

**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-000980**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 21-Feb-2011**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0938**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> Bikepath BK004A-031
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

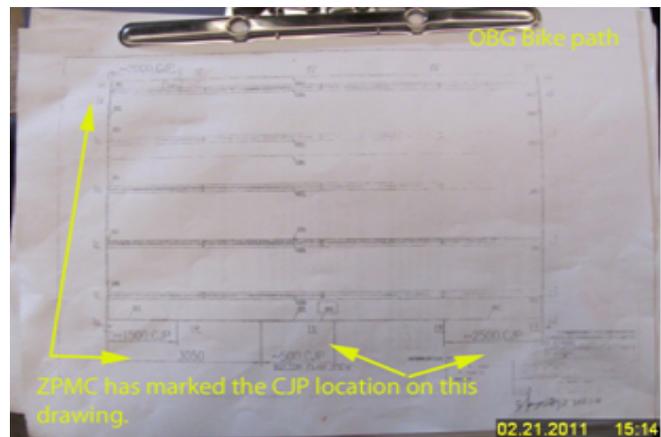
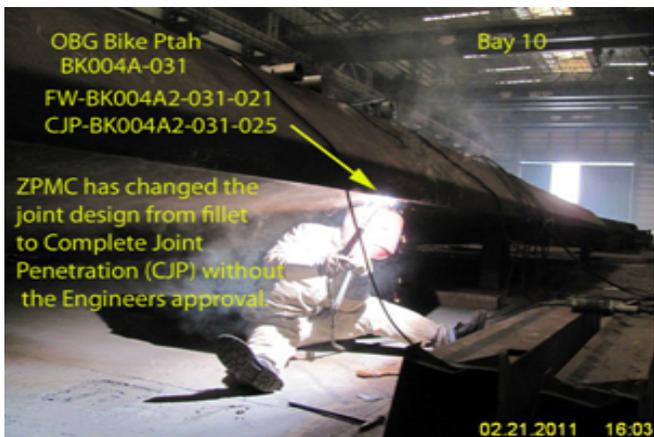
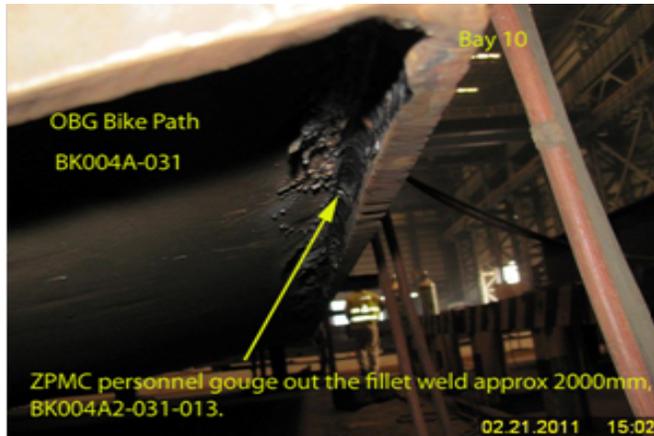
**Reference Description:** ZPMC performed joint change to CJP without following proper welding procedures**Description of Non-Conformance:**

During the fabrication of the Orthotropic Box Girder (OBG) Bikepath (BK) BK004A-031, this Quality Assurance (QA) Inspector discovered the following:

- ZPMC has changed a weld joint detail from fillet to Complete Joint Penetration (CJP) because the fit-up of the root exceeded 5mm.
- ZPMC indicated that the work is performed per Submittal 200R2.
- QA observed that Submittal 200R2 was not followed.
- ZPMC welded single bevel welds without backing bar and with no access to perform backgouging.
- ZPMC used "WPS-345-SMAW-4G(4F)-Repair" for the work which is not appropriate for these new CJP joint.
  
- Without Engineer's approval, ZPMC is changing these welds from fillet to CJP only in certain sections of the welds, thus they are not continuous CJP with continuous backing.
- The fillet welds observed are BK004A2-031-013 and 021.
- The Y locations for the changed CJP welds on BKPL6A are:
  - 0mm-1500mm, 3050mm-3550mm and 6520mm-9020mm for BK004A2-031-013.
  - 0mm-2000mm for BK004A2-031-021.
- ZPMC identified the new CJP weld IDs as BK004A2-031-024, and BK004A2-031-022, 023, 025.
- The material is A709 Grade 345 Non Seismic Performance Critical Member (Non SPCM).
- The approved drawings, BK004A, specified fillet welds at these locations.
- The OBG Bikepath is located in Bay 10.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



## Applicable reference:

Approved Shop Drawing- BK4A

Submittal 200R2: Sec. 6.2 Use carbon air arcing to form the bevel and then grind flush. Weld the joint per the approved WPS with steel backing.

Special Provisions 8-3 Welding; "Quality control (QC) shall be responsibility of the contractor. As a minimum, the contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure the materials and workmanship conform to the requirements of the contract documents."

AWS D1.5-2002 Section 3.7.4; Prior approval of the Engineer shall be obtained for repairs to base metal or for revised design to compensate for deficiencies.

AWS D1.5-2002 Section 6.5.1; "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval".

**Who discovered the problem:** Shailesh Gaikwad

**Name of individual from Contractor notified:** Zhao Xian He

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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**Time and method of notification:** 1500 hours, 02/21/11, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen

**Time and method of notification:** 0930 hours, 02/22/11, Verbal

**QC Inspector's Name:** Guo Yan Fei

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Tsang, Eric	SMR
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<b>Reviewed By:</b>	Wahbeh, Mazen	SMR
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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

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

**Date:** 22-Feb-2011

**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:** 05.03.06-000937

**Subject:** NCR No. ZPMC-0938

**Reference Description:** ZPMC performed joint change to CJP without following proper welding procedures

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:** Bike Path **Lift:** N/A

### Remarks:

- During the fabrication of the Orthotropic Box Girder (OBG) Bikepath (BK) BK004A-031, this Quality Assurance (QA) Inspector discovered the following:
- ZPMC has changed a weld joint detail from fillet to Complete Joint Penetration (CJP) because the fit-up of the root exceeded 5mm.
  - ZPMC indicated that the work is performed per Submittal 200R2.
  - QA observed that Submittal 200R2 was not followed.
  - ZPMC welded single bevel welds without backing bar and with no access to perform backgouging.
  - ZPMC used "WPS-345-SMAW-4G(4F)-Repair" for the work which is not appropriate for these new CJP joint.
  - Without Engineer's approval, ZPMC is changing these welds from fillet to CJP only in certain sections of the welds, thus they are not continuous CJP with continuous backing.
  - The fillet welds observed are BK004A2-031-013 and 021.
  - The Y locations for the changed CJP welds on BKPL6A are:
    - 0mm-1500mm, 3050mm-3550mm and 6520mm-9020mm for BK004A2-031-013.
    - 0mm-2000mm for BK004A2-031-021.
  - ZPMC identified the new CJP weld IDs as BK004A2-031-024, and BK004A2-031-022, 023, 025.
  - The material is A709 Grade 345 Non Seismic Performance Critical Member (Non SPCM).
  - The approved drawings, BK004A, specified fillet welds at these locations.
  - The OBG Bikepath is located in Bay 10.

### Action Required and/or Action Taken:

Propose resolutions for the identified non-conformance items and document that the various deficiencies have been brought in compliance with contract requirements. Also propose a resolution that addresses the apparent failure of Quality Control to identify the non-conformance. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

The response for the resolution of this issue is requested within 7 days.

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# NCT

( Continued Page 2 of 2 )

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**Transmitted by:** Sean Eagen      Transportation Engineer

**Attachments:**    ZPMC-0938

**cc:**    Rick Morrow, Peter Siegenthaler, Stanley Ku, Brian Boal, Contract Files, Ching Chao, Bill Casey

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Siegenthaler, Peter  
Resident Engineer

**Ref:** 05.03.06-000937

**Subject:** NCR No. ZPMC-0938

**Dated:** 01-Mar-2011

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000931 **Rev:** 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** Per the RFI, ZPMC and ABFJV has confirmed that reinforcing fillet on both welds exceeds 6mm.

Per the RFI, ZPMC and ABFJV has confirmed that reinforcing fillet on both welds exceeds 6mm. Per the RFI ZPMC is providing MT of the root pass of this weld and MT of the cover pass as well. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000931R00;

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**Caltrans' comments:**

**Status:** AAP

**Date:** 02-Mar-2011

This proposed resolution is Accepted with Action Pending. The NDT documentation is acceptable; however, ZPMC has not addressed the cause for apparent failure of Quality Control to identify the deficiency nor provided documentation of the steps/actions taken by the Quality Control Manager to prevent future occurrences.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 02-Mar-2011

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

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Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
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(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-000980**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 21-Feb-2011**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0938**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> Bikepath BK004A-031
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

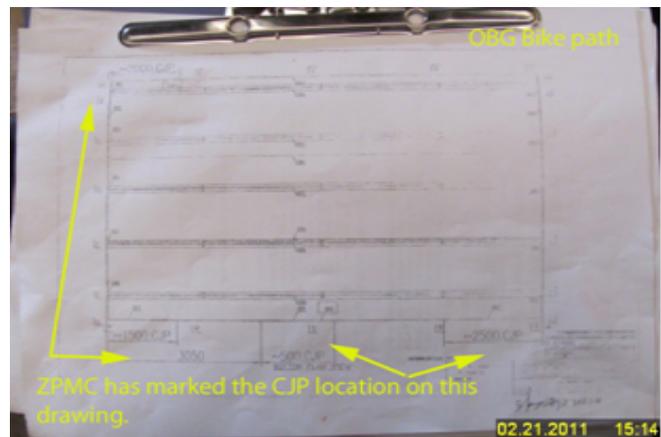
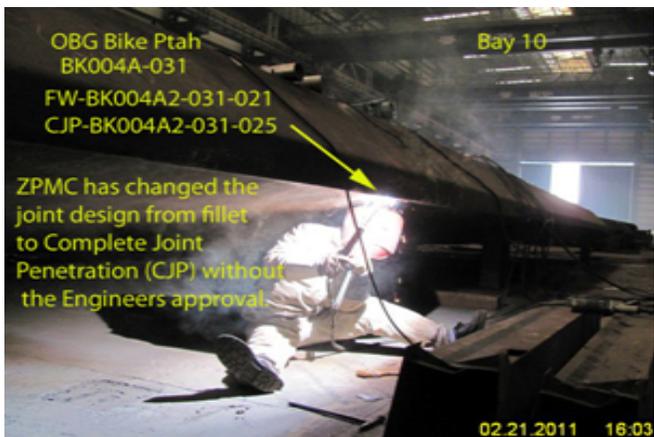
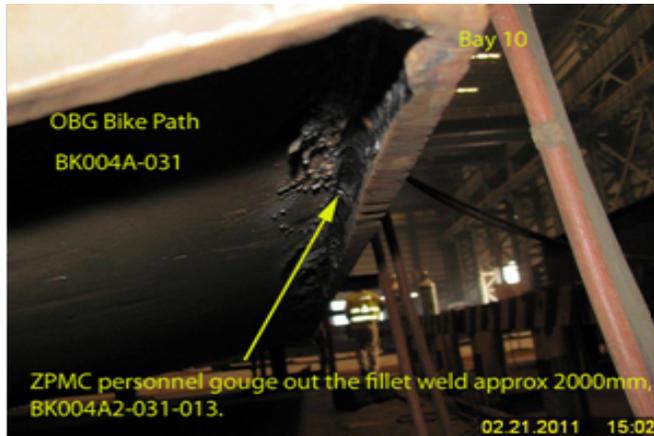
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- QA observed that Submittal 200R2 was not followed.
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- The OBG Bikepath is located in Bay 10.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



## Applicable reference:

Approved Shop Drawing- BK4A

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AWS D1.5-2002 Section 6.5.1; "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval".

**Who discovered the problem:** Shailesh Gaikwad

**Name of individual from Contractor notified:** Zhao Xian He

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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**Time and method of notification:** 1500 hours, 02/21/11, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen

**Time and method of notification:** 0930 hours, 02/22/11, Verbal

**QC Inspector's Name:** Guo Yan Fei

**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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Tsang, Eric	SMR
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<b>Reviewed By:</b>	Wahbeh, Mazen	SMR
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**From:** Victor Altamirano [victor\_altamirano@dot.ca.gov]  
**Sent:** Monday, February 28, 2011 10:08 AM  
**To:** Ady Velasco  
**Cc:** cchao@sasoverseasteam.com; Chris Havel; htazir@tylin.com; Joshua Ishibashi; jsimonis@sasbridge.com; jun.wu@tylin.com; lsoononn@abfjv.com; Marcos McManus; riliya@moffatnichol.com; Stanley Ku; Victor Altamirano; zhu yin; Sean J Eagen; jdevey@sasbridge.com; Roman Granados; Hong Wong; Jim Reid; Gene Rosamilia; Sean Wichman; Gang Jiao; etsang@sasbridge.com  
**Subject:** RE: TCRFI: BK004A-031 CJP w/o backing bar (CT Response)  
**Attachments:** NCR0938.pdf; Bikepath weld.pdf

Ady,

To facilitate fabrication, the Contractor's proposal to leave the weld as-is is acceptable on a fit-for-purpose basis, provided that the reinforcing fillet of the as built weld is 6mm minimum. See attached sketch.  
Thanks.

Victor Altamirano  
Shanghai, China  
150-2131-3938 (cell)

Ady Velasco <avelasco@cn.abfjv.com>

02/24/2011 03:55 PM

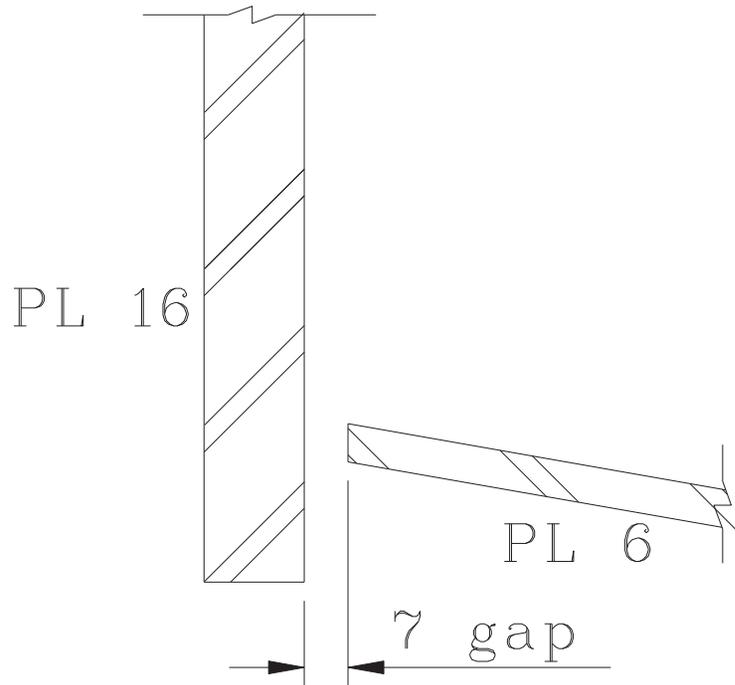
To 'Eric Tsang' <etsang@sasbridge.com>, 'Victor Altamirano' <victor\_altamirano@dot.ca.gov>, 'Stanley Ku' <stanley\_ku@dot.ca.gov>, 'Jim R. Devey' <jdevey@sasbridge.com>, <marcos\_mcmanus@dot.ca.gov>, <htazir@tylin.com>  
cc 'Gang Jiao' <gjiao@cn.abfjv.com>, 'Sean Wichman' <swichman@cn.abfjv.com>, 'Steve Lawton' <slawton@cn.abfjv.com>, 'Joshua Ishibashi' <jishibashi@cn.abfjv.com>

Subject RE: TCRFI: BK004A-031 CJP w/o backing bar

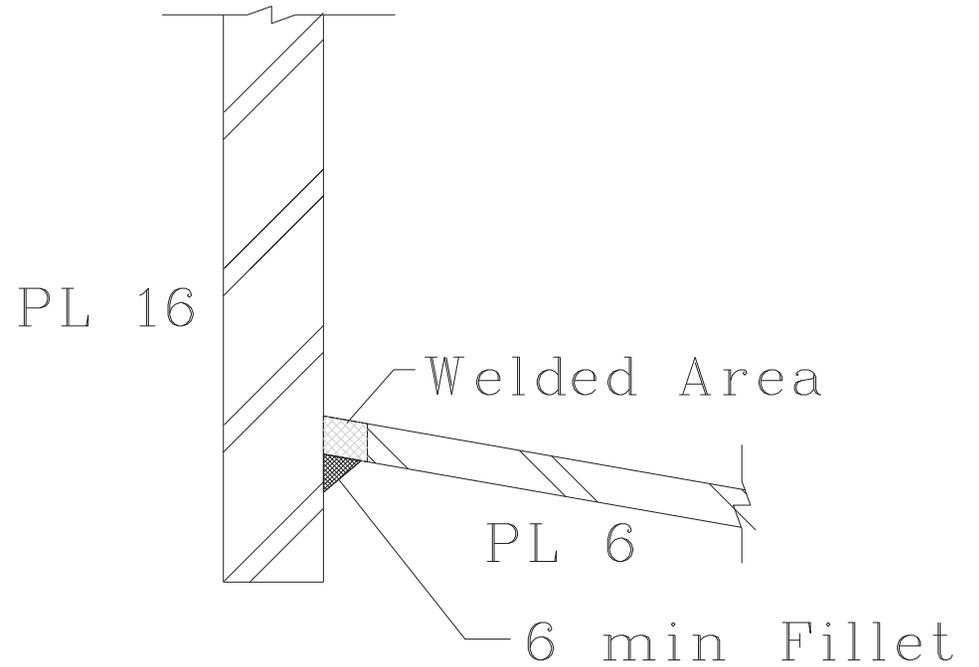
In other words...

In response to NCR #: ZPMC-0938, ZPMC did receive previous approval to change fillet welds BK004A2-031-013 and -021 into CJP welds BK004A2-031-024 and BK004A2-031-022, -023, -025 under AFC-CAL-TRN-007772. However BK004A2-031-024 and BK004A2-031-022, -023, -025 were not performed according to an approved WPS. As a repair could be more detrimental to the component than the current condition, ZPMC proposes to leave the weld joints as-is. Results of 100% MT of root pass and 100% MT of cover pass were both found to be acceptable. Please confirm if this proposal is acceptable.

- Ady



As-Built Gap  
(Pre-Weld condition)



Acceptable Condition

## NCR PROPOSED RESOLUTION

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

**Attention:** Siegenthaler, Peter  
Resident Engineer

**Ref:** 05.03.06-000937

**Subject:** NCR No. ZPMC-0938

**Dated:** 04-Mar-2011

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000931 **Rev:** 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC QA department has written and internal NCR to inform the departments of this non conformance and in order for them to stop the work when it does not comply.

ZPMC QC did not monitor the production team closely enough to ensure that the approved submittal was being followed. To remind and prevent future occurrences, the ZPMC QA department has written and internal NCR to inform the departments of this non conformance and in order for them to stop the work when it does not comply. In the future, ZPMC will continue to reinforce this with its inspectors and ensure compliance from the production teams. Based on these actions, and previously submitted documents ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000931R01;

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**Caltrans' comments:**

**Status:** CLO

**Date:** 06-Mar-2011

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0938 is closed.

**Submitted by:** Eagen, Sean

**Date:** 06-Mar-2011

**Attachment(s):**

**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


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**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION**


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**Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000952**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Mar-2011**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0938**Type of problem:**

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

**Date the Non-Conformance Report was written:** 21-Feb-2011**Description of Non-Conformance:**

During the fabrication of the Orthotropic Box Girder (OBG) Bikepath (BK) BK004A-031, this Quality Assurance (QA) Inspector discovered the following:

-ZPMC has changed a weld joint detail from fillet to Complete Joint Penetration (CJP) because the fit-up of the root exceeded 5mm.

-ZPMC indicated that the work is performed per Submittal 200R2.

-QA observed that Submittal 200R2 was not followed.

-ZPMC welded single bevel welds without backing bar and with no access to perform backgouging.

-ZPMC used "WPS-345-SMAW-4G(4F)-Repair" for the work which is not appropriate for these new CJP joint.

-Without Engineer's approval, ZPMC is changing these welds from fillet to CJP only in certain sections of the welds, thus they are not continuous CJP with continuous backing.

-The fillet welds observed are BK004A2-031-013 and 021.

-The Y locations for the changed CJP welds on BKPL6A are:

•0mm-1500mm, 3050mm-3550mm and 6520mm-9020mm for BK004A2-031-013.

•0mm-2000mm for BK004A2-031-021.

-ZPMC identified the new CJP weld IDs as BK004A2-031-024, and BK004A2-031-022, 023, 025.

-The material is A709 Grade 345 Non Seismic Performance Critical Member (Non SPCM).

-The approved drawings, BK004A, specified fillet welds at these locations.

-The OBG Bikepath is located in Bay 10.

**Contractor's proposal to correct the problem:**

Contractor to submit TC-RFI proposing to leave the weld as is as any repairs will cause more damages. To prevent future occurrence, the Production department and the QA/QC personnel involved will be talked to on the non-conformance, reminded that correct procedure must be followed

**Corrective action taken:**

