

**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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016254**Date Inspected:** 17-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC)**Location:** Shanghai, China

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG Trial Assembly	

**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 9AW (Lower Chevron)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Lower Chevron and Upper Chevron at Panel Point (PP) 81 for Segment 9AW at Cross Beam. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00455 Dated August 17, 2010.

Bolt sizes used were M22 x 70 RC Set# DHGM220017 and final torque required was 487 N-m.

Bolt sizes used were M22 x 80 RC Set# DHGM220091 and final torque required was 460 N-m.

The Manual Torque wrench used was Serial No. XO2-114. Please reference the pictures attached for more comprehensive details.

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 6 )

---

---

### Suspender Brackets

This Quality Assurance (QA) Inspector verified and measured the gap between the faying surfaces of Deck Panel Corner Assembly to Suspender Bracket (SB) flange at the pre-installation stage along with ZPMC QC Inspector Mr. Shen Jian Bo and observed the gap to be in general compliance with contact requirements. Inspection was performed against the Notification No. 00012 Dated August 17, 2010.

The following Suspender Brackets were inspected.

SB74E installed at Segment 9BE at PP 74, Bike Path side.

SB76E installed at Segment 9BE at PP 76, Bike Path side.

SB80E installed at Segment 9DE at PP 80, Bike Path side.

Please reference the pictures attached for more comprehensive details.

### Suspender Brackets

This Quality Assurance (QA) Inspector verified and measured the gap between the faying surfaces of Deck Panel Corner Assembly to Suspender Bracket (SB) flange at the pre-installation stage along with ZPMC QC Inspector Mr. Shen Jian Bo and observed the gap to be in general compliance with contact requirements. Inspection was performed against the Notification No. 00013 Dated August 17, 2010.

The following Suspender Brackets were inspected.

SB76W installed at Segment 9BE at PP 76, Bike Path side.

SB80W installed at Segment 9DW at PP 80, Bike Path side.

Please reference the pictures attached for more comprehensive details.

### Segment 9EE to Segment 10AE (Skin Flatness)

This QA Inspector performed Joint Inspection along with the ABF QA Inspector to check the Skin Flatness between Segment 9EE to Segment 10AE between Panel Points (PP) 85 and PP 86 at the following locations:

The skin flatness was measured on North side (Cross Beam side at B1 and B2 location) and South side (Bike Path side at B3 and B4 location) at 100mm from the weld connecting Bottom Panel to Side Panel using 5000mm string line to verify overall flatness. Straight Edges of 600mm and 630 mm of length was also used to measure the localized flatness.

The skin flatness was measured on North side (Cross Beam side at T1 location) and South side (Bike Path side at T2 location) at 100mm from the weld connecting Deck Panel to Edge Panel using 5000mm string line to verify

---

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 6 )

---

---

overall flatness. The Straight Edge of 600mm and 630 mm length was also used to measure the localized flatness.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

### Segment 9CE to Segment 9DE (Skin Flatness)

This QA Inspector performed Joint Inspection along with the ABF QA Inspector to check the Skin Flatness between Segment 9CE to Segment 9DE between Panel Points (PP) 79 and PP 80 at the following locations after repairing the out of tolerance area:

The skin flatness was measured on North side (Cross Beam side at T1 location) at 100mm from the weld connecting Deck Panel to Edge Panel using 5000mm string line to verify overall flatness. The Straight Edge of 600mm and 630 mm length was also used to measure the localized flatness.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

### Segment 9EE to Segment 10AE

This QA Inspector performed Dimension Control Inspection for measuring Offset and Sweep along with ABF QA Inspector on the Longitudinal Diaphragm to Longitudinal Diaphragm at Work Point W3 (Counter Weight side) for the Segment 9AW to Segment 9BW between Panel Point (PP) 73 to PP 74 at the following locations:

The offset was measured at 5 (five) different locations in which 2 (Two) locations were at Flange area and 3 (Three) locations were at Web area. The QA Inspector measured the Offset using a 1(One) Meter Straight Edge.

The Sweep was measured at 100 mm from both ends of the Longitudinal Diaphragm and 800mm from both ends of Longitudinal Diaphragm and at Center for the total 5 locations using a string line.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

### Segment 9AW

This QA Inspector performed Dimension Control Inspection along with ABF QA personnel for the Segment 9AW at Panel Points (PP) 72 and PP 73 at the following locations after heat straightening the out of tolerance area:

The Floor Beam (FB) flatness was verified and measured from East and West side of the FB at Panel Points (PP) 72 and PP 73. The QA Inspector measured the flatness using 1500mm Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

---

---

## WELDING INSPECTION REPORT

( Continued Page 4 of 6 )

---

---

### Segment 9AW

This QA Inspector performed Dimension Control Inspection along with ABF QA personnel for the Segment 9AW from Panel Point (PP) 73 at the following locations after heat straightening the out of tolerance area:

The Deck Panel to the Deck Panel Diaphragm plate plumbness was verified and measured from east and west side of the Deck Panel Diaphragm at Panel Points (PP) 73. The QA Inspector measured the plumbness using carpenter square.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

### Segment 9DW

This QA Inspector performed Dimension Control Inspection along with ABF QA personnel for the Segment 9DW from Panel Point (PP) 82 at the following locations after heat straightening the out of tolerance area:

The Deck Panel to the Deck Panel Diaphragm plate plumbness was verified and measured from east and west side of the Deck Panel Diaphragm at Panel Points (PP) 82. The QA Inspector measured the plumbness using carpenter square.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

### Segment 9EW

This QA Inspector performed Dimension Control Inspection along with ABF QA personnel for the Segment 9EW from Panel Point (PP) 84 at the following locations after heat straightening the out of tolerance area:

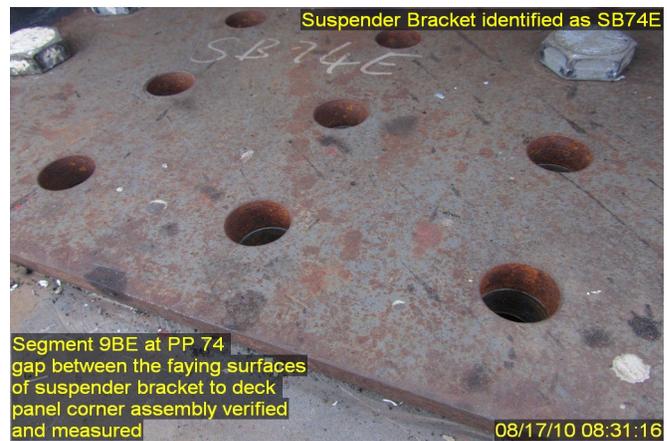
The Deck Panel to the Deck Panel Diaphragm plate plumbness was verified and measured from east and west side of the Deck Panel Diaphragm at Panel Points (PP) 84. The QA Inspector measured the plumbness using carpenter square.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

# WELDING INSPECTION REPORT

( Continued Page 5 of 6 )



## Summary of Conversations:

No relevant conversations were reported on this date.

## 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 Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

---

---

# WELDING INSPECTION REPORT

*( Continued Page 6 of 6 )*

---

---

---

<b>Inspected By:</b>	Math,Manjunath	Quality Assurance Inspector
----------------------	----------------	-----------------------------

---

<b>Reviewed By:</b>	Peterson,Art	QA Reviewer
---------------------	--------------	-------------

---