

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021785**Date Inspected:** 08-Mar-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), Changxing Island **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 12BW to Segment 12CW (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs for the Segment 12BW to Segment 12CW between Panel Point (PP) 114 to PP 115 at the following locations:

Work Point W6 towards Work Point W4 (Side Panel Cross Beam Side) total 19 T-Ribs.

Work Point W4 towards Work Point W3 (Bottom Panel) total 18 T-Ribs.

Work Point W3 towards Work Point W1 (Side Panel Counter Weight 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.

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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 12AW (Side Panel T-Ribs)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib to T-Rib at Side Panel Counter Weight side at Panel Points (PP) 112 to PP 112.5 for Segment 12AW. 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. 00623 dated March 08, 2011.

The bolt sizes used were M22 x 70 RC Lot # DHGM220041 and the final torque value established was 460 N-m.

The bolt sizes used were M22 x 75 RC Lot # DHGM220034 and the final torque value established was 453 N-m.

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

Segment 12AW (Side Panel T-Ribs)

This QA Inspector performed Dimension Control Inspection for the Side Panel T-Ribs to T-Ribs for the Segment 12AW between Panel Point (PP) 112 to PP 112.5 at the following locations:

Work Point W3 towards Work Point W1 (Side Panel Counter Weight 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.

BAY 11 – (Skid More Test)

This QA Inspector witnessed Bolt Testing for ASTM A325M Grade. Observed ZPMC QC Mr. Zhang Hai Jung performing bolts testing.

The testing of bolts was performed to determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning and High Tension bolt capability verification test.

Bolt assembly identified as ASTM A325M (High Strength Bolt), Bolt Assembly comprises of (a Bolt, a Nut and a Washer).

Bolt testing was performed on a Unit: Skidmore-Wilhelm; Model: HT; Serial Number: 15866 (Calibration Expiration due date on April 29, 2011) and Torque Wrench identified as XO-326 and Torque Wrench with Dial gauge on it is identified as XO-2 (Calibration Expiration due date on April 14, 2011).

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Tested bolt sizes were identified as M16x45 RC Set# DHGM160049.

Tested bolt sizes were identified as M16x50 RC Set# DHGM160050.

5 bolt assemblies were tested per lot.

After determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning Inspection Report was generated for bolt size M16x45 and M16x50 was generated by ZPMC QA.

After determining High Tension bolt capability verification test Inspection Report # 285 for bolt size M16x45 and Inspection Report # 286 for bolt size M16x50 was generated by ZPMC QA.

The generated reports were submitted to the Caltrans Lead Inspector Mr. Mark Miller for review and disposition.

Segment 12AW (Side Panel and Edge Panel connecting weld)

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 CA3012-006. The welder identification was 046709 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-Tc-U4b-FCM-1. The piece mark was identified as Side Panel to Edge Panel hold back weld at work point W1.

Please reference the pictures attached for more comprehensive details.

Segment 12AE (Deck Panel I-Rib Stiffeners, hold back weld)

This QA Inspector observed the in process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as DP3011-001-013/014. The welder identification was 040270 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-T-4114-1. The piece mark was identified as Deck Panel I-Rib hold back weld, Bike Path side at PP 111.

Segment 12AE (Deck Panel I-Rib Stiffeners, hold back weld)

This QA Inspector observed the in process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as DP3011-001-019/020. The welder identification was 040270 and observed welding in the 4F (Overhead) position using approved Welding Procedure Specification WPS-B-T-4114-1. The piece mark was identified as Deck Panel I-Rib hold back weld, Bike Path side at PP 111.5.

Please reference the pictures attached for more comprehensive details.

Segment 12AW (Side Panel I-Rib Stiffeners, hold back weld)

This QA Inspector observed the in process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as SP3049-001-018/019. The welder identification was 057333 and observed welding

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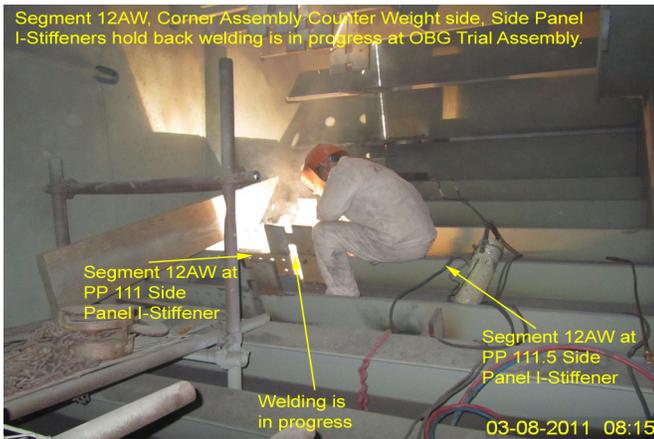
in the 2F (Horizontal) position using approved Welding Procedure Specification WPS-B-T-2112-FCM-1. The piece mark was identified as Side Panel I-Stiffener hold back weld, Counter Weight side at PP 111.

Please reference the pictures attached for more comprehensive details.

Segment 12AW (Side Panel I-Rib Stiffeners, hold back weld)

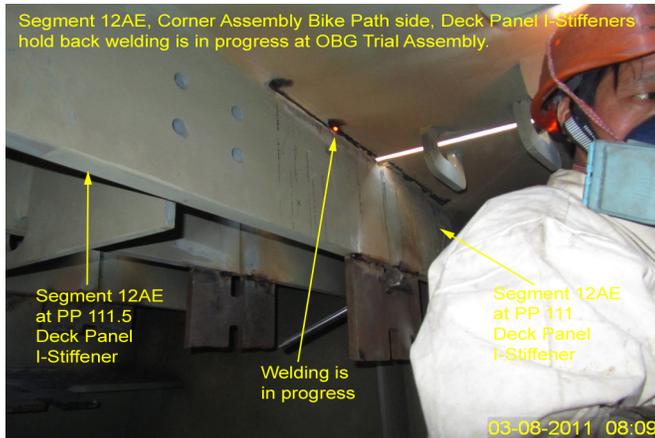
This QA Inspector observed the in process fillet welding by Shielded Metal Arc Welding (SMAW) process. The Weld joint was designated as SP3049-001-008/009. The welder identification was 057333 and observed welding in the 2F (Horizontal) position using approved Welding Procedure Specification WPS-B-T-2112-FCM-1. The piece mark was identified as Side Panel I-Stiffener hold back weld, Counter Weight side at PP 111.5.

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



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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 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Math,Manjunath	Quality Assurance Inspector
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Reviewed By:	Miller,Mark	QA Reviewer
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