DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017125
Date Inspected: 02-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC)

OSM Arrival Time: 700
OSM Departure Time: 1900
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 10CW to Segment 11AW (Skin Flatness)

This QA Inspector performed Joint Inspection along with ABF QA Inspector to check the skin flatness between Segment 10CW to Segment 11AW between Panel Points (PP) 94 and PP 95 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 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 10AE (Side Panel T-Ribs at FL3 location)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib to T-Rib at Side Panel Cross Beam side at Panel Points (PP) 86, PP 87 and PP 88 for Segment 10AE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00503 dated October 2, 2010. The QA inspector observed reinforced splice plates are installed at following locations.

At PP 86: 2nd T-Rib, 3rd T-Rib, 7th T-Rib, 10th T-Rib and 12th T-Rib.

At PP 88: 5th T-Rib, 9th T-Rib, 11th T-Rib, 12th T-Rib, 13th T-Rib, 15th T-Rib and 16th T-Rib.

Note: T-Ribs numbering reference taken from Work Point E4 towards E6.

The bolt sizes used were M22 x 65 RC Lot # DHGM220003 and the final torque value established was 503 N-m.

The bolt sizes used were M22 x 65 RC Lot # DHGM220036 and the final torque value established was 447 N-m.

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. XO2-666.

Segment 10AE (Side Panel T-Ribs at FL3)

This QA Inspector performed Dimension Control Inspection on the side panel T-Rib at FL3 areas after bolting for the Segment 10AE at Panel Points (PP) 86, PP 87 and PP 88 at the following locations:

Work Point E4 towards Work Point E6 (Side Panel Cross Beam Side) total 19 T-Ribs.

The QA Inspector measured the Vertical Offset using 1(One) Meter Straight Edge at each Panel Points.

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 10CE (Side Panel T-Ribs at FL3 location)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib to T-Rib at Side Panel Cross Beam side at Panel Points (PP) 92, PP 93 and PP 94 for Segment 10CE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00503 dated October 2, 2010. The QA inspector observed reinforced splice plates are

installed at following locations.

At PP 92: 13th T-Rib, 14th T-Rib, 15th T-Rib, 16th T-Rib and 17th T-Rib.

Note: T-Ribs numbering reference taken from Work Point E4 towards E6.

The bolt sizes used were M22 x 65 RC Lot # DHGM220036 and the final torque value established was 447 N-m.

The bolt sizes used were M22 x 65 RC Lot # DHGM220002 and the final torque value established was 513 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220038 and the final torque value established was 480 N-m.

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. XO2-666. Please reference the pictures attached for more comprehensive details.

Segment 10CE (Side Panel T-Ribs at FL3)

This QA Inspector performed Dimension Control Inspection on the side panel T-Rib at FL3 areas after bolting for the Segment 10CE at Panel Points (PP) 92, PP 93 and PP 94 at the following locations:

Work Point E4 towards Work Point E6 (Side Panel Cross Beam Side) total 19 T-Ribs at each Panel Points.

The QA Inspector measured the Vertical Offset using 1(One) Meter 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.

Segment 11AW to Segment 11BW

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 OBW11-001. The welder identification was 067609 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 edge panel splice weld, Counter Weight side. Please reference the pictures attached for more comprehensive details.

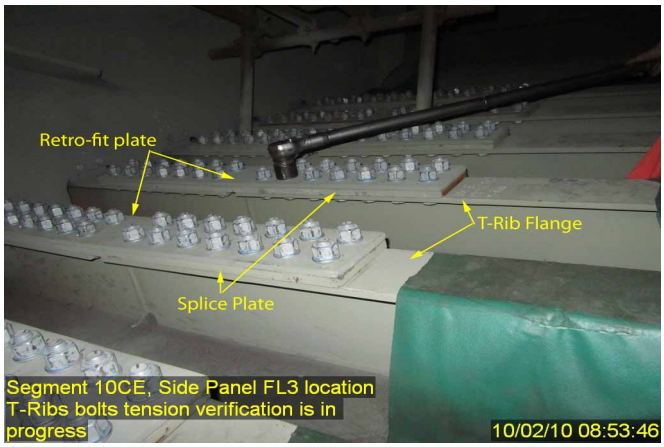
Segment 10CW

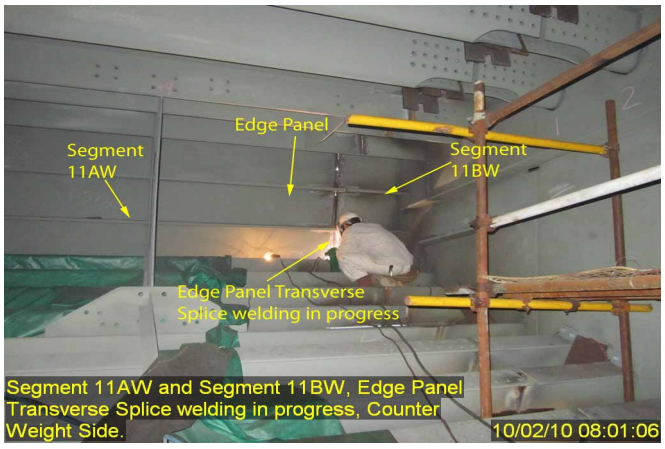
This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW10L-009. The welder identification was 060683 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)-FCM-Repair-1. The piece mark was identified as counter weight connection plate at work point W2. ZPMC performed repair welding in accordance with B-WR15477.

Segment 11AW

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW10L-010. The welder identification was 046709 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)-FCM-Repair-1. The piece mark was identified as counter weight connection plate at work point W2. ZPMC performed repair welding in accordance with B-WR15478.

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





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

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Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Peterson,Art	QA Reviewer