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 #: 04-0120F4
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-018290
Date Inspected: 24-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 11DE to Segment 11EE (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector Mr. Murugan Manikandan on the Transverse Splice T-Ribs to T-Ribs for the Segment 11DE to Segment 11EE between Panel Point (PP) 106 to PP 107 at the following locations:

Work Point E1 towards Work Point E3 (Side Panel Bike Path Side) total 19 T-Ribs.

Work Point E3 towards Work Point E4 (Bottom Panel) total 18 T-Ribs.

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 and measured the Horizontal Offset on the web using a Bridge Cam gauge.

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 11EE (Floor Beam Flatness after Heat Straightening)

This QA Inspector performed Floor Beam flatness check along with Caltrans QA Inspector Mr. Murugan Manikandan for the Segment 11EE from Panel Points (PP) 107 and PP 108 at the following locations after heat straightening:

The Floor Beam flatness was verified and measured at the Cross Beam (CB) side and Bike Path side at Panel Points (PP) 107 and PP 108. The QA Inspector measured the Floor Beam 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.

Segment 11CW to Segment 11DW (T-Rib CJP)

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 SP115-001-51 and SP115-001-059. The welder identification was 046709 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 transverse splice weld, Counter Weight side.

Segment 11CW to Segment 11DW (T-Rib CJP)

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 SP743-001-52. The welder identification was 041713 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 transverse splice weld, Cross Beam side.

Segment 11CW to Segment 11DW (T-Rib hold back)

This QA Inspector observed the in-process fillet welding by Flux Cored Arc Welding (FCAW) process. The Weld joint was designated as SP115-001-029/030 and SP115-001-037/038. The welder identification was 046709 and was observed welding in the 2F (Horizontal) position using approved Welding Procedure Specification WPS-B-T-2132. The piece mark was identified as the Side Panel T-Ribs hold back weld, Counter Weight side.

Segment 11CW to Segment 11DW (T-Rib hold back)

This QA Inspector observed the in-process fillet welding by Flux Cored Arc Welding (FCAW) process. The Weld joint was designated as 743-001-052. The welder identification was 041713 and was observed welding in the 2F (Horizontal) position using approved Welding Procedure Specification WPS-B-T-2132. The piece mark was

identified as the Side Panel T-Ribs hold back weld, Cross Beam side.

Segment 11DW to Segment 11EW (Transverse Splice at Side Panel)

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 OBW11C-009. The welder identification was 046709 and was observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-345-SMAW-3G(3F)-Repair-FCM-1. The piece mark was identified as the Side Panel, Cross Beam side. ZPMC performed repair welding in accordance with Critical Welding Report B-CWR-2269.

Segment 11DW to Segment 11EW (Transverse Splice at Side Panel)

This QA Inspector observed ZPMC personnel performing heat straightening on Longitudinal Diaphragm to bring it with the dimensional tolerance. Observed heat straightening was been performed by ZPMC personnel against the Heat Straightening Report (HSR) – HSR1(B)-9552.

Segment 11DE

This QA Inspector observed the in-process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as SSD24-PP104.5-171/172. The welder identification was 044551 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1. The piece mark was identified as Deck Panel extension stiffeners at FL3 location.

Segment 11DE

This QA Inspector observed the in-process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as Seg072D-077/078. The welder identification was 040656 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1. The piece mark was identified as Deck Panel extension stiffeners at FL3 location.

Segment 11DE

This QA Inspector observed the in-process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as Seg072D-113/114. The welder identification was 041713 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1. The piece mark was identified as Deck Panel extension stiffeners at FL3 location.

Segment 11DE

This QA Inspector observed the in-process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as SSD25-PP105.5-171/172. The welder identification was 041713 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1. The piece mark was identified as Deck Panel extension stiffeners at FL3 location.

Segment 11DE

This QA Inspector observed the in-process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as Seg072D-176/177. The welder identification was 041713 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-P-2114-FCM-1. The piece mark was identified as Deck Panel extension stiffeners at FL3 location.

Segment 11DW to Cross Beam # 16

This QA Inspector observed the fit-up is in progress for the horizontal stiffeners at FL3 location at Panel Point (PP) 104, observed stiffeners was removed from earlier installed locations as they were installed at wrong elevations. ZPMC was performing this repair work against the Welding Repair Report B-WR16212.

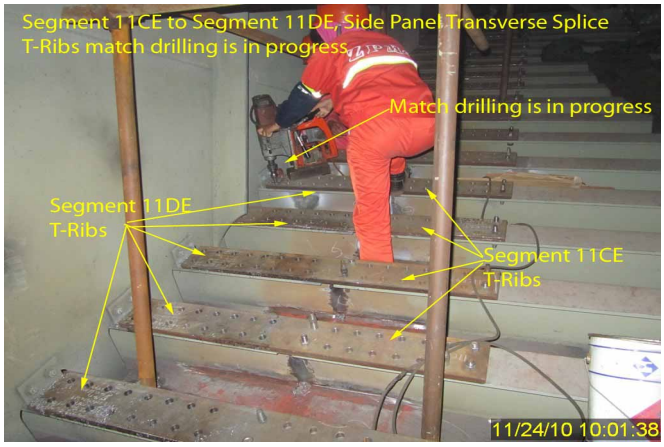
Please reference the pictures attached for more comprehensive details.

Segment 11CE to Segment 11DE (Match Drilling)

This QA Inspector observed ZPMC personnel performing match drilling for the Transverse Splice T-Ribs (Side Panel Cross Beam, Bike Path side and at Bottom Panel).

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.



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:	Dsouza,Christopher	QA Reviewer