

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-019012**Date Inspected:** 04-Jan-2011**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

Tower Lift 4 West

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Tower Lift 4 West. Bolts are installed between Double Diaphragm Flange to Galvanized Tower Ladder. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00596.

Tower Ladder bolts are installed at Double Diaphragm and elevations are identified as 116 meter, 119 meter, 123 meter, 127 meter, 131 meter, 135 meter, 139 meter and 143 meter.

The bolt sizes used were M22 x 65 RC Lot # DHGM220105 and final torque required was 380 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

WELDING INSPECTION REPORT

(Continued Page 2 of 5)

Tower Lift 4 West

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Tower Lift 4 West. Bolts are installed between connection plates, connecting Tower Ladder. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00596.

Tower Ladder connection plates are installed between Double Diaphragm at elevations between 119 meter to 123 meter; 127 meter to 131 meter and 135 meter to 139 meter.

The bolt sizes used were M20 x 55 RC Lot # DHGM220014 and final torque required was 420 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11AW (Traveler Rail Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Traveler Rail Bracket to the Side Panel, Counter Weight side at Panel Points (PP) 95, PP 96 and 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. 00595 dated January 04, 2011.

The bolt sizes used were M20 x 110 RC Lot # DHGM200005 and the final torque value established was 333 N-m.

The bolt sizes used were M20 x 160 RC Lot # DHGM200006 and the final torque value established was 340 N-m.

The bolt sizes used were M22 x 90 RC Lot # DHGM220048 and the final torque value established was 500 N-m.

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

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11BW (Traveler Rail Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Traveler Rail Bracket to the Side Panel, Counter Weight side at Panel Points (PP) 98, PP 99 and 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. 00595 dated January 04, 2011.

The bolt sizes used were M20 x 110 RC Lot # DHGM200005 and the final torque value established was 333 N-m.

The bolt sizes used were M20 x 160 RC Lot # DHGM200006 and the final torque value established was 340 N-m.

The bolt sizes used were M22 x 90 RC Lot # DHGM220048 and the final torque value established was 500 N-m.

WELDING INSPECTION REPORT

(Continued Page 3 of 5)

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

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11CW (Traveler Rail Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Traveler Rail Bracket to the Side Panel, Counter Weight side at Panel Points (PP) 101, PP 102 and 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. 00595 dated January 04, 2011.

The bolt sizes used were M20 x 110 RC Lot # DHGM200005 and the final torque value established was 333 N-m.

The bolt sizes used were M20 x 160 RC Lot # DHGM200006 and the final torque value established was 340 N-m.

The bolt sizes used were M22 x 90 RC Lot # DHGM220048 and the final torque value established was 500 N-m.

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

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11DW (Traveler Rail Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Traveler Rail Bracket to the Side Panel, Counter Weight side at Panel Points (PP) 104, PP 105 and PP 106 for Segment 11DW. 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. 00595 dated January 04, 2011.

The bolt sizes used were M20 x 110 RC Lot # DHGM200005 and the final torque value established was 333 N-m.

The bolt sizes used were M20 x 160 RC Lot # DHGM200006 and the final torque value established was 340 N-m.

The bolt sizes used were M22 x 90 RC Lot # DHGM220048 and the final torque value established was 500 N-m.

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

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11EW (Traveler Rail Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Traveler Rail Bracket to the Side Panel, Counter Weight side at Panel Points (PP) 107 and PP 108 for Segment 11EW. 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. 00595 dated January 04, 2011.

WELDING INSPECTION REPORT

(Continued Page 4 of 5)

The bolt sizes used were M20 x 110 RC Lot # DHGM200005 and the final torque value established was 333 N-m.

The bolt sizes used were M20 x 160 RC Lot # DHGM200006 and the final torque value established was 340 N-m.

The bolt sizes used were M22 x 90 RC Lot # DHGM220048 and the final torque value established was 500 N-m.

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

The Manual Torque wrench used was Serial No. XO2-666.

Segment 12AE to Segment 12BE (Side Panel Transverse Splice weld)

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 OBE12D-003. The welder identification was 050289 and was observed welding in the 3G (Vertical) and 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-3G(3F)-FCM-Repair-1 and WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as weld connecting Bottom Panel to Side Panel hold back weld at work point E3. ZPMC performed repair welding in accordance with Critical Welding Repair Report B-CWR2649.

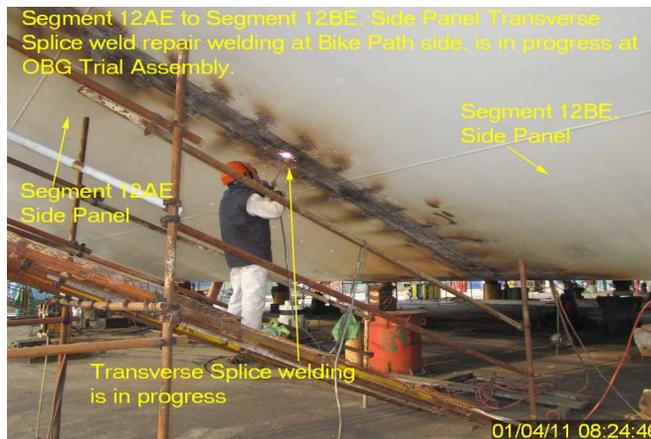
Please reference the pictures attached for more comprehensive details.

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



WELDING INSPECTION REPORT

(Continued Page 5 of 5)



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