

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-011503**Date Inspected:** 18-Jan-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), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Li Yang and Wu Zhi Cheng	<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 Trail Assembly	

**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, 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) Trial Assembly Areas

Segment 6BW (Connecting Clips)

This Quality Assurance (QA) Inspector witnessed final tension verification for T-Ribs Connecting Clips at Bottom Panel, Side Panel Cross Beam side and Side Panel Counter Weight side at Panel Point (PP) 41, PP 42, and PP 43 for Segment 6BW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00236 Dated January 18, 2010.

Bolt sizes used were M16 x 45 RC Set# DHGM160001 and final torque required was 210 N-m and

Bolt sizes used were M16 x 65 RC Set# DHGM160006 and final torque required was 180 N-m.

Manual Torque wrench was been used with Sr. No. XQ2-118.

Segment 5CW (Cat Walk)

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This Quality Assurance (QA) Inspector witnessed final tension verification for Catwalk at Bottom Panel from Panel Point (PP) 36.5 for Segment 5CW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00235 Dated January 18, 2010.

Bolt sizes used were M16 x 40 RC Set# DHGM160019 and final torque required was 200 N-m and

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

Manual Torque wrench was been used with Sr. No. XQ2-118.

Segment 5AE (Road Barrier Angle)

This Quality Assurance (QA) Inspector witnessed final tension verification for Road Barrier Angle at Panel Point (PP) 28.75 for Segment 5AE North (Cross Beam) and South (Bike Path) Side. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00235 Dated January 18, 2010.

Bolt sizes used were M22 x 120 RC Set# DHGM220053 and final torque required was 440 N-m.

Manual Torque wrench was been used with Sr. No. XQ2-675.

Segment 5AW (Road Barrier Angle)

This Quality Assurance (QA) Inspector witnessed final tension verification for Road Barrier Angle at Panel Point (PP) 28.75 for Segment 5AW North (Counter Weight) and South (Cross Beam) Side. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00235 Dated January 18, 2010.

Bolt sizes used were M22 x 120 RC Set# DHGM220053 and final torque required was 440 N-m.

Manual Torque wrench was been used with Sr. No. XQ2-675.

Segment 5BE

This QA Inspector observed ZPMC welding personnel performing repair welding by Shielded Metal Arc Welding (SMAW) for CB4 connecting to Segment 5BE location due to Ultrasonic Test (UT) rejections. The weld joints are identified as SSD27-PP33-117 and Y Datum Line located at 80mm. The welder was identified as 0554467. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-Repair. The repair welding was been performed against the B-WR9507 Rev.0 and ZPMC UT report B787-UT-10329. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 6BE to 6CE

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This QA Inspector observed ZPMC welding personnel performing repair welding by Shielded Metal Arc Welding (SMAW) for Transverse Splice Weld at Deck Panel. The weld joints are identified as OBE6A-003. The welder is identified as 048659. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-FCM-Repair-1. The repair welding was been performed against the B-WR9901 Rev.0 and ZPMC UT report B787-UT-10747. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 6BE to 6CE

This QA Inspector observed ZPMC welding personnel performing repair welding by Shielded Metal Arc Welding (SMAW) for Transverse Splice Weld at Deck Panel Corner Assembly. The weld joints are identified as OBE6A-004. The welder is identified as 054467. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-FCM-Repair-1. The repair welding was been performed against the B-WR9901 Rev.0 and ZPMC UT report B787-UT-10747. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 6BW to 6CW (Heat Straightening)

This QA Inspector observed ZPMC personnel performing Heat Straightening for the Longitudinal Diaphragm for Segment 6BW to 6CW between PP 43 and PP44. Heat straightening been performed as they were misaligned and against the Heat Straightening Report (HSR) HSR1 (B)-8065 Rev.0 Dated Jan 07, 2010 for the following weld Joints.

Seg 029B-038~039

Seg 029C-007~008

Seg 031D-037~038

Seg 031F-037~038

LD013B-001~009

LD014B-001~010

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

### **Summary of Conversations:**

No relevant conversations.

### **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 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Math,Manjunath	Quality Assurance Inspector
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<b>Reviewed By:</b>	Miller,Mark	QA Reviewer
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