

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Shanghai, China**Report No:** NCR-000006**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 17-Sep-2007**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0005**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Tower Mock-up 77 Skin B
Procedural	Procedural	Descriptor:	Heat Straightening Control Procedure

Description of Non-Conformance:

The Contractor allowed ZPMC to perform straightening operations that exceeded 3 in 1000 ratio without Engineer approval at the 70 mm thick longitudinal stiffener plate mp10, MA3 subassembly Skin panel B, Tower Mock-up 77 meters elevation. The actual correction made by thermal straightening was approximately 2 in 386 measured at the free end of the stiffener which exceeded the allowable heat straighten deformation performed on a member greater than 16 mm thick without Engineer approval.

Applicable reference:

Special Provisions 8-3, " For material more than 16 mm, the contractor shall not heat straighten members more than 3 in 1000 without prior approval of the Engineer".

Who discovered the problem: Quality Assurance Inspector, Alfredo Acuna**Name of individual from Contractor notified:** ABF Quality Assurance Inspector, Kevin Carpenter**Time and method of notification:** Verbal, 09/17/07**Name of Caltrans Engineer notified:** Structure Representative, Jason Tom**Time and method of notification:** Verbal 0900 hours, 09/17/07**QC Inspector's Name:** CWI, Ye Yongjun**Was QC Inspector aware of the problem:** Yes No**Contractor's proposal to correct the problem:**

None at the time of the NCR was issued.

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry, 916-227-5719, who represents the Office of Structural Materials for your project.

Inspected By: Acuna, Alfredo

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-622-5158 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: American Bridge/Fluor Enterprises, a JV
375 BURMA ROAD
OAKLAND CA 95607

Date: 26-Oct-2007

Contract No: 04-0120F4
04-SF-80-13.2 / 13.9

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Michael Flowers Project Executive

Document No: 05.03.06-000068

Subject: NCR No. ZPMC-0005

Reference Description: Repairs to longitudinal stiffener welds greater than 10% in length on the 77m Mock-up

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

- Material or Workmanship not in conformance with contract documents.
- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
- Non-Conformance Resolved - No Response Required.

Material Location:

Lift:

Remarks:

Originally Sent by State Letter 05.03.01-000757

Action Required and/or Action Taken:

Transmitted by: Keith Osantowski Sr. Engineer

Attachments: ZPMC-0005

cc:

File: 05.03.06

NCR PROPOSED RESOLUTION

To: CALTRANS - SAS Superstructure
333 Burma Road
Oakland CA 94607

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000068

Subject: NCR No. ZMPC-0005

Dated: 05-Dec-2007

Contract No.: 04-0120F4
04-SF-80-13.2 / 13.9

Job Name: SAS Superstructure

Document No.: ABF-NPR-000002 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has performed weld trials to determine acceptable method to perform these welds with less than a 10% reject rate.

Rejects in Stiffener to Skin Plate welds exceeded 10%, repairs were made contrary to contract requirements.

ABF JV has reviewed the Mock-up section of the Special Provisions with ZPMC to gain understanding of this requirement which is different from the requirements for production. Both ABFJV and ZPMC now understand this requirement. ZPMC initiated an internal NCR to address this nonconformance. ZPMC also conducted internal tests and has submitted a plan to improve weld quality. Attached for review is the ZPMC Internal NCR and the written plan to improve weld quality.

Submitted by: Flowers, Michael

Attachment(s): ABF-NPR-000002R00; ABF-NPR-000002-01

Caltrans' comments:

Status: Approved

Date: 24-Mar-2008

See State Letter 05.03.01-001406

Submitted by: Pursell, Gary

Attachment(s): 05.03.01-001406; TC-20 5,7,8

Date: 22-Feb-2008

14-Feb-2008

ABF-CAL-LTR-000444

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 NCR-0005, 0007 AND 0008

Gentlemen:

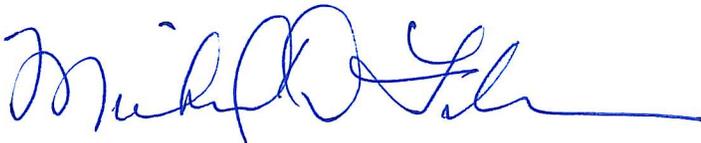
American Bridge / Fluor Enterprises Inc. a Joint Venture (ABFJV) acknowledges receipt of the Department's Letter No.05.03.01-000757 dated October 26, 2007 forwarding the Department's Non-Compliance Report NCR-0005, 0007 and 0008

The attached documents the response to the subject NCRs and closure by the Engineer's China Fabrication Team. Based on the attached ABFJV is requesting written confirmation from the Engineer that these NCR are closed.

If you need any more information, please call Chuck Kanapicki at (510) 808-4609.

Sincerely,

AMERICAN BRIDGE/FLUOR ENTERPRISES, INC. A JOINT VENTURE



Michael Flowers
Project Director
MF/CK/cc

File: 02.01, 02.28.4
Enclos: Response to NCR- 0005, 0007 and 0008

DEPARTMENT OF TRANSPORTATION

CHINA FABRICATION TEAM
506 Shangcheng Rd., Pudong New District
Shanghai 200120, PRC



REVIEW OF CONTRACTOR'S TRANSMITTAL

To: Dave Williams, American Bridge – Fluor, a Joint Venture
Gary Pursell, Resident Engineer

Review Date: 12/20/2007From: Joshua Ishibashi, Structural Materials RepresentativeContract No.: 04-0120F4Date/Time Submittal Received: 12/05/2007 1315
 China Standard Time
(GMT+08:00)
Contractor's Transmittal #: TL-07-0704 Rev. # 0

<input checked="" type="checkbox"/>	substantially complies with contract requirements and is approved			
<input type="checkbox"/>	substantially complies with contract requirements and is approved as noted.			
<input type="checkbox"/>	Lacks sufficient information and/or contains unacceptable items that must be corrected or prior to resubmittal			
Verbal Notification		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	Date: <u>01/18/08</u> Time: <u>1200</u>
Name of individual from Contractor Notified: <u>Steve Lawton</u>				
This submittal is a:		<input type="checkbox"/> Welding Report	<input type="checkbox"/> Critical Weld Repair	
		<input type="checkbox"/> Request for Information	<input type="checkbox"/> Heat Straightening Request	
		<input type="checkbox"/> Fabrication Procedures	<input checked="" type="checkbox"/> Other: <u>NCR Closure</u>	
Submitting Contractor: <u>ZPMC</u>				
ITEMS REVIEWED		COMPLIES		COMMENTS
1.	ABF-SL-07-0236 NCR Resolution for ZPMC 05, 07, 08	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Approved
2.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
3.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
4.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
5.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
6.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
7.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
8.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
9.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
10.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Remarks: METS has completed the review of ABF-TL-07-0752. This NCR was closed in PMIV on 12/20/07. At the request of ABF China METS is generating a TC20 to document this closure. METS recommends the aforementioned NCR be closed.

Reviewer: Joshua IshibashiDate: 01/18/2008
 Construction Concurrence: JI Initial 1/18/08 Date



A JOINT VENTURE

December 05, 2007

California Department of Transportation
666 Feng Bin Road, Room 708
Changxing Island, Shanghai China

Reply to: SL-ABF-07-0236

Attention: Gary Pursell

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

Subject: State Letter 05.03.01-000757

Mr. Purcell:

American Bridge / Fluor (ABF) Quality Assurance Department is in receipt of State Letter 05.03.01-000757 October 26, 2007 providing ABF notification regarding Nonconformance Report (NCR) No.005, 007 and 008.

This letter is issued to provide formal response addressing the proposed resolution to each of the mentioned NCR's for Engineer's review and approval.

NCR-00005 - 77M Mock-up Long Stiffener to Skin Plate welds.

Rejects in Stiffener to Skin Plate welds exceeded 10%, repairs were made contrary to contract requirements.

ABFJV has reviewed the Mock-up section of the Special Provisions with ZPMC to gain understanding of this requirement which is different from the requirements for production. Both ABFJV and ZPMC now understand this requirement. ZPMC initiated an internal NCR to address this nonconformance. ZPMC also conducted internal tests and has submitted a plan to improve weld quality. Attached for review is the ZPMC Internal NCR and the written plan to improve weld quality.

NCR-00007 - UT angle determination and db Scanning Levels

ZPMC UT technicians not using appropriate IIW block nor were they scanning using the correct db scanning levels contrary to the AWS D1.5 code nor their own UT procedure.

ABFJV has informed ZPMC of this nonconformance. ZPMC has since procured an acceptable IIW block to perform calibrations correctly. ABFJV has reviewed the AWS D1.5 code and the ZPMC UT procedure with ZPMC UT technicians to gain understanding of the scanning levels required. Attached is the ZPMC

This document is: APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant Section 5-1.02 of the
Standard Specifications
Initial *u* Date: 1/18/08

AMERICAN BRIDGE / FLUOR JV

Page 2

internal NCR addressing this nonconformance.

NCR-00008 - 114M Mock-up.

Rejects in Stiffener to Skin Plate welds exceeded 10%, repairs were made contrary to contract requirements.

ABFJV has reviewed the Mock-up section of the Special Provisions with ZPMC to gain understanding of this requirement which is different from the requirements for production. Both ABFJV and ZPMC now understand this requirement. ZPMC initiated an internal NCR to address this nonconformance. ZPMC also conducted internal tests and has submitted a plan to improve weld quality. Attached for review is the ZPMC Internal NCR and the written plan to improve weld quality.

If you have any questions or need additional information, please contact this office

Sincerely,



AMERICAN BRIDGE / FLUOR JV

Steve Lawton

Foreign Quality Assurance Manager

cc: file

This document is: APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant Section 5-1.02 of the
Standard Specifications
Initial *SL* Date: *1/18/08*

STATE OF CALIFORNIA-BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program
333 Burma Rd.
Oakland, CA 94607
(510) 622-5660, (510) 286-0550 fax

ARNOLD SCHWARZENEGGER, Governor



Flex your power
Be energy efficient!

October 26, 2007

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.01-000757

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

Dear Michael Flowers,

NCRs 5, 7 & 8 - Zhenhua Port Machinery Company, Ltd.

This letter is issued to provide a formal notification to American Bridge/Fluor Enterprises (ABF) of the issuance of non-conformance reports (NCRs) at the Zhenhua Port Machinery Company, Ltd. (ZPMC) facility in Shanghai, China. Verbal notification was previously provided to ABF representatives on site. The following is a summary of the NCRs which have been attached to this document:

NCR 5 - 77m Mock-up Longitudinal Stiffener to Skin Plate Welds

The Contractor allowed the Fabricator to make repairs to rejectable indications found in the complete joint penetration welds between the longitudinal stiffener and Skin Plates A and E of the 77m mock-up at lengths greater than 10% of the cumulative length of the welds.

NCR 7 - 114m Mock-up UT Angle Determination and Db Scanning Levels

The Contractor's Quality Control Inspectors were not following the approved UT procedure.

NCR 8 - 114m Mock-up Skin Plate Welds

The Contractor allowed the Fabricator to make repairs to a number of welds for Skin Plates A MA-106 and B MA-101 that had defects with cumulative lengths in excess of 10% of the weld lengths without notifying the Department.

ABF shall provide a formal response addressing the proposed resolution to each of these NCRs for the Engineer's review and approval.

Sincerely,

GARY PURSELL
Resident Engineer

Attachment

cc: Rick Morrow, Brian Boal
file: 05.03.01, 09.01.06

Document is: APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant Section 6-1.02 of the
Standard Specifications
Initial *u* Date: 1/18/08



LETTER OF RESPONSE

DATE: 2007.11.26

To: AB/F Steve Lawton

From: ZPMC Yang Xuehui

Subject: Response to CT NCR-000010-CT

Mr. Lawton:

ZPMC has generated internal NCR-CT-004 in Response to NCR-000005-CT, Regarding weld defects exceeding 10% weld length. ZPMC has performed weld trials to determine acceptable method to perform these welds with less than a 10% reject rate.

Attached you will find a copy of ZPMC internal NCR as well as documented plan to perform these welds with less than a 10% reject rate.

If further information is needed, Please contact me.

Sincerely

Yang Xuehui
Yang Xuehui

This document is: APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant Section 5-1.02 of the
Standard Specifications
Initial *u* Date: *1/18/08*

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707)649-5453
(707)649-5453

Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.9/14.3,0.0/1.6File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, China

Report No: NCR-000005

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 11-Sep-2007

Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

NCR #: NCR-000005

Type of problem:

Welding Concrete Other Welding Curing Procedural Joint fit-up Coating Other Procedural Procedural Descriptor:

Bridge No: 34-0006

Component: 77m Mock-Up Long Stiffener to Skin Plate welds

Description of Non-Conformance:

The Contractor has allowed the fabricator to proceed with making repairs to rejectable indications found in the complete joint penetration (CJP) welds which connect the longitudinal stiffeners to Skin Plates A and E of the 77m mock-up. These indications were found using Ultrasonic Testing (UT) at lengths greater than 10% of the cumulative length of the welds. These repairs are considered unsatisfactory to the Department regarding mock-up fabrication requirements. In addition, these repairs were made in manner that does not demonstrate a procedure that is repeatable in actual production.

Applicable reference:

Special Provisions, Section 10-1.59, "Fabrication/Erection Procedure and Mock-Ups", Page 313, paragraph B.2 and B.4.

Who discovered the problem: Ryan Smith, SMR and Alistair Melville, Assistant SR

Name of individual from Contractor notified: Steve Lawton, ABF Quality Assurance Manager

Time and method of notification: 12-SEP-07 at approximately 1330 hours via verbal notification

Name of Caltrans Engineer notified: Jason Tom, Structure Representative

Time and method of notification: 12-SEP-07 at approximately 0900 hours via verbal notification

QC Inspector's Name: N/A

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

None proposed at this time.

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Smith, Ryan

Quality Assurance Inspector

Reviewed By: Lowry, Patrick

QA Reviewer



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B
项目名称: 美国加州海湾大桥

NCR Number:
NCR 编号: NCR-CT-004
 (NCR-000005-CT)

Item: 77M Skin A&E
名称描述: 77M AE 面板

Item Number:
件号: NA

Drawing Number:
图号: MUSA-MA1, MUSA-MA2

Location: 77M Mock Up
位置: 77 米模型段

Date:
日期: 2007-10-17

Description of Nonconformance:

不符合项状态描述:

The contractor has allowed the fabrication to proceed with making repairs to rejectable indications found in the complete joint penetration (CJP) weld which connect the longitudinal stiffeners to Skin Plates A and E of the 77m mock-up. These indications were found using Ultrasonic Testing (UT) at lengths greater than 10% of the cumulative length of the welds. These repairs are considered unsatisfactory to the Department regarding mock-up fabrication requirements. In addition, these repairs were made in manner that does not demonstrate a procedure that is repeatable in actual production.

承包商允许制造者在 77 米 AE 面板和筋板连接的 CJP 焊缝缺陷上进行返修。用 UT 发现的这些缺陷的累计长度超过焊缝的 10%。根据模型制造要求这些返修是不合格的。另外，这些返修方法并不能论证一个在正式产品上可重复的程序。

Work By: Lin Guo **Prepared by:** Zhao Chen Sun **Reviewed by QCE:** Fu Yuhong and 10.17
施工方: 2007.10.17 **准备:** 2007.10.17 **质量工程师批准:**

- Drawing Error** **Material Defect** **Fabrication Error** **Other**
 图纸错误 材料缺陷 制作错误 其他原因

Disposition: Use as is **Repair** **Reject**
处理措施: 回用 返修 拒收

Recommendation:

- 建议 ①出具关键焊缝返修报告。
 ②停用合格率低的焊工。
 ③作相关试验,寻找最佳焊接途径。

Prepared by: Yang Xuehui 2007.10.17 **Approved by QCA:** Hu Gang
准备 质量经理批准 2007.10.17.

Reason for Nonconformance:

不符合原因: ①焊缝未清理干净。

This document is: APPROVED
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant Section 5-1.02 of the
 Standard Specifications
 Initial u Date: 11/18/08

Prevention of Re-occurrence:

- 预防措施:** ①停用合格率低的焊工。
 ②作相关试验,寻找最佳焊接途径。

Approved by/批准: Yang Xuehui 2007.10.17

Technical Justification for Use-As-Is/Repair: Attachment Non-attachment
回用或返修的技术依据: 附件 无附件

1. 提供焊缝中缺陷清除记录。
 2. 使用合格焊工焊接。
 3. 材料表面清理干净,并在焊接前进行预热。
Reviewed/批准: Lin Mengyu 2007.10.17

Verification: Acceptable Unacceptable
确认: 可接受 不可接受

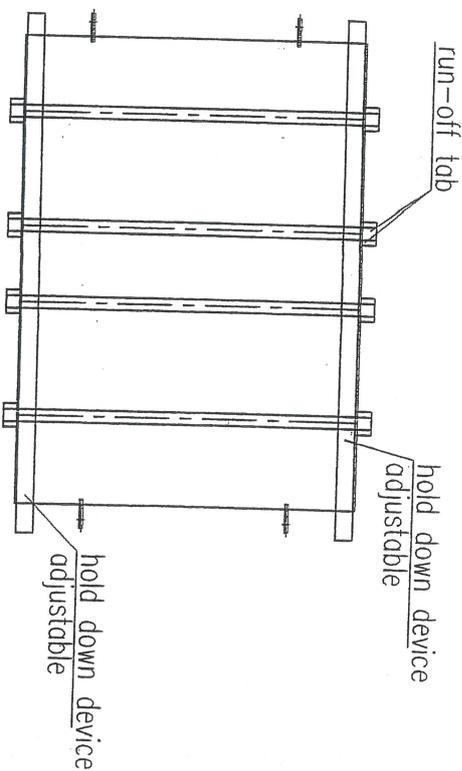
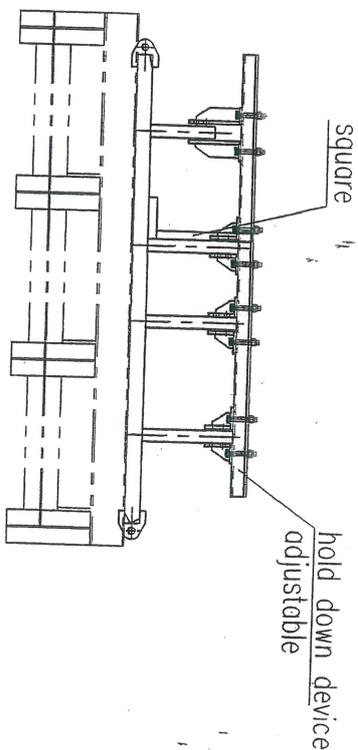
Verified by QCI/质检确认: _____ **Reviewed by QCA/质检主任审核:** _____

Step 1 装配纵向筋

Step 1. Fit up of Longitudinal Stiffener to Skin Plate.

1. 1. 在装配纵向筋之前,按照已批准的图纸要求将纵向筋加工到位,
1. 1. Machine approved weld detail bevels onto longitudinal stiffeners.
1. 2. 在面板上划好纵向筋的装配线.
1. 2. Lay out Skin plate and mark longitudinal stiffener positions.
1. 3. 在两端增加好可调卡码(如右图),安装并根据已批准的WPS的要求把纵向筋点焊固定在面板,检测其垂直度.
1. 3. Install adjustable holding down device, assemble and tack weld the longitudinal stiffeners to Skin plate inline with the parameters of the approved WPS and check the verticality to the Skin plate.
1. 4. 对所有尺寸进行检查.
1. 4. Check all the dimensions.

This document is: APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant Section 5-1.02 of the
Standard Specifications
Initial *W* Date: *1/18/10*



SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
ROUTE 80 EAST OF YERBA BUENA ISLAND DISTRICT 04, SF COUNTY, CA.
BRIDGE Nos.: 34-0006L PM 8.2, KP 13.2 & 34-0008R PM 8.7, KP 13.9
STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F4
ENGINEER: CALTRANS ----- TYLIN / MOFRAT & NICHOL, JV.
CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.

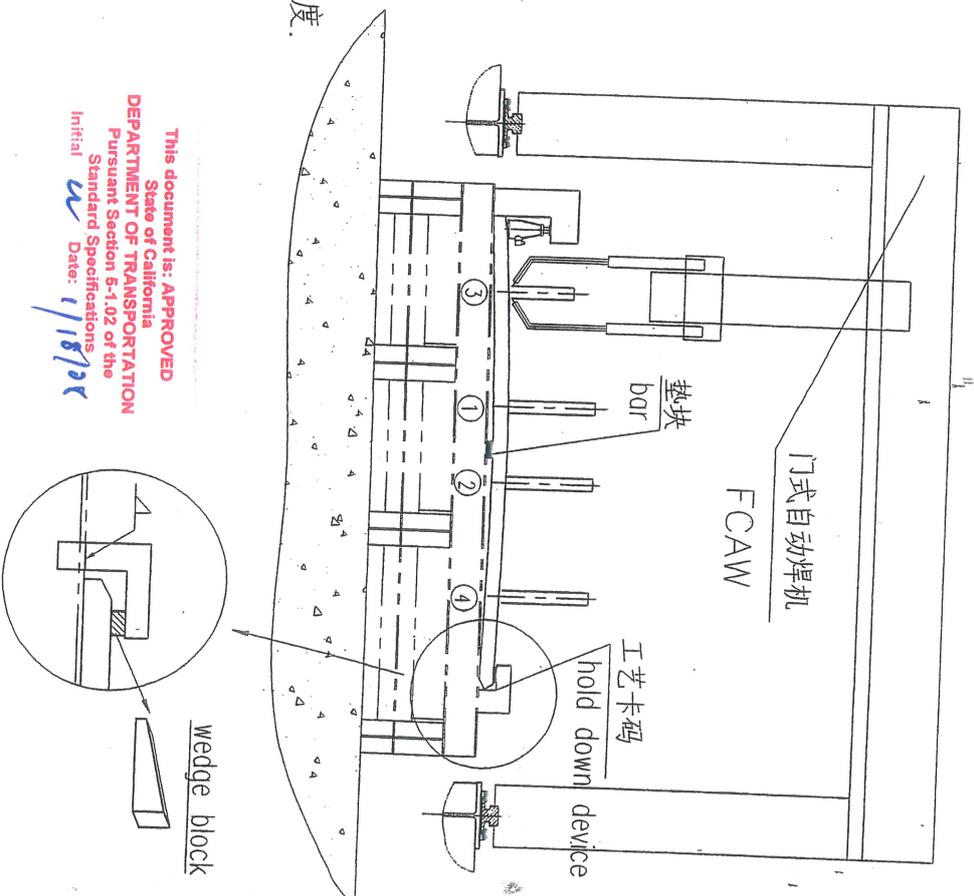
纵向筋与面板CJP焊缝的改进工艺

DRAWN	4-28/04	2007-10-20	SHEET NO.	ORDER NO.
CHECKED			RP-01	

Step2 焊接纵向筋的PJP部分焊缝

Step2 Welding the PJP joint of longitudinal stiffener

- 2.1. 预放反变形, 在面板中间垫厚度为t的钢板, 两侧用千斤顶压住.
- 2.1. Position flat bar under the center of the Skin plate and pre-set using jacks.
- 2.2. 采用FCAW多头焊机按照已批准的WPS按图示顺序烧焊纵向筋.
- 2.2. Using FCAM multi head welding machine and following the approved WPS, weld the stiffeners simultaneously in sequence as shown on the sketch. (WPS-B-T-2232-TC-P5-F and WPS-B-T-2332-TC-P5-F-1)
- 2.3. 焊后检查纵向垂直度, 如需要按批准的WQCP要求热校正纵向筋垂直度.
- 2.3. Check the verticality of the stiffeners and adjust by heat straightening if required following the approved WQCP.
- 2.4. NDT检测要求: 打底焊和表面焊焊接后进行100%MT及VT检查.
- 2.4. Perform NDI, VT and MT 100% root weld and cap.



This document is: **APPROVED**
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant Section 5-1.02 of the
 Standard Specifications
 Initial: *W* Date: *1/16/12*

ZPMC SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

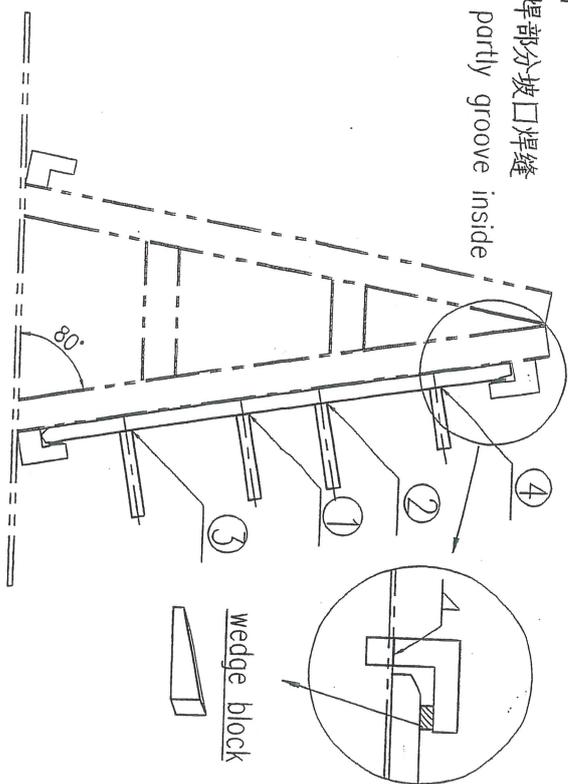
SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA.
 BRIDGE Nos.: 34-0006L, PM 8.2, KP 13.2 & 34-0006R PM 8.7, KP 13.9
 STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F4
 ENGINEER: CALTRANS ----- TXILIN / MOFFATT & NICHOL, JV
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV

纵向筋与面板CJP焊缝的改进工艺

DRAWN	CHECKED	DATE	SHEET NO.	ORDER NO.
		2007-10-20	RP-02	

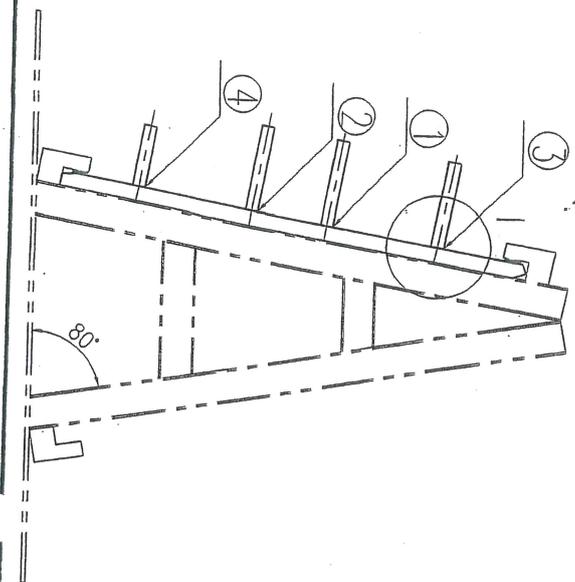
位置1

正面焊部分坡口焊缝
weld partly groove inside



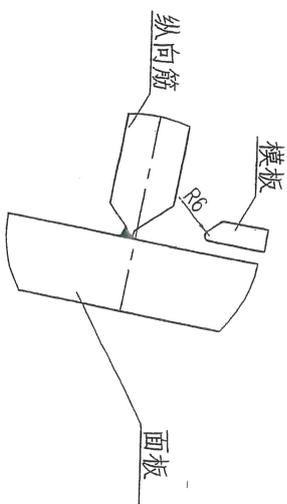
位置2

翻身碳刨清根, 焊部分坡口焊缝
weld partly groove outside



1放大

检验碳刨



Step 3 焊接纵向筋的CJP焊缝
Step 3 Welding the CJP joint of longitudinal stiffeners.

- 3.1. 焊接位置: 将板单元放置在特制的带有80度左右的倾斜角度胎架上, 加好卡码固定.
- 3.1. Position Skin plate in welding jig inclined at approximately 80 degrees and fit holding down attachment.
- 3.2. 采用FCAW手工焊接按照已批准的WPS按图示顺序烧焊纵向筋.
- 3.2. Using manual FCaw and following the approved WPS, weld the stiffeners in sequence as shown on the sketch.
(Weld WPS: WPS-B-T-2231-TC-U5-F and WPS-B-T-2231-TC-U5-F-1)
- 3.3. 完成打底焊及正面第一次烧焊焊接后, 将面板翻身及进行碳刨.
- 3.3. Complete root weld and part fill, turn over Skin plate and back gouge.

This document is: **APPROVED**
 State of California
 DEPARTMENT OF TRANSPORTATION
 Pursuant Section 5-1.02 of the
 Standard Specifications
 Initial: *uc* Date: *1/18/08*



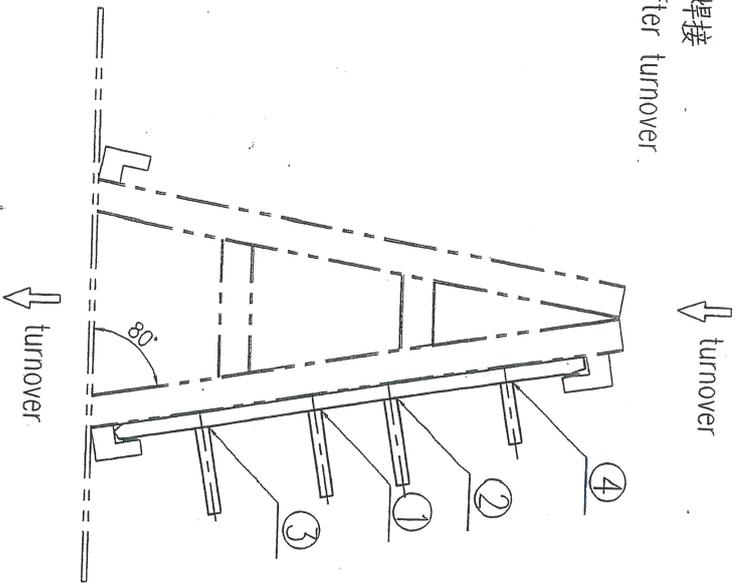
SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA
 BRIDGE NOS.: 34-000GL PM 8.2, KP 13.2 & 34-0006R PM 8.7, KP 13.9
 STATE OF CALIFORNIA, DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F4
 ENGINEER: CALTRANS ----- TYLIN / MOFFATT & NICHOL, JV.
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.

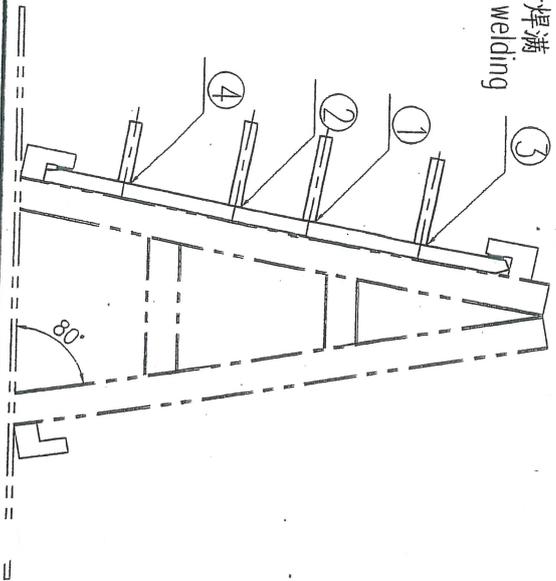
纵向筋与面板CJP焊缝的改进工艺

DRAWN	DATE	SHEET NO.	ORDER NO.
CHECKED	1/18/08	RP-03	

位置3
翻身
Weld after turnover



翻身
finish welding



3.4. 碳刨结束后, 将碳刨面打磨光亮, 并利用模板检验碳刨的角度。
3.4. Grind surface to a smooth finish and check profile of back gouge with template.

3.5. 继续对碳刨面一侧进行烧焊, 并监测焊缝以确保3.6. 焊接时采用多次翻身控制纵向筋垂直度是可行的变形控制方法。
3.5. Weld to part fill back gouged side and monitor weld to ensure distortion control measures are adequate by rotating the Skin plate when required to control the verticality of stiffener.

3.6. 焊后检查纵向筋垂直度, 如需要按批准的WQCP要求热校正纵向筋垂直度。
3.6. Check the verticality of the stiffeners and adjust by heat straightening if required following the approved WQCP.

3.7. NDT检测要求: 焊接后进行100% UT及VT检查。
3.7 Perform NDT, VT and UT 100%.

This document is: **APPROVED**
State of California
DEPARTMENT OF TRANSPORTATION
Pursuant Section 5-1.02 of the
Standard Specifications
Initial: *[Signature]*
Date: 1/18/08



SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA
BRIDGE Nos.: 34-00081, PM 8.2, KP 13.2 & 34-0008R PM 8.7, KP 13.9
STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F4
ENGINEER: CALTRANS --- T.Y. LIN / MOFATT & NICHOL, JV
CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV

纵向筋与面板CJP焊缝的改进工艺

DRAWN	Checked	Sheet No.	SHEET NO.	ORDER NO.
CHECKED		RP-04	RP-04	

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!*

February 22, 2008

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.01-001406

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

Dear Michael Flowers,

Response to NCRs 1, 5, 7, 8, 9, 10, 11, 12 & 13

This letter is issued as a response to ABF-CAL-LTR-000443, 444, 445, dated February 14, 2008, and ABF-CAL-LTR-000446, dated February 15, 2008, requesting written confirmation from the Engineer that the referenced Non-Conformance Reports (NCRs) at Zhenhua Port Machinery Company, Ltd (ZPMC) have been closed. The Department considers the following ZPMC NCRs closed:

NCR No.	State Letter No.	ABF Document No.	Description
1	05.03.01-000123	ABF-CAL-LTR-000443	Radiographic Testing issues (IQI placement, source type, etc.)
5	05.03.01-000757	ABF-CAL-LTR-000444	Repairs to longitudinal stiffener welds greater than 10% in length on the 77m Mock-up
7	05.03.01-000757	ABF-CAL-LTR-000444	QC not following the approved UT procedure on 114m Mock-up
8	05.03.01-000757	ABF-CAL-LTR-000444	Repairs to skin plate welds greater than 10% in length on the 114m Mock-up
9	05.03.01-000795	ABF-CAL-LTR-000445	Third time repairs to Skin B sub-assemblies on the 114m Mock-up without Engineer approval
10	05.03.01-000795	ABF-CAL-LTR-000445	Repairs to longitudinal stiffener welds greater than 10% in length on the 114m Mock-up
11	05.03.01-000795	ABF-CAL-LTR-000446	Failure to document fit-up of longitudinal stiffener on Mock-up
12	05.03.01-000795	ABF-CAL-LTR-000446	Repairs to skin plate welds greater than 10% in length on the 114m Mock-up
13	05.03.01-000795	ABF-CAL-LTR-000446	Welding electrode used on 89m Strut Sub-Assembly not in compliance

American Bridge/Fluor Enterprises, a JV
February 22, 2008
Page 2 of 2

Please contact us if you have any questions.

Sincerely,

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

GARY PURSELL
Resident Engineer

cc: Rick Morrow
Brian Boal
Gary Lai
Mark Woods

file: 05.03.01

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Shanghai, China**Report No:** NCS-000010**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 20-Dec-2007**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0005**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component:
Procedural	Procedural	Description:	

Date the Non-Conformance Report was written: 17-Sep-2007**Description of Non-Conformance:**

The Contractor allowed ZPMC to perform straightening operations that exceeded 3 in 1000 ratio without Engineer approval at the 70 mm thick longitudinal stiffener plate mp10, MA3 subassembly Skin panel B, Tower Mock-up 77 meters elevation. The actual correction made by thermal straightening was approximately 2 in 386 measured at the free end of the stiffener which exceeded the allowable heat straighten deformation performed on a member greater than 16 mm thick without Engineer approval.

Contractor's proposal to correct the problem:

None at the time of the NCR was issued.

Corrective action taken:

ABFJV has reviewed the mock-up section of the Special Provision with ZPMC to gain understanding of this requirement which is different from the requirements for production. Both ABFJV and ZPMC now understand this requirement. ZPMC initiated an internal NCR to address this nonconformance. ZPMC also conducted internal tests and has submitted a plan to improved weld quality.

Did corrective action require Engineer's approval? Yes No**If so, name of Engineer providing approval:****Date:****Is Engineer's approval attached?** Yes No**Comments:**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Ishibashi, Josh

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer