

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:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000515**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0488**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Segment 5BW
Procedural	Procedural	Description:	Dimensional Control

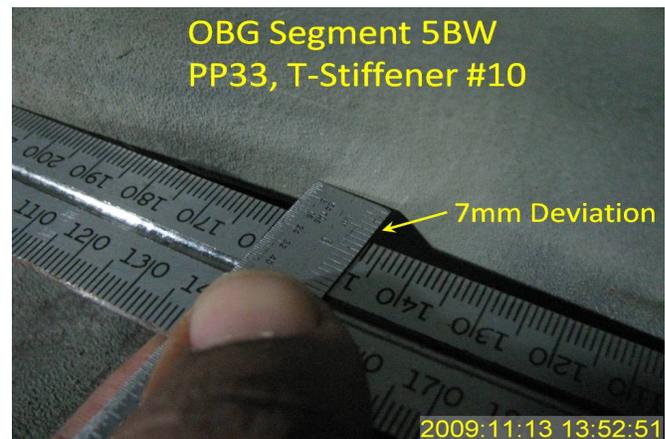
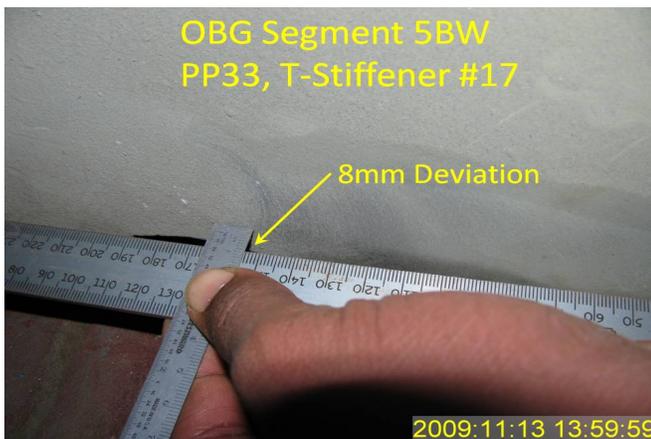
Reference Description: T-stiffener Web Flatness, OBG Segment 5BW, Side Panel, Crossbeam Side**Description of Non-Conformance:**

During dimensional inspection of OBG Segment 5BW, Caltrans Quality Assurance (QA) observed out-of-tolerance flatness on the webs of side panel T-stiffeners at Panel Point PP33 (crossbeam side). The flatness measurements were taken using a 300mm straight edge conforming to the requirements of AASHTO section 11.4.13.1. The following deviations were observed:

7mm at stiffener #10 (from working point W4)

8mm at stiffener #17 (from working point W4)

The maximum allowable deviation from detailed flatness is 5mm.

**Applicable reference:**

Special Provisions, 10-1.59 Steel Structures, Shop Welding, Design Details G-3, "Dimensional tolerances for the box girder, including the crossbeam, shall conform to the tolerances in AWS D1.5, AASHTO Standard

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Specification For Highway Bridges, Sixteenth Edition 1996, Division II – Construction, Section 11.4.13 – "Orthotropic Deck Superstructures," ..."

AASHTO Standard Specifications for Highway Bridges, Division II – Construction, Section 11.4.13.1, "The deviation from detailed flatness, straightness, or curvature at any point shall be the perpendicular distance from that point to a template edge which has the detailed straightness or curvature and which is in contact with the element at two other points. The term element as used herein refers to individual panels, stiffeners, flanges, or other pieces. The template edge may have any length not exceeding the greatest dimension of the element being examined and, for any panel, not exceeding 1.5 times the least dimension of the panel; it may be placed anywhere within the boundaries of the element."

AASHTO Standard Specifications for Highway Bridges, Division II – Construction, Section 11.4.13.2a, "The term "panel" as used in this article means a clear area of steel plate surface bounded by stiffeners, webs, flanges, or plate edges and not further subdivided by any such elements."

AASHTO Standard Specifications for Highway Bridges, Division II – Construction, Section 11.4.13.2b, "The maximum deviation from detailed flatness or curvature of a panel shall not exceed the greater of:

3/16 inch or $D/144\sqrt{T}$ inch

where,

D = the least dimension in inches along the boundary of the panel

T = the minimum thickness in inches of the plate comprising the panel."

Who discovered the problem: M.Manikandan

Name of individual from Contractor notified: David Wu

Time and method of notification: 1400 hours, 11-13-09, Verbal

Name of Caltrans Engineer notified: Ching Chao and Bill Howe

Time and method of notification: 1430 hours, 11-13-09, Verbal

QC Inspector's Name: Lay Tao

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By:	Guest,Skyler	SMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge

333 Burma Road
Oakland CA 94607
Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV
375 BURMA ROAD
OAKLAND CA 95607

Date: 14-Dec-2009

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

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Document No: 05.03.06-000478

Subject: NCR No. ZPMC-0488

Reference Description: T-stiffener Web Flatness, OBG Segment 5BW, Side Panel, Crossbeam Side

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.

Material Location: OBG **Lift:** 05

Remarks:

During dimensional inspection of OBG Segment 5BW, Caltrans Quality Assurance (QA) observed out-of-tolerance flatness on the webs of side panel T-stiffeners at Panel Point PP33 (crossbeam side). The flatness measurements were taken using a 300mm straight edge conforming to the requirements of AASHTO section 11.4.13.1. The following deviations were observed:

- 7mm at stiffener #10 (from working point W4)
- 8mm at stiffener #17 (from working point W4)

The maximum allowable deviation from detailed flatness is 5mm.

Action Required and/or Action Taken:

Repair damage according to the approved retrofit RFI to be submitted by ABF.

Transmitted by: Bill Howe

Attachments: ZPMC-0488

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Contract Files, Ching Chao

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000478

Subject: NCR No. ZPMC-0488

Dated: 10-Mar-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000615 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: The T stiffener web flatness has been repaired and is now acceptable and has been removed from the punchlist. ZPMC is providing the NDT records to show that the welds are acceptable.

The T stiffener web flatness has been repaired and is now acceptable and has been removed from the punchlist. ZPMC is providing the NDT records to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000615R00;

Caltrans' comments:

Status: CLO

Date: 17-Mar-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 17-Mar-2010

Attachment(s):



No. B-658

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-3-10

REGARDING: NCR-000515 (ZPMC-0488)

With this letter of response, ZPMC requests closure of CT NCR-000515 (ZPMC-0488) what mentioned about the T stiffener web flatness.

- Punch list item 168 what mentioning this NCR has been confirmed and closed by CT.
- Attached WRR shows to rectify the flatness the fillet welds were removed and rewelded.

After that MT was performed to warrant the weld's quality.

Based on the taken action and responses above, ZPMC requests closure of this NCR.

ATTACHMENT:

NCR-000515 (ZPMC-0488)

B-WR9825

B787-MT-19078

A handwritten signature in black ink, appearing to be 'Jey' followed by a flourish.

3/10/10



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

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FUOR, A JV
 375 BURMA ROAD
 OAKLAND CA 94607

Date: 14-Dec-2009

Contract No: 04-0120F4
 04-SF-60-13.2 / 13.9

Dear: Mr. Charles Kunapicki
 Attention: Mr. Thomas Nilsson Project/Fabrication Manager
 Subject: NCR No. ZPMC-0488

Job Name: SAS Superstructure
 Document No: 05.03.06-000478

Reference Description: T-stiffener Web Flatness, OBG Segment SBW, Side Panel, Crossbeam Side

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.

Material Location: OBG
 Lift: 05

Remarks:

During dimensional inspection of OBG Segment SBW, Caltrans Quality Assurance (QA) observed out-of-tolerance flatness on the webs of side panel T-stiffeners at Panel Point PP33 (crossbeam side). The flatness measurements were taken using a 300mm straight edge conforming to the requirements of AASHTO section 11.4.13.1. The following deviations were observed:

7mm at stiffener #10 (from working point W4)

8mm at stiffener #17 (from working point W4)

The maximum allowable deviation from detailed flatness is 5mm.

Action Required and/or Action Taken:

Repair damage according to the approved retrofit RFI to be submitted by ABF.

Transmitted by: Bill Howe

Attachments: ZPMC-0488

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Contract Files, Ching Chao

File: 05.03.06

02-02-16-04
 05.03.06-000478 NCR

Received
 NOT 000478 15 Dec 09 Page 1 of 1

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 #: 04-0120F4

City: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P.R. China

Report No: NCR-000515

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 13-Nov-2009

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

NCR #: ZPMC-0488

Type of problem:

Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: OBG Segment 5BWProcedural Procedural Description: Dimensional Control

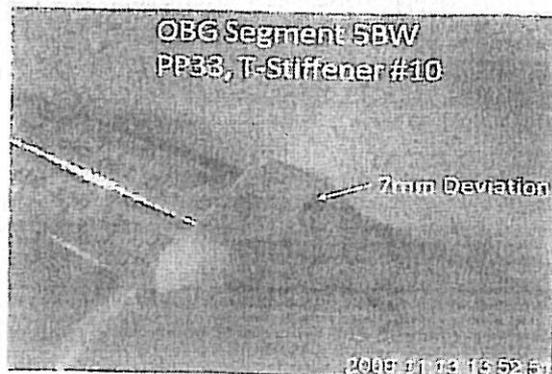
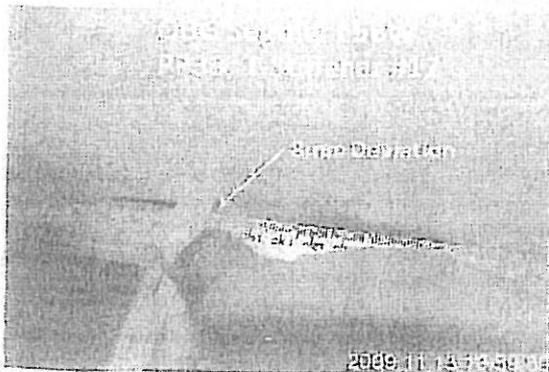
Reference Description: T-stiffener Web Flatness, OBG Segment 5BW, Side Panel, Crossbeam Side

Description of Non-Conformance:

During dimensional inspection of OBG Segment 5BW, Caltrans Quality Assurance (QA) observed out-of-tolerance flatness on the webs of side panel T-stiffeners at Panel Point PP33 (crossbeam side). The flatness measurements were taken using a 300mm straight edge conforming to the requirements of AASHTO section 11.4.13.1. The following deviations were observed:

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Special Provisions, 10-1.59 Steel Structures, Shop Welding, Design Details G-3. "Dimensional tolerances for the box girder, including the crossbeam, shall conform to the tolerances in AWS D1.5, AASHTO Standard

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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where,

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T = the minimum thickness in inches of the plate comprising the panel."

Who discovered the problem: M.Manikandan

Name of individual from Contractor notified: David Wu

Time and method of notification: 1400 hours, 11-13-09, Verbal

Name of Caltrans Engineer notified: Ching Chao and Bill Howe

Time and method of notification: 1430 hours, 11-13-09, Verbal

QC Inspector's Name: Lay Tao

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG23	报告编号 Report No.	B-WR9825 ✓
合同号 Contract No.:	04-0120F4	部件名称 Items Name	RS43A	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787		RS43B RS43C		

焊缝缺陷描述:

Description of welding discontinuity:

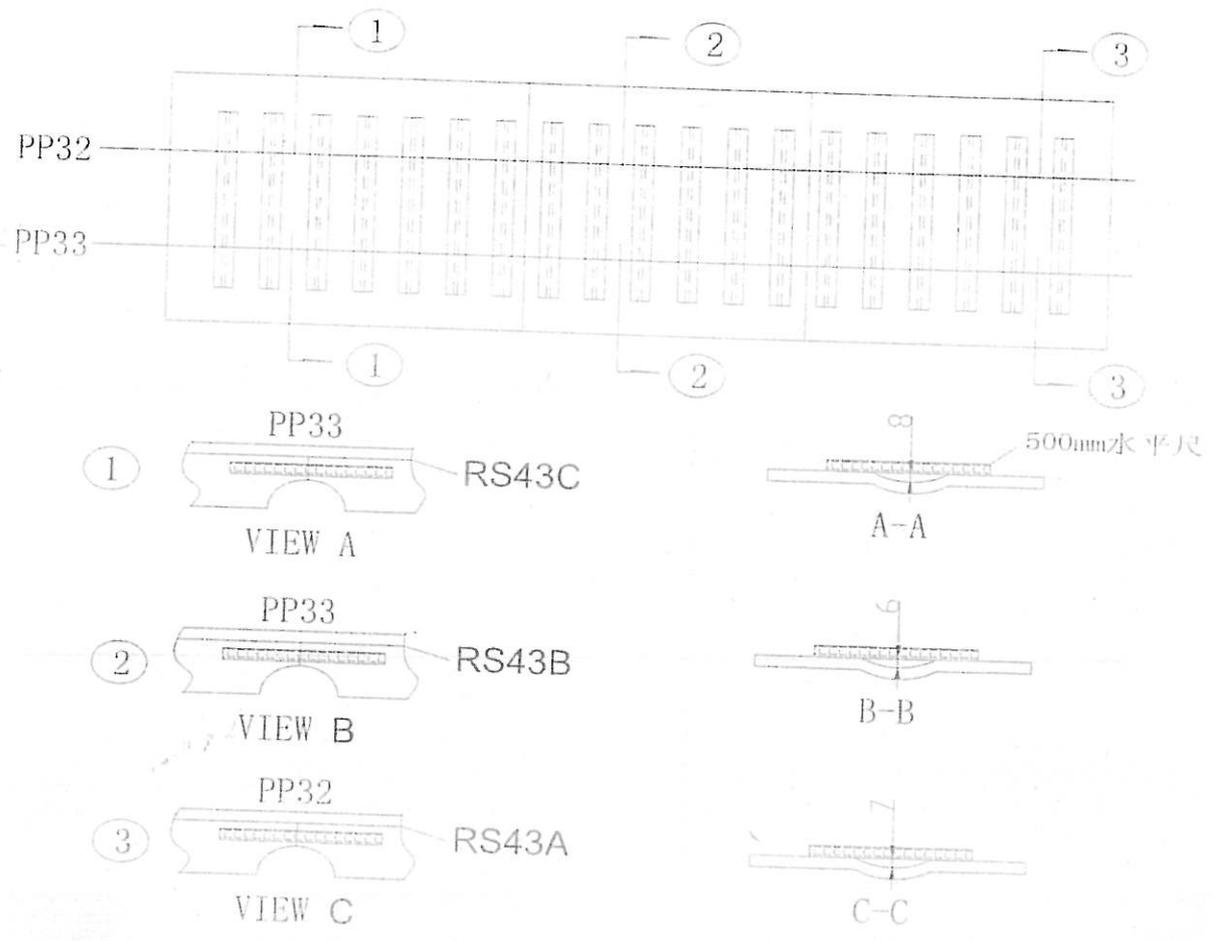
5BW 斜底板近联系梁侧, T 肋连接板螺栓拧紧后, 测量 T 肋筋板平整度。发现 pp32, pp33 处 T 肋筋板平整度超标, 最大 8mm, 具体数据见附页:

After bolt T-rib connect plate at 5BW side plate face strut plat, the flatness exceeded requirement, maximum 8mm, the detail sees the following attachment.

检验员 (Inspector): Song Hui 日期(Date): 2010-1-9

焊缝返修位置示意图:

Draft of welding discontinuity:



产生原因:

Caused:

焊接变形和制作误差。

Weld distortion and fabricate error.

车间负责人(Foreman):

Lizhigang

日期(Date):

10.1.10

处理意见

Disposition:

1. 采用碳刨或切割的方法去除上述平整度超标的 T 肋腹板与斜底板的焊缝。碳刨前根据返修 WPS 进行个预热;
2. 火工校正 T 肋腹板使其平整度满足平整度要求后, 将 T 肋腹板与斜底板点焊定位;
4. 根据批准的返修 WPS 进行预热、焊接;
5. 焊后将焊接区域打磨光滑;
6. 根据图纸要求对焊缝进 NDT 检测;

1. Remove the welds between distorted web plates of T-Ribs mentioned above and SP by gouging or flame cutting. Preheat according to approved WPS.
2. Heat straighten those distorted web plates to make their flatness meet requirement, then tack weld them to SP.
3. Preheat and weld in accordance with approved WPS.
4. Grind the area to a smooth finish.
5. Perform relevant NDT inspection to the welds according to work drawings.

工艺: *Hetiaolin*
Technical engineer

审核:
Approved by

日期
Date

1.10

B787-MT 19078



焊缝返修报告

Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	SEG23	报告编号 Report No.	B-WR9825
合同号 Contract No.:	04-0120F4	部件名称 Items Name	RS43A RS43B	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787		RS43C		

纠正措施:

Correction action to prevent re occurrence:

加强制作过程中的监控, 减少误差。

Enhance supervision in process of fabrication to reduce error.

车间负责人(Foreman):

Li Zhigang

日期(Date): 1-10

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-FCM-Repair WPS-345-SMAW-2 G(2F)-FCM-Repair WPS-345-SMAW-4 G(4F)-FCM-Repair	工艺员 technologist	<i>Hexiao Lin</i> <i>1-10</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	NA	返修的缺陷 Description of discontinuity	<i>平整度超标</i>
焊前处理检查 Inspection before welding	ACC	焊前预热温度 Preheat temperature before welding	86°C
最大碳刨深度 Max. depth of gouging	NA	碳刨总长 Total length of gouging	NA
焊工 welder	<i>068659</i>	焊接类型 welding type	<i>SMAW</i>
焊接电流 Current	<i>151</i>	焊接位置 position	<i>2F</i>
		焊接电压 Voltage	<i>23</i>
		焊接速度 Speed	<i>106</i>

返修后检查
Inspection After repairing:

外观检查 VT result	<i>ACC</i>	检验员 Inspector	<i>Wuzhicheng</i>	日期 Date	<i>2010-1-25</i>
NDT复检 NDT result	<i>MT Au</i>	探伤员 NDT person	<i>08021751 Ding A Chen</i>	日期 Date	<i>2010.02.02</i>

见证:
Witness/Review:

备注:
Remark:



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-19078 DATE日期 2010.03.10 PAGE OF页码 1/1 Revision No: 0

PROJECT NO. ZP06-787 CONTRACTOR: CALTRANS
 工程编号: 用户:

DRAWING NO. 5BW CALTRANS CONTRACT NO.: 04-0120F4
 图号: SIDE PLATE T-STEEL 加州工程编号:

REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2010
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EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
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PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm
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MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-345 16/9mm
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WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T- JOINT
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WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SP748B-001-025				ACC.		after repaired
SP748B-001-026				ACC.		after repaired
SP510B-001-041				ACC.		after repaired
SP748B-001-042				ACC.		after repaired
SP470B-001-044				ACC.		after repaired
SP748B-001-045				ACC.		after repaired

AFTER B-WR9825

BLANK

EXAMINED BY主探 Ding Acheng Ding A cheng 10.03.10	REVIEWED BY审核 Su Weik Su Weik 10.03.10
LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM [Signature] 3/10/10	LEVEL-II SIGN / DATE日期 用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

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:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000567**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 29-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0488**Type of problem:**

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

Date the Non-Conformance Report was written: 13-Nov-2009**Description of Non-Conformance:**

During dimensional inspection of OBG Segment 5BW, Caltrans Quality Assurance (QA) observed out-of-tolerance flatness on the webs of side panel T-stiffeners at Panel Point PP33 (crossbeam side). The flatness measurements were taken using a 300mm straight edge conforming to the requirements of AASHTO section 11.4.13.1. The following deviations were observed:

7mm at stiffener #10 (from working point W4)

8mm at stiffener #17 (from working point W4)

The maximum allowable deviation from detailed flatness is 5mm.

Contractor's proposal to correct the problem:

Add retrofit plates in accordance with provisions outlined in RFI 2004.

Corrective action taken:

Retrofit plates were added at said locations and are in conformance with provisions listed in RFI 2004.

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 Jim Simonis 152. 1675.3703, who represents the Office of Structural Materials for your project.

Inspected By: Simonis, Jim

Quality Assurance Inspector

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Reviewed By: Wahbeh,Mazen

QA Reviewer