

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017598**Date Inspected:** 24-Oct-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**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** 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 11AW to Segment 11BW (Skin Flatness)

This QA Inspector performed Joint Inspection along with Caltrans QA Inspector Mr. Manikandan Murugan to check the skin flatness between Segment 11AW to Segment 11BW between Panel Points (PP) 97 and PP 98 at the following locations:

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

The skin flatness was measured on North side (Counter Weight side at T1 location) and South side (Cross Beam side at T2 location) at 100mm from the weld connecting Deck Panel to Edge Panel using 5000mm string line to verify overall flatness. The straight edges of 600mm and 630 mm length were also used to measure the localized

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

---

---

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 10AW (Cable Tray)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for cable tray structure installed at bottom panel between the Panel Points (PP) 85.25 to PP 86, PP 87 to P88 for Segment 10AW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00521 Dated October 24, 2010.

Bolt sizes used were M3/4" x 2" RC Set# DHG60631 and final torque required was 346 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

### Segment 10BW (Cable Tray)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for cable tray structure installed at bottom panel between the Panel Points (PP) 88 to PP 89, PP 89 to PP 90 and PP 90 to PP 91 for Segment 10BW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00521 Dated October 24, 2010.

Bolt sizes used were M3/4" x 2" RC Set# DHG60631 and final torque required was 346 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

### Segment 10CW (Cable Tray)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for cable tray structure installed at bottom panel between the Panel Points (PP) 91 to PP 92, PP 92 to PP 93, PP 93 to PP 94 and PP 94 to PP 94.75 for Segment 10CW. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00521 Dated October 24, 2010.

Bolt sizes used were M3/4" x 2" RC Set# DHG60631 and final torque required was 346 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

### Segment 10AW to 10BW (Transverse Splice T-Ribs)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Bottom Panel (from work point W4 towards W3) between Panel Point (PP) 88 to PP 89 for Segment 10AW to Segment 10BW. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00522 Dated October 24, 2010.

---

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

---

---

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

Please reference the pictures attached for more comprehensive details.

Segment 11BW to Segment 11CW (Transverse Splice at Side Panel)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as SP141-001-054. The welder identification was 040656 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1. The piece mark was identified as the Side Panel T-Ribs web at transverse splice weld, counter weight side.

Segment 11BW to Segment 11CW (Transverse Splice at Side Panel)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as SP114-001-062. The welder identification was 046704 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1. The piece mark was identified as the Side Panel T-Ribs web at transverse splice weld, counter weight side.

Segment 11BW to Segment 11CW (Transverse Splice at Side Panel)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as SP782-001-011. The welder identification was 040611 and was observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1. The piece mark was identified as the Side Panel T-Ribs web at transverse splice weld, cross beam side.

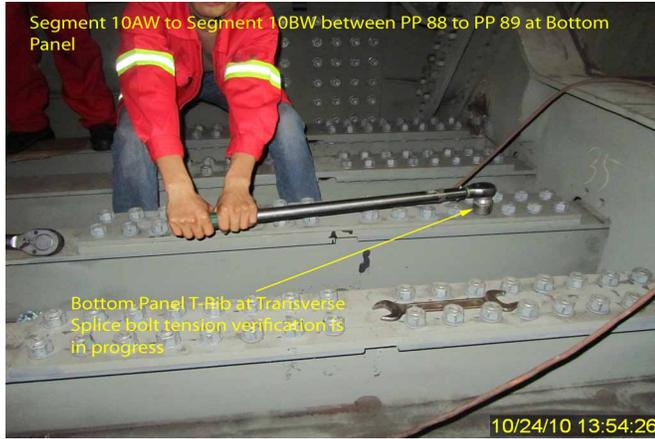
Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

---

# WELDING INSPECTION REPORT

( Continued Page 4 of 4 )

---



## 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.

---

**Inspected By:** Math,Manjunath

Quality Assurance Inspector

**Reviewed By:** Peterson,Art

QA Reviewer