was being made by the field engineer. (May 14 Tr. 51-52).

14. As the shop drawings for the structural steel neared completion, Mr. Kirk, by letter dated August 30, 1982, requested SHA to provide information and stakeout in order to locate the center line bearing of piers and abutments. This letter stated:

> With respect to your bridges at the Railroad crossing on the above referenced contract, we respectfully request you to furnish sufficient data and field layout to locate the center line bearing of piers and abutments. As you know, this information and stakeout is needed in order to verify the span lengths.
>
> We do not consider the data furnished in the Contract Drawings to be sufficient to either construct or verify the various dimensions shown on the drawings.
>
> Since this structure is under construction, your early action regarding this request is most critical.

(Rule 4, Tab IVA). Mr. Kirk testified that his request for information and stakeout was a request that SHA stake all control points in the field essential to the layout of the bridges. (May 12 Tr. 77-93). Mr. Joseph Spencer, Assistant Highway District Engineer for District 4, concurred with this request and forwarded it to the SHA bridge department in a memorandum dated September 15, 1982, which stated:

> Enclosed, please find a copy of a self-explanatory letter from the [contractor].
>
> We do not agree with the contractor that the data furnished is insufficient, but we do consider it to be sufficiently complicated that the average District Survey Party is not sufficiently familiar with the type of data furnished to comply with the contractor[s] request.
>
> On several different occasions Dale Lang and the writer requested of the consultant a simpler method of locating the critical control points for this bridge rather than the method that was used.
>
> Consequently, we are requesting that you arrange, as soon as possible, for the stakeout as requested by the contractor.

(App. Exh. 2). However, SHA declined to provide further stakeout as outlined in a memorandum from Mr. Earle Freedman, SHA's Assistant Chief Engineer for bridge development, to Mr. Spencer's attention dated September 22, 1982. Mr. Freedman's memorandum stated in pertinent part:

> This is in reference to your September 15, 1982 memorandum submitting a request from the Contractor to furnish him with additional information to stakeout the center line bearing for the piers and abutments. The Contractor claims there is not sufficient data on the contract drawings to verify the various dimensions and the span lengths. As stated in your letter, the data provided is sufficient, or he would not be able to layout the footings which have already been built. In addition, we did not receive any inquiries from the steel fabricator regarding the girders lengths. Enclosed for Mr. George Safford's [see Finding of Fact No. 15 infra] use are the coordinates for the points he requested to assist him in verifying his work.
>
> We agree with you that the geometry of these structures is complicated and would require highly qualified and skilled surveyors to perform the stakeout. We recommended to refer all working points to a tangent line, which is our normal practice and was requested by your Office. However, as indicated in our October 20, 1981 memorandum to you, we have been advised by MTA, SHA survey section and metal section, that the method shown has always been used and does not represent any survey or fabrication problems.
>
> Since the construction stakeout is the responsibility of the Contractor, it is his responsibility to provide qualified personnel to perform the work. If required, we recommend that you obtain the assistance of the Survey Section personnel who are experienced in this field and have previously indicated that the method used is an acceptable one.

(App. Exh. 3).

15. Independent of Mr. Kirk's actions, Mr. Safford, then Appellant's office engineer,[6] had requested coordinates of all control points on the bridge structures from Mr. Duncan Smith of RK&K so that he might check the structural steel drawings for accuracy prior to releasing them for fabrication. (May 12 Tr. 215-216). These coordinates were provided to Appellant through SHA (see Freedman memorandum supra) on September 24, 1982. (Resp. Exs. 5, 7). The coordinates ultimately were used by Mr. Safford not only to check the structural steel drawings, but also to ascertain whether the span length dimensions as earlier computed from the contract drawings were correct. (May 12 Tr. 218).[7] These span length dimensions were then verified in the field by SHA and Appellant through measurements taken between piers and abutments. (May 12 Tr. 167-169; May 13 Tr. 124-128). This method of layout verification, according to the testimony of Mr. Spies, should have detected any error in the layout. (Finding of Fact No. 14).

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[6] Mr. Safford was Appellant's office engineer for the project prior to becoming project manager. (May 12 Tr. 207-209).

[7] Mr. Safford also suggested to Mr. Reiter that he use the coordinate data to calculate ties between diagonal points on the bridges to check the layout. However, Mr. Reiter did not measure diagonals as a check because he was confident that the work was correct by virtue of repetition of the layout process by the State and use of the span length verification process. (May 12 Tr. 169).

16. As previously noted [Finding of Fact No. 14], Mr. Kirk's August 30, 1982 letter asked that all control points essential to the layout of the bridges be staked by SHA in the field. These additional control points were located on the work lines that are depicted on Drawing 21.

The significance of staked work lines may be illustrated by the following example. At Station 136+69.91 along the baseline of construction as set forth on Drawing 21, the contractor is told that if it turns angle B-5 (25 degrees - 13' - 8") in a clockwise direction from the local tangent of the baseline, it will arrive at the centerline of Pier B. Workpoint no. 7 is located along work line no. 1, and is also a point on the centerline of bearing of Pier B. Therefore, if work line no. 1 had been staked in the field, it would have been possible to locate workpoint no. 7 (at Station 136+22.14) along this line. If that workpoint did not coincide with the centerline of Pier B, as established by the turning of angle B-5 from Station 136+69.91 on the baseline of construction, the contractor would know that there was an error. This method of layout verification with staked work lines involves use of deflecting angles which does not require any knowledge of the proper use of local tangents for turning angles and would have provided an independent means for locating the workpoints along the pier and abutment centerlines. (May 13 Tr. 15-17).

17. On February 9, 1983, Appellant began drilling holes for the anchor bolts[8] at abutment A-1. (App. Exh. 17). The following day, David Golden, the SHA bridge inspector, noticed that the anchor bolt holes which had been drilled by Appellant were not the required distance from the abutment backwall. (May 13 Tr. 128-129). Up until this point in time, neither the SHA inspectors nor Appellant were aware of any problem with the substructure construction. (May 13 Tr. 130; May 12 Tr. 93-94, 169-170).

Upon discovery of this problem on February 10, 1983, Mr. German immediately ordered Appellant to cease the drilling of anchor bolt holes. (May 13 Tr. 89-90). The same day Mr. Kirk both informed Mr. Harry McCullough, the District 4 Engineer, about the problem and hired the Wilson T. Ballard Company (Ballard) to ascertain the scope of the problem. (May 12 Tr. 94-95).

18. After performing an as-built survey which commenced on or about February 15, 1983 and was completed on or about February 23, 1983, Ballard determined that a problem existed with regard to the substructure orientation. (May 12 Tr. 95-97; Rule 4, Tab IV G). The nature of the problem was that the angles between the baseline of construction and the center lines of piers and abutments were not as set forth on Drawing 21. At the hearing, Mr. Safford analogized the layout problem to a parallelogram which had been shifted or racked in a counterclockwise direction. (May 12 Tr. 232-233).

19. On March 1, 1983, a meeting attended by personnel from SHA and Appellant was held to discuss the problem in detail. At this meeting, Ballard's as-built survey was furnished to SHA for the first time. At the

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[8] Anchor bolts fasten the structural steel to the bridge substructure. The drilling of anchor bolt holes is one of the last steps before structural steel is brought on to the jobsite. (May 13 Tr. 129).

conclusion of this meeting, despite Appellant's desire to continue with Ballard, RK&K was directed by SHA to study the problem and perform the additional design work necessary to remedy it. (May 12 Tr. 96-99; May 13 Tr. 150).

RK&K commenced its redesign work almost immediately. (May 13 Tr. 150). An extra work order was issued to RK&K by SHA for purposes of compensating it for the redesign effort. In processing this extra work order SHA's Chief Engineer, Mr. William Lee, was informed by memorandum dated March 7, 1983 from the Chief of SHA's Bureau of Highway Design that "[A]ny delay in the redesign will result in the delay in construction completion of the project and could result in a claim from the contractor." (App. Exh. 16). This memorandum also advised that the estimated $21,000 cost of redesign should be reimbursed by Appellant.

RK&K was able to begin its redesign effort using as-built data that had been prepared by Ballard and SHA. (May 13 Tr. 151). However, to complete the redesign work, RK&K needed the precise location of each beam seat for all of the girders. (May 13 Tr. 150-151). Accordingly, an as-built survey of the beam seat locations was requested by RK&K. This request was forwarded by the SHA District 4 office to the SHA Bureau of Plats and Surveys on March 18, 1983. (App. Exh. 10; May 13 Tr. 76-77).

20. On or about March 20, 1983, RK&K presented a report to SHA on the status of the redesign which indicated that the redesign effort would be more complex than originally anticipated. (May 13 Tr. 164). Thereafter, on March 22, 1983, Mr. McCullough (SHA's District 4 Engineer) sent a letter (and a corrected second page thereto the same day) to Mr. Kirk which stated that the SHA held Appellant responsible for all costs (redesign and construction) relating to correction of the layout of the bridges and closed with the following admonition:

> Before the corrected design can be completed, you are required to affix your signature on the line provided below to indicate your company's acceptance of all costs involved and return same to this office by March 30, 1983.

(Rule 4, Tab IV E,F). By letter dated, the next day, March 23, 1983,[9] RK&K was directed by SHA, effective March 24, 1983, to cease all its redesign work until further notice. (App. Exh. 13; May 13 Tr. 153-154). In pertinent part, this letter stated:

> On March 1, 1983 you were authorized to proceed with the design to develop corrective measures to the problem resulting from a construction error in the layout of the bridge piers and abutments.
>
> A concept was developed for the MTA bridges and it is anticipated that a concept for the highway bridges be presented on March 24, 1983. After that date, we request that all work be stopped until we notify you otherwise.

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[9]This letter was authored by Mr. Earle Freedman (SHA's Assistant Chief Engineer for bridge development). Mr. McCullough and Mr. William Lee (SHA's Chief Engineer) were copied on Mr. Freedman's letter, and Mr. Lee and Mr. Freedman were copied on Mr. McCullough's letter of March 22, 1983.

(App. Ex. 13).

21. Upon receipt of Mr. McCullough's March 22, 1983 letter, Mr. Kirk immediately telephoned the SHA Chief Engineer, Mr. William Lee, to protest. (May 12 Tr. 99-100). Mr. Kirk testified that he told Mr. Lee that he would like a meeting, and that he felt that he ". . . was being coerced, intimidated, threatened, whatever you choose to call it. . . ." (May 12 Tr. 100). Appellant's acceptance of all costs relating to correction of the layout of the bridges as a condition permitting resumption of the corrective design work was inconclusively discussed at a meeting on March 29, 1983 between Mr. Lee and Mr. Kirk. By letter dated March 30, 1983, Mr. Kirk confirmed the meeting of March 29, 1983 as well as the earlier telephone conversation with Mr. Lee. In this letter, Mr. Kirk characterized the SHA's action regarding the redesign as "an attempt at coercion," refused to accept responsibility for all costs involved, and gave notice of claim for all costs arising out of the SHA actions pertaining to delay in corrective design. (Rule 4, Tab IV G).

22. RK&K was directed to recommence the redesign effort on April 8, 1983 in a telephone conversation between Ms. Mervat Younan, a structural engineer in SHA's bridge department responsible for reviewing RK&K's plans, and Mr. Duncan Smith. (App. Exh. 14; May 13 Tr. 154-155).

23. In a memorandum to file dated April 12, 1983, Mr. Lee commented on the cessation of work, in pertinent part, as follows:

> On March 21, a retroactive Extra Work Order was presented for signature allowing Rummel, Klepper & Kahl to perform the corrective design of the construction errors in the piers and abutments on the above project. Having been in the Administrator's Office, either when he was talking to the District Engineer or Jock [Earle] Freedman and hearing him say that we will not proceed with the design by our consultant until the contractor agrees in writing to pay for our consultant work, I refused to sign the Extra Work Order. I checked with the Administrator[10] and he confirmed that the contractor not only should pay for the consultant's work for the re-design but that the contractor should agree that he will be responsible for all costs relative to this construction error before we proceed. Therefore, the retroactive Extra Work Order was send [sic] back to the Bureau of Bride [sic] Design and Harry McCullough's office was instructed of the decision and, as a result, the letter of March 22 was sent to the contractor asking that he sign the attached correspondence indicating that he was accepting full responsibility. The consultant stopped work on the project, (which he had been working on unbeknowing to the contractor) on March 23.
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> . . . On Friday, April 8, Mr. Caltrider and I discussed the letter of March 30, 1983 from [Appellant] at which time instructions were issued to the Bridge Department to go ahead and have the consultant continue working on the corrective measures.

(Resp. Ex. 22).

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[10]The SHA Administrator at this time was Mr. Slade Caltrider.

24. The as-built survey data on the beam seat locations which would permit completion of the redesign effort was transmitted to RK&K on April 14, 1983. (May 13 Tr. 150-152, 156-157; App. Exh. 8).[11]

The RK&K design changes for the MTA bridge structures were transmitted to Appellant on or about May 3, 1983 (Rule 4, Tab IV K), and the corrective design for the NWX (highway) bridge structures was transmitted approximately two weeks later. RK&K's redesign effectively permitted the structural steel girders to be used as fabricated. The redesign called for changes to the cross bracing and for removal and replacement of the concrete bearing pads. Changes were also made to the abutment backwalls. (May 13 Tr. 156).

25. On May 4, 1983, Mr. Lee responded to Mr. Kirk's March 30, 1983 correspondence and included the following comments regarding the redesign effort.

> We believe the State has fully cooperated in finding a solution to the problem and has devoted high priority time, even though the problem was created by your error. Immediately after learning of the problem on February 23, the State held a meeting on March 1 and that same day instructed the Consultant to proceed. On March 7 the Consultant's proposal for extra work was submitted and again the same day, a retroactive extra work order was initiated to cover the redesign costs. The survey information was received from your Consultant on march [sic] 3, and two weeks later on March 18, Rummel, Klepper and Kahl submitted a concept to correct MTA bridges which had approval by SHA and MTA with Rummel, Klepper and Kahl instructed to proceed with the revisions. On March 24, two concepts were submitted for the highway bridges, one modifying the substructure as originally proposed and one modifying the structure steel in case the design does not allow the first option. The structural steel concept was described to you at our March 29 meeting. In order to finalize the redesign a large amount of geometry needed to be worked out and to assure proper fitting of the structural steel over the as-built substructure, additional surveys were needed. <u>While the Consultant's design ceased for a short period awaiting your response to our March 22, 1983 letter, the State's efforts to resolve the problem have been continuous</u>. . . . On March 18, additional survey data was requested, the survey work started immediately and continued uninterrupted until April 14, 1983. . . . On March 30, Rammel [sic], Klepper and Kahl submitted a summary of their findings and their proposals to be evaluated by the State. (Underscoring added).

(Rule 4, Tab IV J pp. 4-5).

26. The parties through counsel have stipulated that the actual cause of the error in the substructure orientation is unknown.

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[11]Appellant's surveying expert, Mr. deBruin, testified that the as-built survey of the beam seat locations should have taken no more than three days including any necessary advance preparation. (May 13 Tr. 22-23).

27. A final decision denying Appellant's claim was issued on April 8, 1985. (Rule 4, Tab II). Only issues of entitlement were before the procurement officer. Appellant timely noted an appeal to this Board on April 26, 1985. On the question of whether SHA's actions upon discovery of the erroneous layout constituted an unreasonable suspension of work, the Board ruled (May 12 Tr. 23-28) that it would only receive evidence pertaining to the first sentence of paragraph 2 of the suspension of work clause of the contract, GP-8.07, which provides:

> (2) 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 procurement officer 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 performance of this contract (excluding profit) necessarily caused by an unreasonable suspension, delay, or interruption and the contract modified in writing accordingly.

No evidence was received, therefore, concerning the second sentence of paragraph 2 of GP-8.07 which, in relevant part, provides:

> 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. . . .

Decision

I. Failure to Provide Staked Working Lines or Center Lines

Appellant argues that paragraph 5 of Article 35.12-1 of the contract specifications required provision of staked working lines or center lines for each bridge structure and SHA either breached or changed the contract by failing to stake a working line or center line in the field for each bridge structure.[12] It further asserts that such failure was the direct cause of the error in the substructure orientation entitling it to an equitable adjustment for any costs resulting therefrom. SHA counters that a proper reading of the contract (and analysis of facts) demonstrates that SHA provided Appellant all that it was obligated to provide under the contract. However, assuming arguendo that SHA was obligated to provide staked working lines or center lines for each structure, such failure, SHA contends, does not entitle Appellant to an equitable adjustment.

This Board has stated on a number of occasions that the standard for interpreting a written contract is an objective one. Accordingly, the Board seeks ". . . to determine the meaning attributable to the contract language by a reasonably intelligent bidder acquainted with all operative usages and knowing all the circumstances prior to and contemporaneous with the making

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[12]Whether the alleged failure to provide staked working lines or center lines is labelled a breach or a change is immaterial in the context of the "all disputes" clause of the contract. (GP-5.15).

of the contract." Hensel Phelps Construction Co., MDOT 1016 at p. 12, 1 MICPEL ¶44 at p. 9 (1983). See also: Fruin-Colnon Corporation and Horn Construction Co., Inc., MDOT 1001, 1 MICPEL ¶1 (1979).

Paragraph 5 of Article 35.12-1, the focal point of the dispute, provides in relevant part:

> For structures over 20 foot span (Measured along center line of roadway).
>
> The Engineer shall furnish the Contractor a staked-out center line or working line whichever applies, with stations not over 100 feet apart and extending at least one hundred feet beyond the end of the structure. When the structure is on a curve, the Engineer will furnish a staked-out center line or working line whichever applies, consisting of stations not over 100 feet apart and including the P.C., P.I., and P.T. and at least one point on the tangents beyond each end of the curve. When the structure is on a spiral, suitable points will also be given. At least two benchmarks, one on each end of the structure, will be established by the Engineer. (Underscoring added).

Appellant understood this provision to obligate SHA to stake a working line or center line in the field for each structure to be built under the contract. (Finding of Fact No. 8). This understanding seems to comport with a normal everyday reading of the words of Paragraph 5 and does not appear to be unreasonable measured by the April 17, 1986 deposition testimony of SHA's Mr. German to the effect that SHA was supposed to provide a center line or working line for each structure. Although Mr. German, in the three weeks between his deposition and the hearing, revised his thinking about whether this project involved more than one structure, he candidly admitted that the interpretation of this provision (as stated in his deposition), that a staked working or center line is required for each structure over twenty foot span, was based upon his reading and application of the specification since its issuance in March 1968. (May 13 Tr. 73-76; Finding of Fact No. 9). We also note that SHA's argument at the hearing and in its post hearing brief, that the project involved only one structure, is in direct conflict with an admission in its Answers to Interrogatories in which it stated that three structures were involved. See Footnote No. 2 supra. In short, we accept Appellant's interpretation that the project is multi-structured as being reasonable and reject SHA's single structure argument.

SHA also contends that (1) use of the singular of the terms "center line" and "working line" in Paragraph 5 measured against the use of the singular of such terms in Paragraph 4 of Article 35.12-1[13] dealing with

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[13]Paragraph 4 provides in relevant part:

> For roadways and structures of twenty feet or less (Measured along centerline of roadway)
>
> The Engineer will furnish staked centerline, maximum spacing of stations (stakes, nails, crosses, etc.) not in excess of 100 feet, and the elevations on the top of each marked point will also be furnished. The Engineer will also establish appropriately spaced bench marks and the

structures of twenty feet or less; and (2) use in Paragraph 5 of the words "whichever applies" contrasted with the apparent election provided in Paragraph 4 should alert a reasonably intelligent bidder that only one working line or one center line (but not both) would be provided regardless of the number of structures involved. Despite this argument, we find Appellant's construction of the import of Paragraph 5, as set forth in the testimony of Mr. Kirk (Finding of Fact No. 8), that SHA was to provide staked working lines for each of the structures to be reasonable. Even if there may be some other possible interpretation of Paragraph 5 arising out of the "whichever applies" language or use of the singular of the terms "working line" and "center line", we believe that the reality of such other possible interpretation is so subtle as to call into operation the rule of contra proferentem, that ambiguities in a contract are construed against the drafter, SHA. Compare: American Building Contractors, Inc., MSBCA 1125, 1 MICPEL ¶104 (1985); Paul J. Vignola Electric Company, Inc., MSBCA 1226 (1986); Martin J. Imbach, Inc., MDOT 1020, 1 MICPEL ¶52 (1983).

The reasonableness of Appellant's interpretation of Paragraph 5 is further bolstered by examination of Drawing 21. This drawing depicts a work line for each of the four bridge structures (two highway, two subway) designed by RK&K. Workpoints are located on each of these four work lines and the schedule of angles incorporates information applicable to these work lines, as well as to the baseline of construction. Thus, when Paragraph 5 is viewed in the context of the information provided on Drawing 21 respecting work lines and workpoints, it cannot be said that Appellant unreasonably concluded that SHA was obligated to stake a working line for each structure. We thus accept Appellant's assertion that the terms of the contract required SHA to provide a staked working line or center line in the field for each bridge structure.

As noted above, Appellant asserts that the failure to provide a staked working line or center line for each bridge constitutes a change to or breach of the contract leading to entitlement for any damages resulting from the failure of the substructure orientation. Appellant asserts that if a staked working line or center line for each structure had been provided in the field the error in substructure orientation would most likely have been avoided or damages therefrom mitigated,[14] since staking a working line or center line for

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necessary references for the preservation and control of the centerline. Upon completion of the grading, the Engineer will again provide the Contractor with a staked out centerline or working line, whichever is requested by the Contractor. An elevation for the top of each marked point will also be furnished by the Engineer, as well as one set of prints of the cross sections plus an additional set when warranted by circumstances. The cross sections are to be used as guides only, it being understood that dimensions or elevations scaled therefrom will not be sufficiently precise for use in construction of structures of 20 foot span or less and for roadways.

[14]In Appellant's view had the stakeout been provided early on during contract performance when Mr. Reiter was performing his layout work the error would have been avoided altogether. It further asserts that had the information and stakeout been provided expeditiously in response to Mr. Kirk's August 30, 1982 request, the error in layout would have been detected and corrective action would not have entailed significant delay or expense; since, while substructure construction had commenced, the columns had not been poured.

each structure would have provided a virtually infallible means of checking the layout of the bridge substructures. Appellant also asserts that the mere demonstration that SHA failed to provide the staked working or center lines entitles it to prevail on a presumption that such failure caused or resulted in the error, or failure to detect the error, in substructure orientation. SHA denies the existence of any such cause and effect and asserts that Appellant must demonstrate by appropriate evidentiary standards a cause and effect relationship.

The mere showing of a change to a contract by virtue of the failure to provide something called for by the contract,[15] does not entitle a contractor to an equitable adjustment unless there is also a demonstration that the change caused, or would have been reasonably likely to cause, the circumstances which lead the contractor to incur the additional costs for which it seeks an equitable adjustment. Here the Appellant has not met its burden to establish that tne failure of SHA to stake a working line or center line for each bridge structure resulted in the failure either to achieve a proper layout or detect an error in the actual layout of the substructure at an earlier point in time.

First we note that the parties have stipulated that the actual cause of the error in the substructure orientation is unknown. (Finding of Fact No. 26). Nor is it possible from the state of the record to do more than speculate as to the actual cause of the error in substructure orientation. The field notes of Appellant's surveyor, Mr. Reiter, and the SHA's surveyor, Mr. Pechulis, are missing so that it is not possible to determine whether the error may have resulted from their individual or combined mistake(s). The error could have occurred at different times as a result of varying factors.

We next observe that the expert testimony presented in this case is quite consistent on the point that the steps taken to verify the layout were appropriate,[16] particularly the measurement of span lengths, and should have revealed the error. (See Findings of Fact Nos. 12 and 13). The expert testimony also is quite consistent in the view that a competent surveyor should have had no trouble in laying out the substructure with the information provided on Drawing 21, and Mr. Reiter's testimony at the hearing reflected that he was quite positive that he performed a proper layout and was not responsible for the error.

As indicated in the Findings of Fact (Findings of Fact Nos. 6, 7), the geometry of the structures was complicated. If SHA had provided the data and stakeout requested by Mr. Kirk, this would have provided another means of verifying the accuracy of the layout or detecting any error therein. Nevertheless, the evidence of record fails to establish that the methods or

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[15]In the context of the failure to stake working lines in the field, a breach of contract may be said to have occurred. However, as noted above, a breach is constructively treated as a contract change by virtue of the "all disputes" clause of the contract, GP-5.15.

[16]The record reflects that (1) Mr. Pechulis, at least in part, verified Mr. Reiter's layout; and (2) that thereafter SHA and Appellant continued to verify the accuracy of the layout during construction by measurement of span length; and (3) that Mr. Safford checked the span length dimensions as computed from the contract drawings with the coordinates of the control points for the bridge structures provided by RK&K. (Findings of Fact Nos. 12, 15).

procedures actually used to establish and verify the layout were inappropriate, and the unrebutted expert opinion of record is that the measurement of the span lengths should have detected any error involved.

Appellant also argues that the Board should assume that the contractual failure to provide the field stakeout of working lines or center lines for each structure was the direct and proximate cause of the skewing in the substructure orientation. This we decline to do in view of the evidence concerning what in fact occurred, including the honoring by SHA of Mr. Safford's request on behalf of Appellant (roughly contemporaneous with Mr. Kirk's request for stakeout of the pier and abutment center lines) for coordinates of the control points to check the geometry of the layout. We also cannot find with reasonable certainty, based on the record before us, that had the stakeout of the working lines or center lines for each structure been provided that the layout or check thereof, which was Appellant's contractual responsibility, would have been properly performed so as to prevent or detect error of the magnitude actually encountered. We thus deny Appellant's appeal on grounds that SHA's failure to provide the stakeout required by Article 35.12-1 constitutes a compensable change.

Our finding in respect to Appellant's stakeout argument renders unnecessary the need to discuss SHA's assertion that Appellant's appeal must be denied for Appellant's alleged failure to give timely and adequate notice under the changes clause, GP-4.05,[17] of its position regarding the requirement to provide staked working lines or center lines.

II. Proportional Allocation of Fault

Appellant next contends that the Board should apply a proportional risk allocation standard in determining entitlement. Under this sharing of risk concept, the Board is asked to assess the degree of each party's fault for the errors in the layout. Once the Board has assessed the degree of each party's fault, the Board is then asked to find Appellant entitled to an equitable adjustment for costs incurred in a percentage amount equal to the degree of SHA's fault. Appellant makes two arguments in support of its quest for a finding of entitlement based on a proportional allocation of fault theory.

Appellant first asserts that since its claim is for damages arising from a contractual undertaking, to the extent either party to this dispute acted negligently in the performance of the contract (i.e. breached the contract), such action is not a tort independent of the contract. Thus, Appellant's argument continues, citing Clovis Heimsath and Associates, NASA BCA 180-1, 83-1 BCA ¶16,133 (1982) and Environmental Growth Chambers, Inc., ASBCA No. 25845, 83-2 BCA ¶16,609 (1983), contract law and not tort law governs. Since contract law governs, Appellant contends that the Maryland rejection of

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[17]The essence of SHA's argument is that the August 30, 1982 letter from Mr. Kirk requesting field layout was too late to comply with the requirement of Paragraph 2 of GP-4.05 that the contractor timely notify SHA that it considers an action to constitute a change. SHA thus maintains that Appellant waived any breach [change] of contract for failure to provide the working lines or center lines by remaining silent for so long. See: National School Studios, Inc. v. Mealey, 211 Md. 116, 131 (1956). See also: H.A. Andersen Co., Inc., Eng. BCA No. 3724, 77-2 BCA ¶12,712 (1977).

the doctrine of comparative negligence in tort (such that any negligence bars a plaintiff recovery in tort under Maryland's contributory negligence standard) would not preclude a finding of entitlement.

Second, Appellant argues that recovery under a proportional fault allocation approach is permissible under the standard federal "changes" clause citing Bruce-Andersen Co., Inc., PSBCA No. 1000, 83-2 BCA ¶16,733 (1983) and Hilltop Electric Construction, Inc., DOTCAB No. 78-6, 78-2 BCA ¶13,421 (1978). This argument continues, citing C. J. Langenfelder & Son, Inc., MDOT Nos. 1000, 1003 &1006, 1 MSBCA ¶2 (1980), aff'd, 50 Md. App. 525 (1982), with the assertion that the State of Maryland has adopted the federal "changes" clause for use in its contracts, such that the award of an equitable adjustment under this clause should be governed by the same precedents which control federal contracts.

Under either of Appellant's theories of recovery based on proportional allocation of fault, the Board is asked to apply a jury verdict approach to the determination of entitlement to an equitable adjustment. Based on Granite Construction Company, MDOT 1014, 1 MSBCA ¶66 (1983) and Dynalectron Corporation v. United States, 207 Ct.Cl. 349, 368, 518 F.2d 594 (1975), Appellant asserts that if it appears the damages allegedly incurred by Appellant were caused by two separate acts, one of which was attributable to SHA and one to Appellant, the Board is not precluded from awarding damages in a percentage amount attributable to the fault of SHA. Appellant further asserts that the Board may make a fair and reasonable approximation of such percentage degree of fault in the form of a jury verdict.

SHA strenuously disagrees with Appellant's proportional allocation of fault argument citing Republic Insurance Co. v. Board of County Commissioners of St. Mary's County, 68 Md. App. 428, 511 A.2d 1136 (1986) as one in a continuing line of cases, see for example Harrison v. Montgomery County Board of Education, 295 Md. 442, 456 A.2d 894 (1983), that in Maryland breach of contract and principles of tort law will not be intertwined.[18] And in like manner, SHA asserts that a legal approach permissible under federal procurement law may be resorted to by this Board only if in harmony with analogous Maryland precedents.

However, we need not decide the question of whether a proportional allocation of fault approach may form the basis of entitlement under the law in Maryland applicable to public contract. This question becomes an abstraction under the facts of this appeal. We have found that Appellant has failed to demonstrate that SHA's failure to provide staked working lines or center lines for each structure caused or leads inexorably to the errors in the substructure geometry. We likewise find no causal relationship between SHA's verification of the bridge layout and the errors in substructure orientation; nor does the record support Appellant's contention that SHA's verification of Mr. Reiter's work either confirmed an already erroneous layout or resulted in or caused new error or errors to be introduced into the layout.[19] In short,

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[18]But see: Bocchini v. Gorn Management Company, et al., 69 Md. App. 1, 515 A.2d 1179 (1986).

[19]Appellant argues that the record demonstrates that Mr. Pechulis was incompetent and that had Appellant been aware of Mr. Pechulis' incompetence it would have taken steps to obtain the independent check it thought SHA was providing. Mr. Pechulis did not testify at the hearing. His deposition

the record simply does not demonstrate where fault for the erroneous layout and the resulting flawed substructure orientation properly lies. Any attempt by the Board to assess fault would involve it in unwarranted speculation. Accordingly, we deny Appellant's appeal on the grounds of entitlement premised upon determination of the degree of SHA's fault.

III. Suspension of Work

A

Appellant next argues that SHA's actions after the layout problem was discovered constituted an unreasonable suspension of work. The suspension of work clause of the contract, GP-8.07, in relevant part, provides:

> (1) The procurement officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for a period of time as he may determine to be appropriate for the convenience of the State.
>
> (2) 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 procurement officer 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 performance of this contract (excluding profit) necessarily caused by an 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 provisions of this contract.

It is Appellant's position that work on the redesign necessitated by the erroneous layout was halted by SHA during the period March 24, 1983 to April 8, 1983 in an effort to force Appellant to agree to pay for RK&K's redesign work and other costs incurred by SHA and to forego any rights it had to make a claim against SHA under the disputes clause of the contract. SHA counters that Appellant has not met its burden of proving that SHA unreasonably delayed the redesign work. In support of its burden of proof argument, SHA contends that RK&K worked on redesign concepts until March 24, 1983 when it forwarded two different design concepts[20] for the highway structures (as distinct from the MTA structure(s)) for evaluation by SHA, and that then RK&K submitted a summary of its findings and its proposals (presumedly including concepts for the MTA bridge structures) for SHA's

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testimony (App. Exh. 15) is relied on by Appellant to establish his incompetence. We do not agree with Appellant that Mr. Pechulis' deposition testimony or any other evidence of record establishes that Mr. Pechulis was in fact incompetent or that SHA was aware of any alleged incompetence.

[20]One concept involved modifying the substructure and the other involved modifying the structural steel.

evaluation on March 30, 1983. SHA also contends that it was evaluating these concepts during the period April 1, 1983 through April 8, 1983 and that such a period of time is not unreasonable. However, the only basis for SHA's position (as set forth in its post hearing brief) is the letter authored by SHA's Mr. Lee dated May 4, 1983 responding, inter alia, to Appellant's allegations of coercion and notice of claim as set forth in Mr. Kirk's letter of March 30, 1983. Mr. Lee's letter in pertinent part stated:

> We believe the State has fully cooperated in finding a solution to the problem and has devoted high priority time, even though the problem was created by your error. Immediately after learning of the problem on February 23, the State held a meeting on March 1 and that same day instructed the Consultant to proceed. On March 7 the Consultant's proposal for extra work was submitted and again the same day, a retroactive extra work order was initiated to cover the redesign costs. The survey information was received from your Consultant on March 3, and two weeks later on March 18, Rummel, Klepper and Kahl submitted a concept to correct MTA bridges which had approval by SHA and MTA with Rummel, Klepper and Kahl instructed to proceed with the revisions. On March 24, two concepts were submitted for the highway bridges, one modifying the substructure as originally proposed and one modifying the structure steel in case the design does not allow the first option. The structural steel concept was described to you at our March 29 meeting. In order to finalize the redesign a large amount of geometry needed to be worked out and to assure proper fitting of the structural steel over the as-built substructure, additional surveys were needed. <u>While the Consultant's design ceased for a short period awaiting your response to our March 22, 1983 letter, the State's efforts to resolve the problem have been continuous</u>. . . . On March 30, Rammel [sic], Klepper and Kahl submitted a summary of their findings and their proposals to be evaluated by the State. (Underscoring added).

We do not find that this letter or the record as a whole supports SHA's assertion that its efforts to resolve the problem were continuous, particularly given the underscored portion of Mr. Lee's May 4 correspondence and his previous characterization of the events of the period March 22 through April 8, 1983 set forth in his memorandum to file of April 12, 1983 (detailing events as distinct from responding to a claim and a charge of coercion). Mr. Lee's April 12, 1983 memorandum states in part:

> On March 21, a retroactive Extra Work Order was presented for signature allowing Rummel, Klepper & Kahl to perform the corrective design. . . .
>
> Having been in the Administrator's Office, either when he was talking to the District Engineer or Jock [Earle] Freedman and hearing him say that we will not proceed with the design by our consultant until the contractor agrees in writing to pay for our consultant work, I refused to sign the Extra Work Order. I checked with the Administrator and he confirmed that the contractor not only should pay for the consultant's work for the re-design but that the contractor should agree that he will be responsible for all costs relative to this construction error before we proceed. . . . On

> Friday, April 8, Mr. Caltrider and I discussed the letter of March 30, 1983 from [Appellant] at which time instructions were issued to the Bridge Department to go ahead and have the consultant continue working on the corrective measures.

We find this recites a factual scenario consistent with other evidence in the record reflecting a conscious cessation of RK&K's work at the direction of SHA, during the period March 24, 1983 - April 8, 1983, in order to force Appellant to accept all liability and responsibility for problems and costs associated with the erroneous layout and consequent flawed substructure orientation and to forego its rights as set forth in the disputes clause of the contract. (Findings of Fact Nos. 20-23).

The disputes clause of the contract, GP-5.15 Disputes, provides in relevant part as follows:

> A. This contract is subject to the provisions of Title 7, Article 21 (Administrative and Civil Remedies) of the Code[21] and COMAR 21.10.
>
> B. Except as may otherwise be provided in the Act or aforesaid regulations, all disputes arising under or as a result of a breach of this contract which are not disposed of by mutual agreement shall be resolved in accordance with this clause.
>
> C. As used herein, "claim" means a written demand or assertion by one of the parties seeking, as a legal right, the payment of money, adjustment or interpretation of contract terms, or other relief, arising under or relating to this contract.
>
> * * *
>
> D. When a controversy cannot be resolved by mutual agreement, the Contractor shall submit a written request for final decision to the procurement officer. The written request shall set forth all the facts surrounding the controversy.
>
> * * *
>
> F. The procurement officer shall render a written decision on all claims within 180 days of receipt of the Contractor's written claim, unless the procurement officer determines that a longer period is necessary to resolve the claim. . . .
>
> G. The procurement officer's decision shall be final and conclusive unless the Contractor mails or otherwise files a written appeal with the Maryland State Board of Contract Appeals within 30 days of receipt of the decision.
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> * * *

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[21] Now codified in Subtitle 2, Title 17, Division II, State Finance and Procurement Article, Md. Ann. Code.

Thus, the disputes clause by its terms incorporates the remedial provisions concerning dispute resolution set forth in Title 17, Division II, State Finance and Procurement Article and COMAR Title 21. These provisions would be rendered nugatory if we did not find SHA's action in stopping RK&K's design work from March 24, 1983 to April 8, 1983 to have been unreasonable, given our finding that this action was intended to force Appellant to forego any remedies it might have under the disputes clause and under Maryland's procurement code and implementing regulations. We, therefore, hold that any resulting suspension of Appellant's work resulting from this attempt to coerce it into giving up its statutory, regulatory and contractual right to pursue a claim was unreasonable per se.

We hasten to add, however, that we have only found that SHA's action in suspending the design effort for the period March 24 1983 to April 8, 1983 was unreasonable (for the reasons stated) under the first sentence of paragraph (2) of GP-8.07. This finding goes solely to the discrete issue of entitlement under the first sentence of paragraph (2) of the suspension of work clause. All we have decided is that the Appellant is entitled to an equitable adjustment for any increase in the cost of performance of the contract (excluding profit) necessarily caused by this unreasonable suspension, unless (under the second sentence of paragraph 2 of GP-8.07) performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Appellant. To this extent only do we sustain Appellant's appeal recognizing that this was a bifurcated appeal with the parties not intending to litigate issues concerning possible intervening or concurrent causes that would eliminate or reduce any damages caused by SHA's actions. Accordingly, the record does not permit us to make findings regarding whether Appellant's claim would be defeated by other causes, the existence or non-existence of which will have to be determined in further proceedings at the agency level.

B

Appellant finally argues that the period of time, March 18, 1983 to April 14, 1983, that was required for SHA to complete and transmit the detailed as-built survey of the beam seat locations that RK&K needed to complete the redesign also constituted unreasonable delay under the suspension of work clause. What constitutes a reasonable time for the State to perform a particular act under a contract is entirely dependent upon the circumstances of the particular case. The importance of the act to a contractor's progress is obviously a factor that should be considered in determining what is a reasonable period of time. Since the as-built survey work was necessary for RK&K to complete the redesign necessary for work to go forward on the bridge structures, it constituted an important item of work. Appellant asserts that the testimony of its expert, Mr. deBruin, that the actual survey work (if he performed it) would only take three days (May 13 Tr. 22-23) demonstrates the unreasonableness of the twenty-eight day period involved in completion of this work and its transmission to RK&K. SHA disagrees.

The record does not reveal the details of the performance of the as-built survey work. Mr. Lee states in his correspondence of May 4, 1983 that : "On March 18, additional survey data was requested, the survey work started immediately and continued uninterrupted until April 14, 1983." (Underscoring added). While we may have certain doubts about the accuracy of the underscored portion of this assertion given our finding concerning

SHA's actions in stopping RK&K's design work during the period March 24, 1983 to April 8, 1983, we nevertheless accept, for purposes of this decision, Mr. Lee's assertion at face value. We also accept Mr. deBruin's testimony that the as-built survey work could have been accomplished in three days. However, we believe this time frame to represent an optimum, noting that it required Ballard nine days, including holidays and weekends, during the period February 15, 1983 to February 23, 1983 to perform its as-built survey work on Appellant's behalf. We also note that such work was not furnished to SHA until March 1, 1983. In any event, we find on the record before us that the twenty-eight days, including holidays and weekends, required for SHA to complete and transmit the as-built survey of the beam seat locations was not unreasonable. Accordingly, we deny Appellant's appeal on this ground.

We recognize that our determination that the time required by SHA to perform the as-built survey of the beam seat locations was not unreasonable may be viewed as affecting our finding that SHA's directive to RK&K to cease redesign work was unreasonable because of the overlapping time frames and interrelation of the work involved. The record does not, however, permit us to make findings regarding impact, if any, of the absence of the beam seat survey data on the overall redesign effort during the period of suspension March 24, 1983 to April 8, 1983 or during the entire period March 18, 1983 to April 14, 1983 that this survey data was being generated. We, therefore, made our findings respecting the unreasonableness of the suspension of work from March 24, 1983 to April 8, 1983 without regard to the potential affect thereon of the absence of the survey data.

In summary, Appellant's appeal is sustained to the extent of our finding that the work stoppage resulting from SHA's actions during the period March 24, 1983 to April 8, 1983 was unreasonable per se under the first sentence of paragraph 2 of GP-8.07, and in all other respects it is denied.