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

Bay Area Branch
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Contract #: 04-0120F4
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-018452
Date Inspected: 29-Nov-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

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

CWI Present: ☑ Yes ☐ No

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 (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the Road Barrier Brackets, Inclined Truss Post and Vertical Truss Post at Counter Weight side and Cross Beam side between Panel Points (PP) 95 to PP 96 and PP 96 to PP 97 for Segment 11AW. 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. 00559 dated November 29, 2010.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220109 and the final torque value established was 350 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The bolt sizes used were M24 x 60 RC Lot # DHGM240014 and the final torque value established was 567 N-m.

The bolt sizes used were M24 x 65 RC Lot # DHGM240013 and the final torque value established was 540 N-m.

The bolt sizes used were M24 x 80 RC Lot # DHGM240011 and the final torque value established was 533 N-m.

The Manual Torque wrench used was Serial No. XO2-676.

Segment 11BW (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the Road Barrier Brackets, Inclined Truss Post and Vertical Truss Post at Counter Weight side and Cross Beam side between Panel Points (PP) 98 to PP 99 and PP 99 to PP 100 for Segment 11BW. 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. 00559 dated November 29, 2010.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220109 and the final torque value established was 350 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The bolt sizes used were M24 x 60 RC Lot # DHGM240014 and the final torque value established was 567 N-m.

The bolt sizes used were M24 x 65 RC Lot # DHGM240013 and the final torque value established was 540 N-m.

The bolt sizes used were M24 x 80 RC Lot # DHGM240011 and the final torque value established was 533 N-m.

The Manual Torque wrench used was Serial No. XO2-676.

Segment 11CW (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the Road Barrier Brackets, Inclined Truss Post and Vertical Truss Post at Counter Weight side and Cross Beam side between Panel Points (PP) 101 to PP 102 and PP 102 to PP 103 for Segment 11CW. 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. 00559 dated November 29, 2010.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220109 and the final torque value established was 350 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The bolt sizes used were M24 x 60 RC Lot # DHGM240014 and the final torque value established was 567 N-m.

The bolt sizes used were M24 x 65 RC Lot # DHGM240013 and the final torque value established was 540 N-m.

The bolt sizes used were M24 x 80 RC Lot # DHGM240011 and the final torque value established was 533 N-m.

The Manual Torque wrench used was Serial No. XO2-676.

Please reference the pictures attached for more comprehensive details.

General Note: For Segment 11AW, Segment 11BW, Corner Assembly bolts not installed at Counter Weight and Cross Beam side, between PP 97 to PP 98 and between PP 100 to PP 101. Thus ZPMC QC Mr. Zhang Hai Jung didn't offer tension verification to the Caltrans QA Inspector.

Traveler Rail Bracket

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as TR1A-PP103-002. The welder identification was 040759 and was observed welding in the 1G (Flat) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2231-Tc-U4c-F and WPS-B-T-2233-Tc-U4c-F. The piece mark was identified as the Traveler Rail Bracket Box Section of the Flange.

Traveler Rail Bracket

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as TR1A-PP099-002. The welder identification was 053486 and was observed welding in the 1G (Flat) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB and WPS-B-T-2232-ESAB. The piece mark was identified as the Traveler Rail Bracket Box Section of the Flange.

Traveler Rail Bracket

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as TR1A-PP100-002. The welder identification was 049220 observed welding in the 1G (Flat) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB and WPS-B-T-2232-ESAB. The piece mark was identified as the Traveler Rail Bracket Box Section of the Flange.

Please reference the pictures attached for more comprehensive details.

Traveler Rail Bracket

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as TR1A-PP101-002. The welder

identification was 049220 observed welding in the 1G (Flat) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB and WPS-B-T-2232-ESAB. The piece mark was identified as the Traveler Rail Bracket Box Section of the Flange.

Traveler Rail Bracket

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as TR2A-PP102-002. The welder identification was 040759 and was observed welding in the 1G (Flat) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB and WPS-B-T-2232-ESAB. The piece mark was identified as the Traveler Rail Bracket Box Section of the Flange.

Traveler Rail Bracket

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as TR2A-PP104-002. The welder identification was 040759 and was observed welding in the 1G (Flat) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB and WPS-B-T-2232-ESAB. The piece mark was identified as the Traveler Rail Bracket Box Section of the Flange.

Segment 11DW and Segment 11DE to Cross Beam # 16 (Match Drilling)

This QA Inspector observed ZPMC personnel performing match drilling for the Segment 11DW and Segment 11DE, Deck Panel extension to the Cross Beam # 16, between PP 104 to PP 105 and PP 105 to PP 106. Near work point W5 and work point E5.

Please reference the pictures attached for more comprehensive details.

Heat Straightening

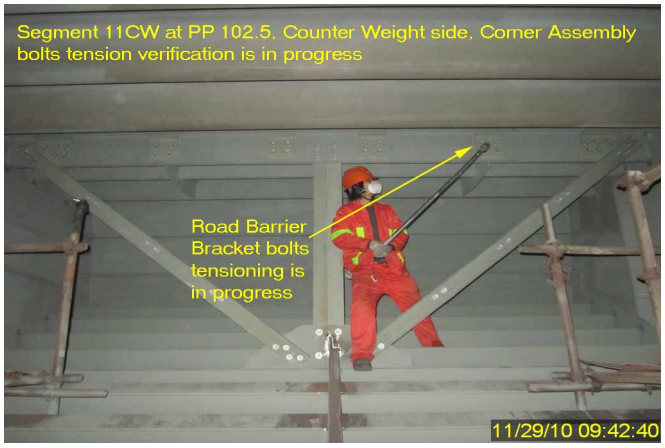
This QA Inspector observed ZPMC personnel performing Heat Straightening at FL3 location of Segment 11DW and at PP 106 and Cross Beam # 16, East side from external side. ZPMC personnel were performing Heat Straightening against the Heat Straightening Report # HSR1(B)-9908.

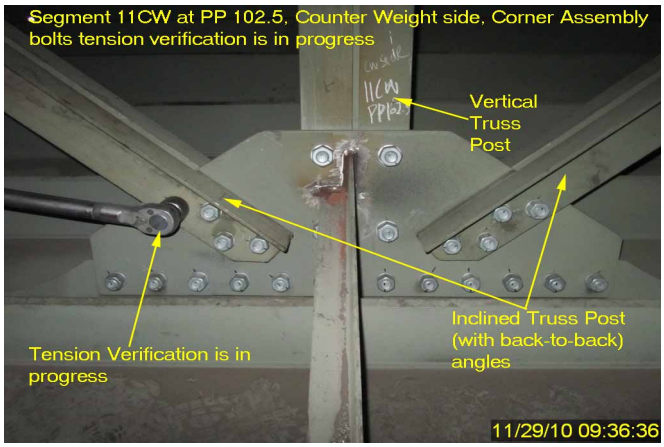
Please reference the pictures attached for more comprehensive details.

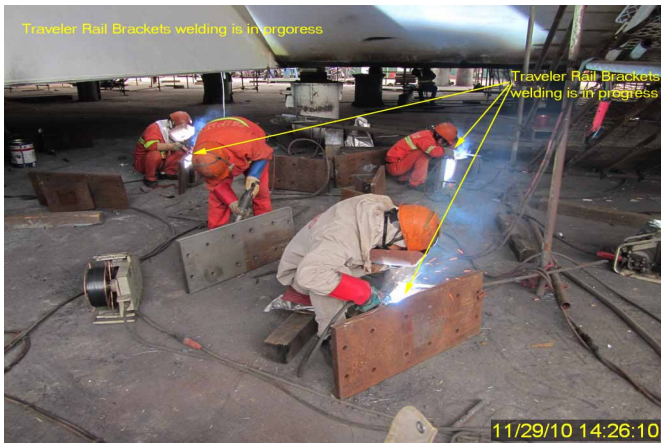
Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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)

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Dsouza,Christopher	QA Reviewer