

23-Jan-2008

02.14-000002

Mr. Robert Smith
Dispute Review Board
222 West Washington Avenue, Suite 380
Madison, WI 53703

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Notice of Potential Claim No. 5, Referral of Dispute to Dispute Review Board

Gentlemen:

American Bridge/Fluor Enterprises, Inc. A Joint Venture (ABFJV) notified the Department in writing on January 17, 2008 that it objects to the Department's Response, dated January 2, 2008, to the above referenced Notice of Potential Claim. Pursuant to the Contract Documents, including Special Provisions, Article 5-1.12, Dispute Review Board (DRB), ABFJV hereby refers the Dispute to the Dispute Review Board.

Dispute:

The Department maintains that "The plans are complete and of sufficient detail to provide for the cable erection and construction of the bridge."

ABFJV disagrees that the Plans are complete and of sufficient detail to provide for the cable erection. ABFJV contends that the Department is responsible for the payment of all damages, which have and will be incurred, by ABFJV for the Extra Work performed to correct deficiencies arising from the inadequate Plans and Specifications. For this reason ABFJV is entitled to a Change Order.

Issue:

The "free-cable position" identified on Sheet 978 of 1204 and also identified on page 352 of the Special Provisions as "proper bare-cable sag" does not exist. The main cable interferes with the Eastbound and Westbound box girders near Panel Point (PP) 116 and the Eastbound suspender bracket at PP110.

ABFJV relied upon the fact that after erecting the parallel wire strand (PWS) cable system, in accordance with the details shown on the Plans, Standard Specifications Section 55 "Steel Structures" and the Special Provisions that the main cable would be "free hanging" as presented on Sheet 978 of 1204 of the Contract Plans. The lack of a "free hanging" cable after erection of the PWS system is such a significant deviation from industry custom and practice that ABFJV could not have anticipated its existence at the time of Bid.

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California State Statutes and the Contract Documents, require the Department to provide ABFJV with full, complete and accurate Plans and Specification. The Department has failed to do so.

- California Public Contract Code, Section 10120
"Before entering into any contract for a project, the department shall prepare full, complete, and accurate plans and specification and estimates of cost, giving such directions as will enable any competent mechanic or other builder to carry them out."
- California Public Contract Code, Section 1104
"No local public entity, charter city, or charter county shall require a bidder to assume responsibility for the completeness and accuracy of architectural or engineering plans and specifications on public works projects...The review by the contractor shall be confined to the contractor's capacity as a contractor, and not as a licensed design professional."
- Standard Specification, 4-1.01 Intent of Plans and Specifications
"The intent of the plans and specifications is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the contract. Where the plans or specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail ..."
- Standard Specification, 5-1.02 Plans and Working Drawings
"The contract plans furnished consist of general drawings and show such details as are necessary to give a comprehensive idea of the construction contemplated."

Background:

A "free cable" occupies a unique place in space between saddles that can only be determined by reverse engineering the completed structure. The exact location of the "free cable" is determined during contract performance as part of the cable system construction engineering. This cable engineering work commenced in November 2006.

In August 2007, after the preliminary cable engineering was completed, ABFJV discovered that the "free-cable position" identified on Sheet 978 of 1204 does not exist. The Eastbound and Westbound box girders interfere with the main cable near Panel Point (PP) 116 and the Eastbound suspender bracket at PP 110 and this interference prevents a "free-cable position." This was the first time the Contractor recognized the existence of a conflict.

This information was conveyed to the Department on August 17, 2007 and this dispute ensued.

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Cost and Impact:

ABFJV has incurred, and will incur in the future, additional performance cost resulting from the new and unforeseen Work required to be performed to identify and correct the deficiency caused by the lack of the “free-cable position” indicated in the Special Provisions and the Contract Plans. An estimate of the cost of the affected work and impacts on Project completion are unknown at this time and are unable to be determined until such time as a remediation plan is agreed by the Parties.

Documents:

The enclosed documents detail the correspondence between ABFJV and the Department regarding Notice of Potential Claim No. 5:

1. Letter No. ABF-CAL-LTR-000420, January 17, 2008, Objection to Caltrans Merit Determination of Supplemental Notice of Potential Claim No. 5
2. Letter No. 05.03.01-001074, January 2, 2008, Supplemental Notice of Potential Claim No. 5
3. Letter No. ABF-CAL-LTR-000384, December 13,, 2007, Potential Claim No. 005 - Submission Of Supplemental Notice Of Potential Claim For Request For Change Order (RFCO) No. 019 And Supplement – Design Deficiencies On PWS Cable Geometry Near Pier E2 And From Pp 111 To Pp 118, RFI 876r0 And RFI 944r0
4. Letter No. ABF-CAL-LTR-000380, December 3, 2007, Request For Change Order (RFCO) No. 19 and Supplement Department Letter No. 05.03.01-000886
5. Letter No. ABF-CAL-LTR-000377, November 30, 2007, Potential Claim Number 005 Submission Of Initial Notice Of Potential Claim For Request For Change Order (RFCO) No. 19 And Supplement – Design Deficiencies On PWS Cable Geometry Near Pier E2 And From PP 111 To PP 118, RFI 876R0 and RFI 944R0, Caltrans Letter # 05.03.01-000886
6. Letter No. 05.03.01-000886, November, 2007, Request for Change Order (RFCO) No. 19 and Supplement
7. Letter No. ABF-CAL-LTR-000369, November 19, 2007, Request For Change Order (RFCO) No. 19 - Supplement Deficiencies On PWS Cable Geometry Near Pier E2 And From PP 111 To PP 118 Reference State Letter No. 05.03.01-000777
8. Letter No. ABF-CAL-LTR-000348, November 1, 2007, Request For Change Order (RFCO) No. 19 – RFI 876R0 and 944R0 Design Deficiencies On PWS Cable Geometry Near Pier E2 And From PP 111 To PP 118
9. Letter No. 05.03.01-000777, October 31, 2007, Conflict between Free Cable and Box Girder
10. Letter No. ABF-CAL-LTR-000331, October 11, 2007, Conflict between Free Cable and Box Girder

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11. Letter No. ABF-CAL-LTR-000327, October 10, 2007, RFCO 16 – Design Deficiencies on Suspender Forces
12. Letter No. 05.03.01-000592, September 19, 2007, RFCO 16 - Design Deficiencies on Suspender Forces
13. Letter No. ABF-CAL-LTR-000274, August 31, 2007, Response to Request for Information ABF-RFI-000876R0 PWS Cable Geometry Near Pier E-2
14. Letter No. ABF-CAL-LTR-000269, August 28, 2007, Request for Change Order (RFCO) No. 16 – Design Deficiencies On Suspender Forces Schedule, Design Girder Dead Load And Camber

We look forward to resolving this disputed matter as quickly as possible.

If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE



Michael Flowers
Project Director
MF/PW/rt

cc: Gary Pursell, P.E., Department of Transportation, State of California (ABF-CAL-TRN-000723)
Norman Anderson, DRB Member
Warren Bullock, DRB Member

Attachments

File: 02.14

17-Jan-2008

ABF-CAL-LTR-000420

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Objection to Caltran's Merit Determination of Supplemental Notice of Potential Claim
No. 5

RE: CALTRANS LETTER NO. 05.03.01-0001074 DATED January 02, 2008

Gentlemen:

American Bridge / Fluor Enterprises, A Joint Venture (ABFJV) is in receipt of the above referenced letter wherein the Department determines that NOPC 5 has no merit. ABFJV objects to the determination.

ABFJV submitted ABF-RFI-000876R0 and ABF-RFI-000944R0 to the Department. These RFI's identified design deficiencies on PWS Cable Geometry near Pier E2 and from PP111 to PP 118. On November 1, 2007 ABFJV requested that a Contract Change Order be issued by the Department because, as a result of the deficient Design, Plans and Specifications, ABFJV is performing, and will in the future perform, Extra Work, the cost of which is not covered by any of the various items for which there is a Bid Price.

In April 2007 the Department provided ABFJV revised information, correcting erroneous details shown on the Plans that allowed ABFJV to complete its cable erection analysis. Notwithstanding the fact that the Department recognized and corrected the erroneous information provided ABFJV, the Department continued to maintain that "The plans are complete and of sufficient detail to provide for the cable erection and construction of the bridge." This statement, disputed by ABFJV, appears to be the basis for the Department's refusal to issue a Contract Change Order to ABFJV regarding this matter.

ABFJV recognized problems regarding the cable engineering soon after ABFJV's two cable engineering firms, Ammann & Whitney and Flint & Neill Partners, commenced work on the preliminary cable engineering in November 2006. In early January 2007, these two engineering firms determined that they were unable to replicate the moment diagrams using the information shown on the Plans. Both engineering firms spent several months trying to find a source of the discrepancy. Finally, after they could not resolve the matter, it was brought to the attention of the Department and its Design Engineer (TY Lin/Moffatt JV) on February 15, 2007.

Because the Design Engineer insisted that the Plans provided were accurate, ABFJV and the two engineering firms continued to search for the source of the discrepancy. After numerous meetings in-house and in the Working Drawing Campus the Department's Design Engineer provided revised, corrected suspender loads and moment diagrams on April 23, 2007. Once these correct loads were provided, ABFJV was able to complete the

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preliminary erection analysis necessary to verify that the computer models developed would duplicate the information indicated on the Plans.

In August 2007, after the erection analysis models were complete, based upon various design constraints established by the Department, it was discovered that the "free-cable position" established on Sheet 978 of 1204 does not exist. Instead, the main cable interferes with the East Bound and West Bound box girders near PP116 and the East Bound suspender bracket at PP110. This information was conveyed to the Department on August 17, 2007.

Because the full design constraint information had not been previously provided by the Department, this was the first time the Contractor recognized the existence of a conflict. A "free cable" occupies a unique place in space between saddles that can only be determined by reverse engineering the completed structure. The bridge must be analyzed in its completed state, using the weight of the bridge, the specified roadway profile, the specified moments, the specified maximum suspender loads, the specified cable force and the calculated suspender lengths. The suspender forces and weight of cable bands are removed from the cable, and the saddles are allowed to re-align themselves to account for equal tension in the cable (to prevent the cable from slipping through the saddles). Only then can the actual "free cable position" be calculated.

The definition and common usage of the term "free cable" in the suspension bridge construction and engineering industry identifies the condition during cable construction when the cable hangs freely, suspended in a natural catenary between the saddles. The cable must be in a free-hanging position prior to the commencement of the subsequent cable erection operation. ABFJV is unaware of any major suspension bridge that has been constructed where the design did not provide for a free-hanging cable between saddles. The conflict between the cable in its "free hanging" state and the OBG deck differs materially from conditions encountered in the construction of a suspension bridge.

Special Provision 10-1.60, Cable System, Subsection Erection, PWS Cables, reinforces the points made in the previous paragraph by stating: "The sag of the first erected strand shall be adjusted in each span to the proper bare-cable sag." Bare-cable sag is properly interpreted as the sag caused by the self-weight of the cable between saddles, without external forces being applied. If another result was intended, then another approach should have been specified.

A substantial portion of the damages incurred by ABFJV will be the remediation of the conflict in order to achieve a "free hanging" cable. The lack of a "free hanging" cable is such a significant deviation from industry custom and practice that ABFJV could not have anticipated that these remediation costs would be incurred. ABFJV relied upon the fact that upon completion of the furnishing, fabricating, and erecting the shop prefabricated parallel wire strands (PWS) cable system, in accordance with the details shown on the Plans, the provisions in Section 55, "Steel Structures" and the Special Provisions that the cable would be "free hanging" as indicated on Sheet 978 of 1204 of the Plans.

It is necessary that project plans must be detailed and arranged in such a manner that a contractor can build the work. Contractors are not required or expected to perform rigorous engineering analysis to verify that plan details are faultless. Both California state statutes and court decisions require the Department to provide ABFJV with complete and accurate Contract Documents. Any Extra Work required to correct deficiencies arising from inadequate Plans or Specifications must be paid for by the Department as either a breach of the

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implied warranty that the contract documents are complete and accurate, or as a breach of a statutory duty to provide such contract documents.

California Public Contract Code, Section 10120

"Before entering into any contract for a project, the department shall prepare full, complete, and accurate plans and specification and estimates of cost, giving such directions as will enable any competent mechanic or other builder to carry them out."

California Public Contract Code, Section 1104

"No local public entity, charter city, or charter county shall require a bidder to assume responsibility for the completeness and accuracy of architectural or engineering plans and specifications on public works projects... The review by the contractor shall be confined to the contractor's capacity as a contractor, and not as a licensed design professional."

Standard Specification, 4-1.01 Intent of Plans and Specifications

"The intent of the plans and specifications is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the contract. Where the plans or specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail ..."

Standard Specification, 5-1.02 Plans and Working Drawings

"The contract plans furnished consist of general drawings and show such details as are necessary to give a comprehensive idea of the construction contemplated. All authorized alterations affecting the requirements and information given on the contract plans shall be in writing."

It is well established construction case law that "A contractor of public works who, acting reasonably, is misled by incorrect plans and specifications issued by the public authorities as the basis for bids and who, as a result, submits a bid which is lower than he would have otherwise made may recover in a contract action for extra work or expenses necessitated by the conditions being other than as represented."

In defense of its attempted avoidance of liability for deficient Plans and Specifications the Department advises that Note 1 on Sheet 978/1204, "These movements are for information only, and shall be recalculated by the Contractor and approved by the Engineer" clearly indicates that Sheet 978/1204 is schematic and informational only and thus subject to verification and further development by the Contractor and submittal to the Engineer for review and approval. This statement is not accurate for the reasons set forth as follows:

- Note 1 does not clearly indicate that sheet 978/1204 is schematic.
- Note 1 strictly pertains to cable movements, not the free hanging cable position.
- The PWS cable system fabrication and installation Specifications are quite detailed. The Department designates particular components, dimensions, material types and qualities and for this reason the Specification cannot be determined to be a "performance" specification.

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- Contractors are not required to seek expert advice when evaluating contract documents, but they are expected to utilize their own skills as experienced and prudent contractors to detect patent flaws or ambiguities. The flaws contained on Sheet 978/1204 are not patent and could not have been reasonably determined to be inaccurate.
- The California courts have determined that “General disclaimers of warranty will not absolve a public body from responsibility for positive and material misrepresentations contained in plans and upon which contractor had right to rely” and “where plans and specifications induce contractor to reasonably believe that certain indicated conditions actually exist and may be relied upon in submitting a bid, the contractor is entitled to recover the value of extra work made necessary by existence of different conditions.
- The Department cannot require ABFJV to assume responsibility for the completeness and accuracy of the Plans and Specification (California Public Contract Code, Section 1104)

In the above referenced letter the Department states “The Department understands ABF was aware of the potential conflict and interference between the cable and box girder prior to bid. Accordingly, it is presumed the bid includes consideration of such conflict and interference.” This statement is not correct. ABFJV was not aware of the potential interference and conflict between the free-hanging cable and box girder until the conflict was discovered in August 2007. ABFJV’s bid did NOT include “consideration of such conflict and interference”.

The Department’s statement provided in the preceding paragraph is the first admission from the Department that it actually knew of the interference and conflict during the bid stage of the Contract. The Department having knowledge of the cable conflict and interference during the bid stage had a duty to divulge this information to bidders and its failure to do so was a breach of this duty. It is basic contract law that one party to a business transaction is under a duty to disclose to the other party before the transaction is consummated those matters known to that party which he knows to be necessary to prevent a partial statement of the facts by him from being misleading to the other party. The vague language contained on Sheet 978/1204, “These movements are for information only, and shall be recalculated by the Contractor...” is not sufficient to absolve the Department of its duty to disclose pertinent facts, known only by the Department at the time, to the bidders.

For the reason set forth above, in compliance with Special Provision, 5-1.12, Dispute Review Board, ABFJV objects to the Department’s findings. If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael Flowers
Project Director
MF/PW/ag

File: 01.07, 02.01

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

333 Burma Rd.

Oakland, CA 94607

(510) 622-5660, (510) 286-0550 fax

*Flex your power
Be energy efficient!*

January 2, 2008

Contract No. 04-0120F4

04-SF-80-13.2 / 13.9

Self-Anchored Suspension Bridge

Letter No. 05.03.01-001074

Michael Flowers
Project Executive
American Bridge/Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Supplemental Notice of Potential Claim No. 5

The Department has received the following letters regarding the submission of Notice of Potential Claim (NOPC) No. 5 alleging design deficiencies related to PWS cable geometry near Pier E2 and from PP 111 to PP 118:

- ABF-CAL-LTR-000377, "Notice of Potential Claim Number 005," dated November 30, 2007
- ABF-CAL-LTR-000380, "Request for Change Order No. 19 and Supplement," dated December 3, 2007
- ABF-CAL-LTR-000384, "Potential Claim No.005 (supplemental)," dated December 13, 2007

These letters are addressed in order below:

ABF-CAL-LTR-000377 provides an Initial Notice of Potential Claim No. 5 for the Department's refusal to provide a contract change order to address claimed design deficiencies. As stated in State Letter 05.03.01-000866, dated November 27, 2007, and reiterated below, a contract change order is not warranted. The plans are complete and of sufficient detail to provide for the cable erection and construction of the bridge.

ABF-CAL-LTR-000380 states that the Department received notification in ABF-CAL-LTR-000348 that the Contractor was performing extra work not covered by contract items. Although no extra work was mentioned in the referenced letter, we accept it now as being stated. While the purported extra work is not identified, your attention is directed to Special Provision Section 10-1.59 which states, "*The contract price paid per kilogram for erect structural steel of the types listed in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in erecting the structural steel, complete in place, including connecting and splicing the structural steel,*" and Special Provision Section 10-1.60 which states, "*The contract price paid per kilogram for erecting PWS cable system shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in erecting the PWS cable system.*" The Department is not aware of any work being performed by the Contractor that is outside these contract specifications.

ABF-CAL-LTR-000384 transmits the required Supplemental NOPC 5. However, the Supplemental NOPC does not meet the requirements of Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications as amended by the Special Provisions. These specifications require that the Supplemental NOPC include, "*The estimated cost of the potential claim, including an itemized breakdown of the individual costs and how the estimate was determined.*" The Contractor has failed to provide any information regarding the nature of the work affected, the cost pertaining to such work, or the method by which the cost is estimated. In addition, the Contract Specifications require that the Supplemental NOPC include a time impact analysis. The Contractor has only stated that a "*TIA will be submitted at a future date.*" This is unacceptable, since the contract requires the Contractor to identify a potential delay at the time the Supplemental NOPC is submitted.

It is noted that the Contractor has dropped its claim for both Differing Site Condition and Change in Character as expressed in ABF-CAL-LTR-000348. The claim is now stated as either a breach of warranty that the contract plans are complete and accurate or a breach of statutory duty to provide complete and accurate plans. As previously stated in response to ABF-CAL-000348, the contract documents provide sufficient detail to notify the bidder of their responsibility to address potential conflict and/or interference between the cable and box girder and are therefore complete in this regard. There are no changes required to further address this issue. The Department disagrees with the characterizations of breach of warranty or statutory duty, and given the incomplete submittal of the Supplemental NOPC, finds no merit to NOPC 5.

The basis of the determination that NOPC 5 has not merit is as follows:

1. The contract documents, in particular notes on Contract Plan Sheets 967 and 978, contemplated and alerted prospective bidders of the anticipated "conflict" and "interference" between the cable and the box girder during constructions. That, for example, "*measures have to be taken to avoid potential interference between the cable and the box girder...*," and that "*The cable movements shown do not consider the interference between the cable and the box girder...*," and that "*The Contractor shall take the necessary measures to prevent contact between the cable and the box girder.*" These notes cannot simply be ignored, or construed in any way whatsoever to mean the contract did not anticipate such "conflict" or "interference" during construction operations.
2. The degree of interference encountered is largely dependent on the Contractor's selected cable erection means and construction methods, e.g., the location of the temporary erected profile of the box girder on the temporary tower system, or engaging the use of a temporary system to guide the cable. The notes on Contract Plan Sheet 967 of 1204 provide that "*The Contractor shall develop an Erection Plan consistent with his operations*" and the notes further contemplate the use of temporary structures, attachments and components during construction, i.e., "*All temporary structures attachments and components used to reinforce the structure shall be removed after dead load transfer.*" The Department is not responsible for the consequences of the Contractor's selected and developed Erection Plan, as required by the

contract, nor is the Department responsible for the cable erection means and construction methods selected by the Contractor.

3. The Department understands ABF was aware of the potential conflict and interference between the cable and box girder prior to bid. Accordingly, it is presumed the bid includes consideration of such conflict and interference.
4. As indicated above, the contractor failed to conform to specified dispute procedures regarding the Supplemental Notice of Potential Claim requirements of the contract.

It is requested that ABF accept the Department's determination on NOPC 5 as indicated above. However, if you are unable to accept the determination, your attention is directed to the requirements of Special Provision Section 5-1.12, "Dispute Review Board," subsection, "Operation," for procedures to follow for further consideration of the NOPC.

Sincerely,



GARY PURSELL
Resident Engineer

cc: Rick Morrow
Brian Boal
Don Ross
file:05.03.01

13-Dec-2007

ABF-CAL-LTR-000384

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

**PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110**

**SUBJECT: POTENTIAL CLAIM NO. 005 - SUBMISSION OF SUPPLEMENTAL NOTICE OF
POTENTIAL CLAIM FOR REQUEST FOR CHANGE ORDER (RFCO) NO. 019
AND SUPPLEMENT – DESIGN DEFICIENCIES ON PWS CABLE GEOMETRY
NEAR PIER E2 AND FROM PP 111 TO PP 118, RFI 876R0 AND RFI 944R0**

Gentlemen:

By its letter dated November 30, 2007 American Bridge / Fluor Enterprises Inc., A Joint Venture (ABFJV) provided its Initial Notice of Potential Claim for the above referenced Potential Claim. Pursuant to the Agreement, including Standard Specifications, Article 9-1.04, Notice of Potential Claim, ABFJV hereby submits the enclosed certified Form CEM 6201B, Supplemental Notice of Potential Claim.

This Supplemental Notice of Potential Claim will be followed-up with a Full and Final Documentation of Potential Claim when all the information is available.

Upon presentation of the Full and Final Documentation by ABFJV, we will look forward to receiving your prompt approval of the above identified Potential Claim and the issuance of an appropriate Change Order.

If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael D. Flowers
Project Director

File: 02.01

03-Dec-2007

ABF-CAL-LTR-000380

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Request for Change Order (RFCO) No. 19 and Supplement
Department Letter No. 05.03.01-000886

Gentlemen:

American Bridge / Fluor Enterprises Inc., A Joint Venture (ABFJV) is in receipt of the above noted Department letter dated November 27, 2007 provided in response to ABF-CAL-LTR-000331 dated November 19, 2007 wherein the Department advises that based upon the Contract Documents and the information provided by ABFJV, the Department feels that a Contract Change Order is not warranted.

In letter ABF-CAL-000348, Request for Change Order (RFCO) No. 19 – RFI 876R0 and 944R0 Design Deficiencies on PWS Cable Geometry near Pier E2 and from PP111 to PP 118, dated November 1, 2007 ABFJV requested that a Contract Change Order or other written order be issued because, as a result of deficient Design, Plans and Specifications, ABFJV is performing, and will in the future be required to perform, Extra Work that is not covered by any of the various items for which there is a bid price. The basis for ABFJV's Request for Change Order or other written order is that ABFJV is not responsible for the completeness and accuracy of the Department issued Engineering Plans and Specifications. It is the Department's responsibility to prepare full, complete and accurate plans and specifications and give ABFJV the direction necessary to carry them out. The complexity or uniqueness of the bridge does not relieve the Department of this responsibility.

The Department advised that it feels that a Contract Change Order is not warranted. ABFJV disagrees. For this reason, ABFJV has provided under separate cover, a "Notice of Potential Claim" pursuant to Standard Specification 9-1.04 as amended by the Special Provisions.

If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

Michael D. Flowers
Project Director
MF/PW/ag

File: 02.01, 04.06.19

30-Nov-2007

ABF-CAL-LTR-000377

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

**PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110**

**SUBJECT: Potential Claim Number 005
Submission of Initial Notice of Potential Claim for Request For Change Order (RFCO)
No. 19 and Supplement – Design Deficiencies on PWS Cable Geometry Near Pier E2
and from PP 111 to PP 118, RFI 876R0 AND RFI 944R0
Caltrans Letter # 05.03.01-000886**

Gentlemen:

Pursuant to the Agreement, including Standard Specifications, Article 9-1.04, Notice of Potential Claim, American Bridge / Fluor, JV hereby submits the enclosed certified Form CEM 6201A, Initial Notice of Potential Claim, identified by the above number.

This Initial Notice of Potential Claim will be followed-up with a Supplemental Notice of Potential Claim.

We look forward to receiving your prompt acknowledgement of the above identified Initial Potential Claim. If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael Flowers
Project Director
MF/SC/ag

File: 02.01
01.07

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

333 Burma Rd.

Oakland, CA 94607

(510) 622-5660, (510) 286-0550 fax

*Flex your power
Be energy efficient!*

November 27, 2007

Contract No. 04-0120F4

04-SF-80-13.2 / 13.9

Self-Anchored Suspension Bridge

Letter No. 05.03.01-000886

Michael Flowers
Project Executive
American Bridge/Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Request for Change Order (RFCO) No. 19 and Supplement

The Department has reviewed ABF-CAL-000348, "Request for Change Order (RFCO) No. 19" and ABF-CAL-000369, "Request for Change Order (RFCO) No. 19 – Supplement," dated November 2, 2007 and November 19, 2007, respectively. In the first of these two letters, ABF outlines their contention that the temporary interference between the initially installed cable and the box girder in the area of PP 116 constitutes either a "Change in Character" or a "Differing Site Condition," as described in Standard Specification Sections 4-1.03C and 5-1.116. The supplement is a written critique of information offered by the Department for the Contractor's consideration in addressing the current conflict and the letter stated ABF's intention to pursue "damages sustained implementing the [ABF] selected option" and "engineering resources to evaluate the various possible solutions."

The Department would like to first address ABF-CAL-LTR-000348. The cited "Change in Character" specification only applies to changes that are the result of an ordered change to the plans or specifications. The conflict between the cable and the box girder is not the result of an ordered change and therefore not a change in character.

The "Differing Site Condition" specification more closely follows the situation described in your letter. However, in order for this interference to constitute a "Differing Site Condition" it would need to be either a "latent physical condition...differing materially..." or an "unknown physical condition of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract..."

As you are well aware, this project is to construct a very unique, complex, structure; a single tower, self-anchored suspension bridge. It is difficult to perceive how the cable/box girder interference could constitute a condition that "differs materially" from the work provided for under this contract. As we have indicated before, we believe the contract plan details and the notes on Plan Sheets 967 and 978 alert the Contractor to conflicts in this area. The Department does not believe this issue should have been further addressed on the plans since the potential for conflicts is dependant on the erection means and methods selected by the contractor.

In response to ABF-CAL-000369, the Department has the following comments:

- **Solution #1** - It is recognized that to fully implement this option as the means of avoiding conflict between the deck and cable would require revision of the Contractor's means and methods as currently conceived. However, the Department is not responsible for this conflict between the Contractor's means and methods and the requirements of the contract.

- **Solution #8** – In no way does the contract indicate that the use of “standard industry practice” is all that will be required to complete this Project. On the contrary, a unique bridge of this complexity will require methods, materials, and procedures which deviate from standard industry practice. As to the Contractor's request for additional information or details, the Department can attempt to provide more information if ABF wishes to pursue this option. Please advise us as to what additional information would be helpful and would be used by ABF.

Based upon the contract documents and the information provided by ABF, the Department feels that a Contract Change Order is not warranted. If ABF continues to assert that additional compensation and/or an extension of contract time is due, the Contractor is directed to the requirements of Standard Specification 9-1.04, “Notice of Potential Claim” as amended by the Special Provisions.

The Department will continue to work with the ABF team toward the best project solution. Please contact this office if you have any questions.

Sincerely,



GARY PURSELL
Resident Engineer

cc: Rick Morrow, Brian Boal, Mark Woods
file: 05.03.01

19-Nov-2007

ABF-CAL-LTR-000369

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

**PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110**

**SUBJECT: Request for Change Order (RFCO) No. 19 - Supplement
Deficiencies on PWS Cable Geometry Near Pier E2 and from PP 111 to PP 118
Reference State Letter No. 05.03.01-000777**

Gentlemen:

American Bridge / Fluor, JV (ABFJV) is in receipt of the referenced letter dated October 31st, 2007 and received November 1st 2007, provided in response to ABF-CAL-LTR-000331 dated October 11th, 2007 wherein the Department advises that further details regarding Solutions #1 and #8 will be provided. ABFJV is in receipt of this information. Based upon the information received to date and Working Drawing Campus discussions, ABFJV provides the following response.

Solution #1

In this solution, the profile of the girder during erection will be lower than the camber profile of the girder and the truss will encroach on the required navigational clearance. Designs already submitted for Caltrans approval will have to be revised and resubmitted. Such an undertaking at this juncture would also distract and disrupt ABF's design team, potentially jeopardizing Project completion in other ways. Shop drawings, fabrication and installation of planned work will all be delayed a number of months. Avoiding delays to Project completion could also require mobilizing additional ships for transportation of fabricated materials and additional marine equipment and crews for erection. For these reasons, ABFJV does not consider this solution to be a viable option. ABFJV will not investigate this solution further, as discussed and agreed with Caltrans in the Core Group Meeting on November 14, 2007

Solution #8

On suspension bridge projects, to the best of our knowledge, the main cable is always constructed free-hanging between saddles to ensure equal tension in all main cable wires. Free-hanging is defined as the "condition during initial cable construction where the cable hangs freely under its own weight, suspended in a natural catenary between the saddles".

ABF-CAL-LTR-000369

Page 2

Proposed Solution #8 deviates from standard industry practice in that the main cable is not constructed free-hanging between saddles. ABFJV is unaware of any major suspension bridge project where the main cable was not constructed free-hanging between saddles. Without any historical precedent and/or more detailed information, ABFJV can not evaluate this solution further, and without a proper evaluation, ABFJV can not agree that Solution #8 is workable. Additionally, in the event it can be established that Solution # 8 is feasible, ABFJV believes that implementation of this solution could appreciably increase the planned duration and cost of the PWS strand installation.

ABFJV's intent is, as with other matters such as these, to work with the Department and its design consultants in an effort to obtain a solution that is most beneficial for the Project. In order to do so, it is imperative that the Department provide ABFJV with additional relevant information in support of Solution # 8. Without sufficient additional details, ABFJV is unable to concur with the Department's suggested solution regarding the failure of the main cables to be free-hanging between saddles during construction.

ABFJV will seek, in addition to any damages sustained implementing the selected option, additional compensation and a time extension, if necessary, for the work performed by its engineering resources to evaluate the various possible solutions to correct the PWS cable geometry design deficiency contained within the Contract Plans

ABFJV is continuing to develop Solution # 6, which allows for a free-hanging cable between saddles by field installing a portion of the box girder after cable erection. ABFJV believes this is the most straightforward and cost-effective solution, presenting fewer risks for delays than Solution # 8.

If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael Flowers
Project Director
MF/PW/rt

File: 01.06.19
02.01

01-Nov-2007

ABF-CAL-LTR-000348

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Request for Change Order (RFCO) No. 19 – RFI 876R0 and 944R0
Design Deficiencies on PWS Cable Geometry near Pier E2 and from PP 111 to PP 118

Gentlemen:

American Bridge / Fluor, JV (ABFJV) has received the Engineer's response to the subject RFI's. The issues described are Changes in what is indicated on Contract Sheets 967 and 978 of 1204. Pursuant to the Contract Documents, including Standard Specifications, Article 4-1.03C, Changes in Character of the Work and/or Article 5-1.116, Differing Site Conditions, ABFJV hereby notifies the Engineer that the following Change in the Contract Sheets requires that a Change Order be issued adjusting the Contract Compensation and Time:

ABF-RFI-000876R0 informed the Engineer that the PWS cable, while in the "free hanging" stage, will be in conflict with the OBG deck at PP116. The "free-cable" is indicated on Sheet 978 of 1204. The definition and common usage of the term "free cable" in the suspension bridge construction and engineering industry means the condition during initial cable construction when the cable hangs freely, suspended in a natural catenary between the saddles.

ABFJV is unaware of any major suspension bridge that has been constructed without a free-hanging cable between saddles. The conflict between the cable in its "free hanging" state and the OBG deck differs materially from those ordinarily encountered in the construction of a suspension bridge and is such a significant deviation from industry custom and practice that the conflict should have been addressed by the Department on the plans and by the design. The Contractor could not have expected, during the bid stage, that the design information provided by the Department was incomplete or that the term "free cable" provided on the plans misrepresented the true condition to be encountered during construction.

The Engineer's response indicated that the conflict was identified in Notes 3 and 4 of Sheet 978 of 1204 and Note 6 of Sheet 967 of 1204.

- Notes 6 of Sheet 967 states "*Movements During Construction: The Contractor shall take the necessary measures to allow for cable system movements during the construction particular at the top of the Tower (Tower Saddle), Pier E2 Bearing and Shear Key, East Saddle and Cable in main span and back span. The attention of the Contractor is directed to the fact that measures have to be taken to avoid potential interference between the cable and the box girder in the vicinity of the east saddle and between the cable and the tower saddle.*"

ABF-CAL-LTR-000348

Page 2

ABFJV does not dispute that the statement exists and fully intends to ensure that conflicts during the "Load Transfer" process do not occur when the cable has "*Movements During Construction.*" However, when ABFJV constructs the cable in accordance with the Contract Plans, the cable is stationary and intersects the Box Girder west of the east saddle. It appears as if the constructability measures taken by the Engineer during design have failed to achieve a "free cable" result. ABFJV must make changes in the Work to accommodate this condition on the west side of the saddle, similar to what is indicated on Sheets 985 and 986 of 1204 on the east side of the saddle.

- Notes 3 of Sheet 978 stated "*The cable movements shown do not consider the interference between the cable and the box girder in the vicinity of the East Saddles, or the interference between the cable and the tower Saddle trough.*" Note 3 of Sheet 978 bear no relationship to the problems described by ABFJV in the preceding bullet regarding the inability to construct the cable in a "free cable" position. Cable movements occur during Load Transfer after the cable is initially constructed. There are no indications on the plans that the "free cable" will intersect the box girder on the west side of the saddle. Note that the omitted box girder components indicated on the east side of the east saddle (Sheets 985 and 986 of 1204) to allow initial cable construction must be installed prior to the Load Transfer when cable movements will occur.
- Note 4 of Sheet 978 stated "*The contractor shall take the necessary measures to prevent contact between the cable and the box girder. The contractor shall also ensure that the cable angle brake does not exceed 6 degrees, during the operation of tensioning the suspenders to transfer load to the cable.*" ABFJV understands the Engineers Note, however the Engineer has a responsibility to provide accurate Plans and Specifications and to identify known conflicts on the Contract Documents. ABFJV believes that the Engineer has failed to meet one or both of these tasks.

ABF-RFI-000944R0, ABFJV proposed a corner assembly installation to the Engineer to alleviate the "free hanging" cable interference on the west side of the east saddle. This is similar to the information indicated on the plans east side of the east saddle (see Sheets 985 and 986 of 1204). The Engineer's response indicated that the conflict was identified in Note 6 of Sheet 967 of 1204.

- The Engineers attention is directed to ABFJV's response provided in the first bullet of this Request for Change Order.

We also refer to ABFJV Letter No. ABF-CAL-LTR-000274 dated 8/31/2007 and ABF-CAL-LTR-000331 dated 10/11/2007, which provides additional information on this subject.

We look forward to receiving your prompt issuance of Contract Change Orders and this Notice Letter will be followed-up with a statement of the adjustment necessary to the Contract Compensation once we have determined the total costs associated with these Changes and the in the event we incur a delay, the adjustment to be made to the Contract Time.

ABF-CAL-LTR-000348

Page 3

If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael Flowers

Project Director

MF/PW/rt

Encl: RFI 876R0 (6 pages)
RFI 944R0 (9 pages)
ABFJV Letter No. ABF-CAL-LTR-000274, dated 8/31/2007 (2 pages)
Caltrans Letter No. 05.03.01-000627, dated 9/26/2007 (1 page)
ABF-CAL-LTR-000331 dated 10/11/2007 (2 pages)

File: 02.01
RFI 876 and 944

REQUEST FOR INFORMATION (RFI)

RFI No.: ABF-RFI-000876R00 Submitted By: Smith, Kevin Pages: 5
 RFI Date: 17-August-2007 Contact Name: Smith, Kevin Pages Attached: 4
 Phone No. (412) 631-1000

Subject: PWS Cable Geometry Near Pier E2	
References:	
Sub/Sup: ABF	Sub RFI #:
Response Required by: 24-August-2007	Response affects critical path activity? Maybe

Description:

Using the preliminary cable geometry (derived from Contract weights and reactions) from Ammann & Whitney's analysis provided in ABF-SUB-000232R00, ABF has discovered potential interferences between the main cable and the box girders in the freehanging and loaded cable profiles. Please reference the attached sketches (Sheets 1 through 4) which illustrate the cable locations relative to the box girders for the Eastbound and Westbound girders from PP104 to PP116.

Please review and advise if TYLin's analysis indicates similar cable profiles and resulting conflicts.

If our layouts are correct, the following conflicts must be addressed:

1. The freehanging main cable interferes with the EB and WB box girders at PP116.
2. The loaded main cable interferes with the EB suspender bracket at PP110.
3. The main cables will interfere with the suspender brackets on the EB and WB girders during load transfer.
4. Cable compaction and cable wrapping near Pier E2 will not be possible due to the limited clearances between the cable and the box girder.
5. At PP112, PP114 and PP116 the suspender bracket geometry required to match the location of the loaded main cable will be significantly different than the dimensions (13.5°, 850mm and "A" dimension) shown on Contract Drawing number 744. As discussed in the most recent OBG Team Meeting held at the Working Drawing Campus, the detailing of these suspender brackets has been placed on hold until it is clarified how the suspender brackets are to be detailed to meet the design requirements. Further meetings at the Working Drawing Campus would be useful to resolve this issue.

Please review and advise how these conflicts are to be resolved.

Contractor Disposition:

This RFI is being submitted for
 The Cost and Time Impact from this RFI is: Not selected

Response:

Agreed Ext. Due Date:

Pages: 2
Pages Attached: 0

1. The conflict of the free-hanging cable with the box girder in the vicinity of the East Saddle was identified in notes 3 and 4 of sheet 978/1204 and note 6 of sheet 967/1204. The Contractor was directed to take necessary measures to avoid interference between the cable and the deck during construction. The Contractor's erection solution to this interference will impact other items noted in this RFI.

REQUEST FOR INFORMATION (RFI)

2. The suspender forces chosen for the final cable profile control the cable clearances over the suspender brackets. Note that the north and south cables are at differing elevations with respect to the girder, and that the moment diagram reported in Submittal #232 (currently under review) is slightly out of limits in the vicinity of PP 110. Therefore, a relaxation of suspender forces is available to the Contractor, which should eliminate the noted cable – EB suspender bracket conflict.

3. See response to item 1.

4. The cable compaction and wrapping near Pier E2 can be accommodated as part of the Contractor's solution to item 1 above.

5. The cable location should match the bracket location "by definition." The cable geometry should be determined by the requirement that the cable passes through the brackets, as explained in the response to RFI 776. The brackets positions may be adjusted along the line defined by the 13.5° angle, or another approved angle.

The sketches included in this RFI show the angles formed by the cable and the projected cable PI. The cable angles determined by the Contractor are similar to those determined by the design team. The inclination of the brackets does not need to match the cable inclination because the brackets can apply a force in any direction. As was stated in the response to RFI 776, the cable bracket shall be detailed to accommodate the final cable geometry, and preliminary detailing may require later revisions.

We are willing and prepared to meet and discuss these issues further.

Administrative Action:

This resolves the RFI. No further action required.

Date: 24-August-2007	Respondent: Collins, Warren	Phone No.: 510-622-5661
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REQUEST FOR INFORMATION (RFI)

RFI No.: ABF-RFI-000944R00 Submitted By: Gatsos, Levi Pages: 8
 RFI Date: 26-September-2007 Contact Name: Smith, Kevin Pages Attached: 7
 Phone No. (412) 631-1000

Subject: OBG Coner Assembly from PP 111 to PP 118	
References:	
Sub/Sup: ABF	Sub RFI #:
Response Required by: 05-October-2007	Response affects critical path activity? Yes

Description:

To accommodate the free hanging cable interference with the OBG, identified in ABF-RFI-000876R00, ABF proposes to field install the corner assembly from PP111+700 to PP118-1700 (field splice #12). For additional information please reference the attached sketches. In regards to this, we request the following:

1. ABF proposes to temporarily bolt the Corner Assembly to floorbeams at PP112-117, as shown on the attached sketches.
2. ABF proposes to field weld the Corner Assembly from PP111+700 to PP118-1700 to east bound and west bound box girders.

Please review and approve.

Contractor Disposition:

This RFI is being submitted for

The Cost and Time Impact from this RFI is: Cost and/or time impacts in the performance of our Work will result.

Response:	Agreed Ext. Due Date:
	Pages: <u>2</u>
	Pages Attached: <u>0</u>

The Department takes no exception to the Contractor's proposal to field install the corner assemblies from PP 111+700 to PP118+1700. With regards to the specific proposals:

1. No exception taken.
2. No exception taken.

Suitable measures shall be taken to prevent moisture/water from being introduced into the box girder during shipment.

The Contractor shall provide / address the following issues in a future submittal:

1. Calculations to substantiate the details
2. Revisions to axial camber for the corner assembly
3. The corner assembly shall be fit to the OBG segment and precisely aligned.

REQUEST FOR INFORMATION (RFI)

The Contractor is reminded of Note 6 on page 967/1204 which highlights the potential of interference between the cable and the box girder. As a result, the Department does not understand the full intent of the statement included in the Contractor Disposition section of this RFI. As noted in previous WDC discussions, this proposal is but one of many options available to address the interference of the free hanging cable with the OBG. The Department welcomes further discussion at the WDC.

Administrative Action:

This response resolves the RFI. Further discussions required

Date: 05-October-2007	Respondent: He, Philip	Phone No.: 510-808-4620
------------------------------	-------------------------------	--------------------------------

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

333 Burma Rd.

Oakland, CA 94607

(510) 622-5660, (510) 286-0550 fax

*Flex your power
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October 31, 2007

Contract No. 04-0120F4

04-SF-80-13.2 / 13.9

Self-Anchored Suspension Bridge

Letter No. 05.03.01-000777

Michael Flowers
Project Executive
American Bridge/Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Conflict between Free Cable and Box Girder

This letter is issued in response to ABF-CAL-LTR-000331, Conflict between Free Cable and Box Girder, dated October 11, 2007. The Department agrees that working together to obtain a solution is the most desirable way forward. With that goal in mind, further details for Solutions #1 and #8 will be provided this week in both Team Cable Meeting No. 37 and in a focus group. Sketches, which will be presented, are attached.

Sincerely,

A handwritten signature in cursive script that reads "Gary Purcell".

GARY PURSELL
Resident Engineer

cc: Rick Morrow, Brian Boal
file: 05.03.01

11-Oct-2007

ABF-CAL-LTR-000331

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Conflict between Free Cable and Box Girder

Gentlemen:

American Bridge / Fluor Enterprises Inc., A Joint Venture (ABFJV) and the Engineer's have been discussing the conflict between Free Cable and Box Girder since August 21, 2007 in the Working Drawing Campus (WDC). These discussions have resulted in the development of the "Freehanging Cable Interference Solutions 10-9-07" Matrix (see attached) that lists possible solutions to the problem.

As developed, solutions have been jointly studied and eliminated as appropriate. On October 9, 2007, at the WDC, TYLin informed ABFJV that solution #1 combined with solution #8 will resolve the conflict between the Main Cable and the box girder near Pier E2. When ABFJV questioned solution details, TYLin would not elaborate why they believed the solution was going to work or the basis upon which they arrived at their conclusion.

ABFJV is concerned that the combination of solutions #1 and #8 is not going to work because proposed solution #8 restrains the Main Cable from hanging freely between saddles during construction. One of the fundamental concepts of suspension bridge construction is that the Main Cable must be free-hanging between saddles during construction, in order to ensure equal tension in all Main Cable Wires. From ABFJV's past internal experience with suspension bridges plus our knowledge of these, ABFJV is not aware of any suspension bridge cable in the world that was erected without a free-hanging Main Cable between saddles.

ABFJV believes that Solution #6 is the best option available to resolve the free hanging cable interference problem, and Solution #6 will not delay completion of the project. However, as ABFJV advised in the WDC, solution #6 does not eliminate or exclude other possible solutions. ABFJV is interested in investigating other viable options to mitigate cost impact without delaying the contract completion date. However, it is imperative that the Engineer/TYLin share with ABFJV the details in support of TYLin's determination that combining solution #1 and solution #8 will rectify the problem. Without this supporting data, ABFJV can not evaluate the proposed solution and without a proper evaluation, ABFJV is hesitant to accept TYLin's suggestions that combining solution #1 and solution #8 is a viable option. As such we respectfully request the Department provide the requested supporting data to ABFJV as soon as possible.

Since solution #1 and #8 will take several months to develop and gain a full understanding of all the implications of using this method, time is of the essence for the Engineer to provide the requested information.

The intent of the above is, as with other matters such as these in the past, to work together with the Department and its consultants in an effort to obtain a solution that is the most beneficial for the Project.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael Flowers
Project Director

cc:

File: 02.01

10-Oct-2007

ABF-CAL-LTR-000327

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: RFCO 16 – DESIGN DEFICIENCIES ON SUSPENDER FORCES

REF: Letter No. 05-03.01-000592

Gentlemen:

American Bridge / Fluor Enterprises Inc., JV (ABFJV) is in receipt of the referenced letter dated September 19, 2007 regarding the Departments response to ABFJV's request for a Contract Change Order (CCO) for design deficiencies related to suspender forces and girder Dead Load Moments. The basis of ABFJV's request for a CCO is its belief that, if ABFJV is misled by incorrect design information contained in the Contract Documents, issued by the Department as the basis for bid, and ABFJV sustains damages for extra work necessitated by our reliance upon the incorrect design information, ABFJV is entitled to recover from the Department the damages sustained.

In the first bullet of the referenced letter the Department asks the question; why does the Contractor contend that the Dead Load Moment and the suspender forces were expected to be consistent? ABFJV's response is twofold. A note under Chart A on Plan Sheet 743 makes the affirmative statement; "DL Moment corresponding to suspender forces shown in suspender schedule" and Note 3 on Plan Sheet 743 states that "the suspender forces correspond to the moment diagram shown in Chart A". Is it the Departments contention that ABFJV should not have relied upon the information provided by the Department? If so, how was ABFJV to know what information, provided by the Department, was incorrect and what information was not? ABFJV is unable to locate any references in the Contract Documents which require ABFJV to confirm the accuracy of Department provided Design information. If the Department knows of any, please direct us to the appropriate Contract provisions.

In the first bullet the Department also asks the question; "Why were the suspender loads treated as a given, with the Dead Load Moment calculated rather than using the Dead Load Moment and deck profile as a given in order to calculate the suspender loads? ABFJV was advised that the suspender load and the Dead Load Moment were consistent. There was no arbitrary selection process chosen to confirm the accuracy of the statements given on the Plans; the calculation was selected to confirm the accuracy of our model. It was expected that the accuracy of our model could be determined by creating a model utilizing the Contract information provided ABFJV (deck profile, cambers, suspender loads, hinge reactions, suspended weights and section properties) and comparing the outputs (DL Moment Diagram and deflections) to the same information given on the Plans. It was only after ABFJV was unable to confirm the accuracy of the model did we commence our investigation of the cause of the discrepancy.

ABF-CAL-LTR-000327

Page 2

The Department advises that “the Contract identifies that the suspender lengths and forces listed in the suspender schedule as provided for information purposes only”, as if the statement “provided for information purposes only” is a caveat. The Contract Documents have numerous “provided for information purposes only” references contained therein and ABFJV never contemplated that the statement could be construed as a disclaimer or that any drawing details “provided for information purposes only” were incorrect or suspect. The statement, as applied to the Dead Load Moment and suspender forces drawing details, certainly does not shift the burden of responsibility for the completeness and accuracy of the engineering plans and specification from the Department to ABFJV.

In bullet two the Department asks why no discussions were held until February 2007 if questions regarding the relationship of the suspender forces to the Dead Load Moments arose as early as December 2006. The following provides an overview of events. It is apparent that ABFJV did not wait until February to institute discussions.

11-12-06 Cable geometry information handout sent to Amman & Whitney (AW) and Flint & Neill (FN).

12-11-06 (or within a few days) a conference call with T.Y. Lin (TYL), AW, Dan Raynor (ABFJV) - Discussed 200 MN horizontal load (ABFJV RFI 357). The outcome was that the 200MN was a given and the geometry of the cable was variable.

1-18-07 ABFJV received FN report identifying problems.

1-23-07 FN requested TYL’s E2 bearing reactions via RFI 507 to help resolve problems with their model. The Department/TYL did not provide their reactions.

2-14-07 AW confirmed their results are similar to FN and there may be a problem.

2-15-07 AW February 2007 report provided to TYL. ABFJV requested conference between AW, TYL and ABFJV to discuss analysis results that did not match Contract Documents. The conference call resulted in TYL needing review time to study the issue. A second conference call resulted in TYL noting that the cable geometry appeared to be nearly identical to theirs but that the moments and camber analysis did not agree. Further meetings were scheduled.

In bullet three the Department asks why no mention was made of difficulties (revised suspender loads) at that time (April 2007) and why wasn't an RFI sent related to this matter? As indicated in the events described below, mention was made of the difficulties in several onsite and offsite meetings. Additionally, RFI's (RFI 357 and 507) were sent to the Department. RFI's were not sent subsequent to TYL's informal release of corrected information because it was clear from discussions with TYL that the information would not be released in a formal format.

By April 2007 AW and FN both agreed that the information provided in the Plans was incorrect and ABFJV verbally requested a formal Change to the suspender loads and Moment Diagrams but TYL indicated that they would not respond to a formal request. Because it was necessary for TYL to provide direction regarding the interpretation and application of the information on the Plans to achieve the moments and suspender forces indicated, a formal Request for Contract Change Order was not submitted at that time. Despite continued protests by TYL that the information provided on the Plans was accurate, TYL eventually, informally provided a revised Moment Diagram and revised suspender forces that enabled AW and FN to proceed.

ABF-CAL-LTR-000327

Page 3

Had the Department not steadfastly maintained that the information provided was correct and outwardly questioned the original AW and FN findings, and taken prompt action in February 2007 to correct the information originally provided, much of the resulting damages and delays could have been averted. Supporting information is as follows:

2-28-07 to 4-13-07 several meetings occurred to discuss moments and modeling. The cantilever moment was resolved. During the week of March 12, TYL continued to insist that the differences were due to AW's modeling techniques and advised that AW should use a full model and include the benefit of the main cable stiffness to rectify the differences.

4-13-07 (Week of) AW met with TYL to discuss modeling at WDC. TYL presented methodology for developing suspender loads and modeling the construction. AW did not present data. AW indicated that they would be using 3d modeling and that they would consider TYL's comments. Live load camber was clarified and alternate camber method was clarified to AW. Several other analysis/constructability issues were discussed. TYL noted that suspender loads developed using latest analysis were different slightly from the Contract Drawings. ABFJV requested the new data in the form of "yellow" modified sheets be provided. TYL indicated that this would not happen and only informal data would be transferred at a later date.

4-24-07 ABFJV transmitted the revised/informal information provided by TYL to AW and FN.

4-25-07 FN sent an email to ABFJV describing a process they used to develop similar moments and cambers to TYL.

7-17-07 AW submitted preliminary report to ABFJV for forwarding and review by TYL.

7-25-07 AW submitted revised report to ABFJV.

7-26-07 ABFJV submitted AW's 7-25-07 Preliminary report to the Department.

9-24-07 Department returned report to ABFJV.

Also in bullet three the Department asks why ABFJV waited until late August 2007 to request a CCO. ABFJV waited to request a CCO because we wanted to be assured that the unofficial modifications supplied by TYL on April 23, 2007 were correct before requesting compensation for the damages sustained. This determination could not occur until ABFJV had the final reports from AW and FN, provided in July and August 2007, and ABFJV could establish to its own satisfaction that the root cause of the problems encountered and damages sustained were the direct result of the incorrect information provided in the Contract Documents.

The Department's statement in bullet four that "Suspender forces differing from those given on Sheet 743/1204 were provided in an effort to aid the Contractor and demonstrate how suspender forces can be adjusted to meet the girder moment criteria" mischaracterizes the eventual modification of the information provided in the Bid Documents. The revisions, informally provided by TYL, corrected the erroneous information originally provided ABFJV; the revision was not a gratuitous demonstration of how suspender forces can be adjusted to meet the girder moment criteria by TYL. The Department's failure to accept formal responsibility for the erroneous information provided in the Contract Documents, does not alleviate the Department's responsibility for the accuracy of the information provided, or make the damages sustained by ABFJV non-reimbursable.

ABF-CAL-LTR-000327

Page 4

ABFJV is in receipt of additional information from AW and FN regarding the damages sustained by them and this information will be forwarded to the Department once all damages associated with this matter have been compiled by ABFJV.

Based upon the additional information and clarifications provided herein the Department is requested to reconsider its position that there does not seem to be sufficient justification for a CCO.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael Flowers
Project Director
MF/PW/km

File: 01.06.16
02.01

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

333 Burma Rd.
Oakland, CA 94607
(510) 622-5660, (510) 286-0550 fax



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September 19, 2007

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.01-000592

Michael Flowers
Project Executive
American Bridge/Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

RFCO 16 - Design Deficiencies on Suspender Forces

The Department is in receipt of ABF-CAL-LTR-000269, dated August 28, 2007, with attachments from Ammann and Whitney (AW) and Flint & Neill Partnership (FNP). This letter requests a Contract Change Order (CCO) for alleged design deficiencies related to suspender forces and girder dead load moments. The allegation of "design deficiencies" centers on the consistency of the suspender forces listed in the suspender schedule (plan sheet 743/1204) with the Dead Load Moment envelope shown in Chart A (plan sheets 741 and 967/1204). In response, the Department offers the following comments and questions:

- The Contract identifies the suspender lengths and forces listed in the suspender schedule as provided for information only, whereas the Dead Load Moment envelope is required to be met. Given that the Dead Load Moment envelope is a requirement of the Contract and that the suspender forces are for information only, why does the Contractor contend that these were expected to be consistent? Why were the suspender loads treated as a given, with the Dead Load Moment calculated rather than using the Dead Load Moment and deck profile as a given in order to calculate the suspender loads?
- The letter indicates that both AW and FNP had questions regarding the relationship of the suspender forces to the Dead Load Moments as early as December 2006. Why were no discussions held until February 2007?
- The letters all refer to revised suspender loads being provided in April 2007 and imply that they were needed in order to proceed. However, the FNP letter states that they could replicate the Dead Load Moment by altering the suspender loads as early as December 2006. Why was no mention made of difficulties at that time and why wasn't a RFI sent related to this matter? Apparently the issue was discovered in December 2006, followed by meetings in February and April 2007 and the submission of ABF-SUB-000232, "Preliminary Box Girder Cambers and Cable Geometry Report Based on Contract Weights and Reactions," on

July 26, 2007. The Department received your letter requesting a CCO in late August 2007. Why did you wait?

- It must be noted that no changes have been made to the moment and suspender load information in the Contract. Suspender forces differing from those given on Sheet 743/1204 were provided in an effort to aid the Contractor and demonstrate how suspender forces can be adjusted to meet the girder moment criteria.

At this time, there does not seem to be sufficient justification for a CCO for the work described in your letter. Please advise this office if you wish to pursue the matter.

Sincerely,

<<< ORIGINAL SIGNED >>>

GARY PURSELL
Resident Engineer

cc:
file: 05.03.01

31-Aug-2007

ABF-CAL-LTR-000274

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road,
Oakland, CA 94607, USA

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: RESPONSE TO REQUEST FOR INFORMATION ABF-RFI-000876R0
PWS CABLE GEOMETRY NEAR PIER E-2

Gentlemen:

American Bridge / Fluor Enterprises, Inc. Joint Venture (ABFJV) acknowledges receipt of the Department's response to ABF-RFI-000876R00 dated August 24, 2007 regarding PWS Cable Geometry Near Pier E2.

With respect to the statement; "The conflict of the free-hanging cable with the box girder in the vicinity of the East Saddle was identified in notes 3 and 4 of sheet 978/1204 and note 6 of 967/1204. The Contractor was directed to take necessary measures to avoid interference between the cable and deck during construction", ABFJV offers the following response:

Sheet 978/1204 is clearly marked "Cable System Movements" and shows the movements of the Cable System to be from Free Cable to Loaded Cable. In accordance with the notes on sheet 972/1204 and sheet 973/1204 ABFJV expected to erect the Cable, Compact the Cable, erect Cable Bands and install the Suspenders before moving the Cable from Free Cable to Loaded Cable.

The Notes referred to in the RFI response identify the conflict between Cable and Box Girder during Cable movements. The Notes **do not** identify the conflict between the Free Cable and the Box Girder. Furthermore the Notes **do not** identify the conflict between the Loaded Cable and the Box Girder.

Considering the above, AFBJV considers the conflict between the Free Cable and the Box Girder to be a change in character of work. Additionally AFBJV considers the conflict between the Loaded Cable and the Box Girder to be a change in character of work. Pursuant to the Agreement, including Standard Specifications, Article 4-1.03C, Changes in Character of the Work, ABF hereby notifies the Engineer of these Changes in the Character of the Work. It is not possible at this time to quantify the time impact and/or extra costs that may be incurred as a result of these changes and no definitive assessment is possible until after these matters have been investigated more thoroughly.

The intent of the above is to provide the required notice per the Contract Documents. It is however, as with other matters such as these in the past, to work together with the Department and its consultants in an effort to obtain a solution that is the most beneficial for the Project.

Letter No. ABF-CAL-LTR-000274

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If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael D. Flowers
Project Director

File: 02.01

REQUEST FOR INFORMATION (RFI)

RFI No.: ABF-RFI-000876R00 Submitted By: Smith, Kevin Pages: 5
 RFI Date: 17-August-2007 Contact Name: Smith, Kevin Pages Attached: 4
 Phone No. (412) 631-1000

Subject: PWS Cable Geometry Near Pier E2	
References:	
Sub/Sup: ABF	Sub RFI #:
Response Required by: 24-August-2007	
Response affects critical path activity? Maybe	

Description:

Using the preliminary cable geometry (derived from Contract weights and reactions) from Ammann & Whitney's analysis provided in ABF-SUB-000232R00, ABF has discovered potential interferences between the main cable and the box girders in the freehanging and loaded cable profiles. Please reference the attached sketches (Sheets 1 through 4) which illustrate the cable locations relative to the box girders for the Eastbound and Westbound girders from PP104 to PP116.

Please review and advise if TYLin's analysis indicates similar cable profiles and resulting conflicts.

If our layouts are correct, the following conflicts must be addressed:

1. The freehanging main cable interferes with the EB and WB box girders at PP116.
2. The loaded main cable interferes with the EB suspender bracket at PP110.
3. The main cables will interfere with the suspender brackets on the EB and WB girders during load transfer.
4. Cable compaction and cable wrapping near Pier E2 will not be possible due to the limited clearances between the cable and the box girder.
5. At PP112, PP114 and PP116 the suspender bracket geometry required to match the location of the loaded main cable will be significantly different than the dimensions (13.5°, 850mm and "A" dimension) shown on Contract Drawing number 744. As discussed in the most recent OBG Team Meeting held at the Working Drawing Campus, the detailing of these suspender brackets has been placed on hold until it is clarified how the suspender brackets are to be detailed to meet the design requirements. Further meetings at the Working Drawing Campus would be useful to resolve this issue.

Please review and advise how these conflicts are to be resolved.

Contractor Disposition:

This RFI is being submitted for

The Cost and Time Impact from this RFI is: Not selected

Response:

Agreed Ext. Due Date:

Pages: 2

Pages Attached: 0

1. The conflict of the free-hanging cable with the box girder in the vicinity of the East Saddle was identified in notes 3 and 4 of sheet 978/1204 and note 6 of sheet 967/1204. The Contractor was directed to take necessary measures to avoid interference between the cable and the deck during construction. The Contractor's erection solution to this interference will impact other items noted in this RFI.

REQUEST FOR INFORMATION (RFI)

2. The suspender forces chosen for the final cable profile control the cable clearances over the suspender brackets. Note that the north and south cables are at differing elevations with respect to the girder, and that the moment diagram reported in Submittal #232 (currently under review) is slightly out of limits in the vicinity of PP 110. Therefore, a relaxation of suspender forces is available to the Contractor, which should eliminate the noted cable – EB suspender bracket conflict.

3. See response to item 1.

4. The cable compaction and wrapping near Pier E2 can be accommodated as part of the Contractor's solution to item 1 above.

5. The cable location should match the bracket location "by definition." The cable geometry should be determined by the requirement that the cable passes through the brackets, as explained in the response to RFI 776. The brackets positions may be adjusted along the line defined by the 13.5° angle, or another approved angle.

The sketches included in this RFI show the angles formed by the cable and the projected cable PI. The cable angles determined by the Contractor are similar to those determined by the design team. The inclination of the brackets does not need to match the cable inclination because the brackets can apply a force in any direction. As was stated in the response to RFI 776, the cable bracket shall be detailed to accommodate the final cable geometry, and preliminary detailing may require later revisions.

We are willing and prepared to meet and discuss these issues further.

Administrative Action:

This resolves the RFI. No further action required.

Date: 24-August-2007	Respondent: Collins, Warren	Phone No.: 510-622-5661
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28-Aug-2007

ABF-CAL-LTR-000269

Mr. Gary Pursell
Resident Engineer
California Department of Transportation
333 Burma Road
Oakland, CA 94607

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Request for Change Order (RFCO) No. 16 – Design Deficiencies on Suspender Forces
Schedule, Design Girder Dead Load and Camber

Dear Mr. Pursell:

American Bridge / Fluor, JV (ABFJV) received on 08/22/2007 Flint & Neill Partnership (ABFJV's consultant) letter (ref. No. DKM/DIC/lad/1149, attached) on the design deficiencies with the Contract Sheets related to the suspender forces schedule, design girder dead load moments and cambers. In addition, on August 17, 2007 ABFJV received a letter (attached) from Ammann & Whitney, another ABFJV consultant, regarding the same matter. Pursuant to the Contract Documents, including Standard Specifications, Article 4-1.03, Changes, ABFJV hereby notifies the Engineer that the following Changes in the Contract Sheet requires that a Change Order be issued adjusting the Contract Compensation:

- ✓ Our two cable engineering firms, Ammann & Whitney and Flint & Neill Partners, commenced work on the preliminary cable engineering in November, 2006. By early January, 2007, they determined they were unable to replicate the moment diagrams using all other information shown on the plans. The next month was spent trying to find a source for the discrepancy. Finally, the matter could not be resolved, and it was brought to the attention of the Design Engineer (TY Lin/Moffatt JV) on February 15, 2007. We and our engineers continued through February and March until April 23, 2007 trying to find the source for the discrepancy. Finally, the Design Engineer provided corrected suspender loads on April 23, 2007. Once these correct loads were provided, the Contractor was able to complete the preliminary erection analysis that was foreseen to verify the computer models developed would duplicate results indicated on the plans.
- ✓ Note 7 on Plan Sheet 741, Suspension Cable Layout No. 4, states: "Weights are provided for information only. These weights are used for computation of suspender cable layout, deck profile and box girder dead load moment diagram. Actual weights shall be evaluated by the Contractor based on fabrication shop drawings." Note 10 on Plan Sheet 743. "Suspender Layout No. 2," states: "Suspender length "L" and forces shown are for information only. The Contractor shall compute the final installed suspender lengths based on suspender forces from his final erection engineering analysis, including measured reactions at Hinges A and K and his estimate of the suspender weight (based on fabrication shop drawings) of all installed materials." The Contractor and its engineers interpreted these statements in the context of other requirements during the final erection engineering analysis as defined under Erection Plan of Special Provision Section 10-1.59, Steel Structures, including the refinements of fabrication

ABF-CAL-LTR-000269

Page 2

weights. There was no warning that the information shown on Plan Sheet 741 did not correspond to the information shown on Plan Sheet 743 (or vice versa), as proved to be the case.

- ✓ The Contractor and its engineers assert a reasonable expectation that the loads shown on the Plans will produce equilibrium for the configurations and assumptions stated on the Plans (including moments and tabulated weights shown for the suspended weight). Another way of saying this is that the Contractor is entitled to rely on the plans for one, self-consistent set of values that could be used to provide at least one valid solution for the structure as it was represented on the Plans.

Please refer to the aforementioned attached letters from our engineering firms, which explain these matters in more detail. We will provide more cost details in due course, including the costs incurred by ABF's staff sorting out these matters.

ABFJV hereby requests that a Change Order be issued to compensate for the required re-work that will address the matter of extra costs incurred by our erection engineers and staff to detect this problem, attempt to find the source of the problem and then refine their computer models based on corrected information provided by the Design Engineer in April 2007.

If you have any questions, please contact our office.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE

<<< ORIGINAL SIGNED >>>

Michael D. Flowers
Project Director
MF/by/mj

Encl: Flint & Neill Partnership Letter DKM/DIC/lad/1149 dated August 22, 2007 (2 pages)
Ammann & Whitney Letter, dated August 17, 2007 (2 pages)

File: 02.01



96 Morton Street, New York, NY 10014-3309
212.462.8500 Fax 212.929.5356
www.ammann-whitney.com

August 17, 2007

Mr. Ron Crockett, Technical Director
American Bridge/Fluor JV
375 Burma Rd
Oakland, CA 94607

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AUG 20 2007

AMERICAN BRIDGE/FLUOR

Re: San Francisco- Oakland Bay Self-Anchored Suspension Bridge
Additional Compensation for Out of Scope Engineering Services

Dear Mr. Crockett:

In February, 2007, Ammann & Whitney (A&W) submitted our initial report on the girder cambers and dead load moments. For these initial calculations, A&W used dead load design data and suspender forces given in the contract drawings and computed dead load moments and cambers in the box girders. A&W's girder dead load moment and camber diagrams did not match those shown on the contract drawings. In fact, the discrepancy was large. A&W used a Grid (Spine) model to quantify the dead load moments and cambers. Flint & Neill Partnership had independently performed similar calculations and found similar large discrepancies in the designer's data.

The designers examined A&W's preliminary results and conference calls were held on February 20, 27, and 28 to discuss the discrepancies. During these conferences various differences were identified between A&W's and the designers' analyses, including the fact that the designers had analyzed a single, idealized girder while A&W had analyzed the actual two girders with cross beams. This is very significant since the two girders are not parallel and interact with each other. It was also found that the designers had assumed a constant centroid location for their girder model, while A&W had accounted for the actual centroid location which changes significantly along the length of the bridge.

A meeting was held in Oakland on April 11 with Caltrans, the designers, American Bridge/Fluor and Ammann & Whitney (Flint & Neill Partnership was unable to attend). The designers informed the attendees that they had prepared new computer models and recomputed the girder moments using two girders and varying centroid locations, and that they would be issuing revised suspender forces that would be compatible with their new girder moments. The designers explained that their determination of the suspender forces was based on the tributary weights, but modified by making adjustments in some more subjective way until the desired moments were achieved. It is clear that there would have been no way for A&W to develop the necessary suspender forces using the girder moment data provided on the contract drawings.

On April 25, 2007 we received the designers' revised moments and cambers along with a memo that stated in part, "Spine models are not an effective or accurate tool for determining the suspender forces." It seems the designers misunderstood A&W's approach. A&W did not use the Grid (Spine) model to determine the suspender forces, although we could have. A&W used the designers' suspender forces and dead loads in our Grid (Spine) model to determine girder dead load moments and cambers. Further, it has been demonstrated that the A&W model produced consistent results and that the discrepancies with the contract drawings was due to incorrect data shown on the drawings.

The designer's 25 April 2007 memo included a new set of suspender dead load tensions and the corresponding revised girder dead load moments. The moments had been changed from a maximum of almost 500 mN-m shown on the plans (Sheet 643) to a new maximum of less than 200 mN-m. The designers stated that "The attached suspender forces are provided for information only." The designers instructed the contractor to determine appropriate suspender forces and keep the girder dead load moments within the allowable range.

After receiving the new girder moments and using the designers' new suspender forces as a starting point, A&W and Flint & Neill Partnership (FNP), developed suspender forces that produced girder moments consistent with the designer's new moments, the correct bridge profile and the cambers shown on the contract drawings.

In summary, we have been required to perform substantial extra work in order to resolve the cause of the inconsistent suspender forces and girder moments due to the incorrect information shown on the contract drawings and the delay in receiving the revised information from the designers.

Practically all of our effort expended during the months of February through April was done trying to resolve the discrepancies in the data shown on the contract drawings. This includes the cost of attending a meeting in Oakland that should not have been necessary had the designers simply informed us that corrected information was forthcoming.

We are preparing the documentation regarding these extra costs and will submit it to you shortly with our request for additional compensation.

Sincerely,

A handwritten signature in cursive script that reads "Peter Sluska". The signature is written in black ink and is positioned above the typed name.

Peter Sluska, P.E., Vice President

Mr Ron Crockett
Technical Director
American Bridge/Fluor Enterprises Inc. JV
375 Burma Road
Oakland
California
CA 94607

DKM/DIC/lad/1149

22nd August 2007

Dear Mr Crockett

ABF-FNP Bay Bridge San Francisco

We are writing to give notice that we wish to submit a financial claim in respect of abortive work that we undertook in attempting to reconcile the bending moment diagrams provided on the design drawings for the Self Anchored Suspension Bridge with the box girder weights and suspender tensions that were also provided by the design team.

A summary of our case is as follows.

The bridge design is highly indeterminate, and there is an infinite number of closely related sets of suspender loads (each with slightly different cable profiles) which can give rise to deck girder moments that lie within the range that is specified on the drawings. Therefore it was crucial to our analysis, and to our confidence in our processes, that we could rely on the fact that the design drawings presented one self-consistent set of values that could be used to provide at least one valid solution for the structure as it currently appears on the Contract Drawings. This would then act as a departure point for subsequent refinements to the design.

We recognise that the design drawings state that the suspender tensions on drawing 743/1204 are 'for information only', and 'the Contractors shall compute the final ...lengths based on ... his final erection engineering analysis'. We therefore expected that we would need to revise these values (in our 'final erection analysis', using the words from the drawing) when the final fabrication drawings became available, when hinge loads were finalised, and when all services weights had been exactly established. However, we did not expect to encounter a set of forces that were far from being in equilibrium with the other design data.

We began to prepare our global analysis computer model in November 2006, and by December we were able to run our preliminary analyses. At this point we were unable to replicate the specified bending moment plots, unless we altered the suspender loads by surprisingly large amounts (in the order of 5% to 10% in most cases, and even more at some particular locations.) At this point, we had no criteria for

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AUG 24 2007

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judging whether our values were reasonable, or if our modelling process was in error. We did not even have any guide as to the design philosophy used to obtain the specified values of suspender tensions. We certainly could not establish an objective process that could be described to others (e.g. the Contractor's principal erection condition analysts at Amman & Whitney). Therefore it was impossible for us (at Flint & Neill Partnership) and others (at Amman & Whitney) to conduct independent analyses and then to expect to be able to compare results.

We were in discussion with Amman & Whitney at this time and they, too, could find no convincing similarities between their bending moment diagrams and those shown on the design drawings. They raised the matter with the designers, but no immediate reason for the problems was evident until we were informed towards the end of March 2007 that the suspender tensions on the drawings were incorrect, and did not match the weights or bending moments.

It was not until April 24 2007 that an entirely revised set of suspender tensions was provided. These were all different from the original values. Most differed by about 5%, although some values (especially near the shortest suspenders) changed even more. (A rough calculation indicates that even an apparently small 5% error in suspender tension causes something like a 5 metre vertical error in the level of the deck.)

Therefore, at the end of April 2007 we were roughly in the same position with respect to balancing our suspension bridge model and ratifying our results against those of Amman & Whitney as we should have been some four months earlier at the end of December 2006. Our original fee for this period of the works amounted to \$15,000 per month – or \$60,000 in total. We recognise that not all of the time we spent investigating the problems was wasted, since we obviously improved our understanding of the bridge's potential behaviour. Furthermore, we knew from the end of March 2007 that we could effectively disregard the tensions on drawing 743/1204, except in so far as we could use them as guidance (for example: the figures informed us that some shorter suspender loads were expected to be very low, and the suspender loads each side of the tower were intended to be some 50% greater than the others).

We feel that some significant compensation for our wasted resource time is justifiable. The project is proving to be exciting, and we expected it to be a challenge, but we did not expect to receive such misleading data. This led to three months of largely abortive struggles to reconcile the irreconcilable, and accumulated fee wastage of some \$45,000 and also the need for a meeting with Amman & Whitney in New York to review discrepancies; all of which resulted in a waste of some \$2,360 in expenses. May we have your approval to this additional expenditure at your earliest convenience?

Many thanks.

Yours faithfully


pp

D K MacKenzie
FLINT & NEILL PARTNERSHIP