

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-021858**Date Inspected:** 18-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

BAY 11 – (Skid More Test)

This QA Inspector witnessed Bolt Testing for ASTM A325 Grade. Observed ZPMC QC Mr. Zhang Hai Jung performing bolts testing and ZPMC QC Inspector Mr. Lin Guang Guo generating report against the testing.

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

Bolt assembly identified as ASTM A325 (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 M20x45, RC Set# DHGM200036.

Tested bolt sizes were identified as M20x50, RC Set# DHGM200037.

Tested bolt sizes were identified as M20x55, RC Set# DHGM200038.

Tested bolt sizes were identified as M20x60, RC Set# DHGM200039.

5 bolt assemblies were tested per lot.

After determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning Inspection Report # 292 for bolt size M20x45, RC Set# DHGM200036 was generated by ZPMC QC.

After determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning Inspection Report # 290 for bolt size M20x50, RC Set# DHGM200037 was generated by ZPMC QC.

After determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning Inspection Report # 291 for bolt size M20x55, RC Set# DHGM200038 was generated by ZPMC QC.

After determining Nut Rotation from Snug-Tight condition for Turn-of-Nut Pre-tensioning Inspection Report # 289 for bolt size M20x60, RC Set# DHGM200039 was generated by ZPMC QC.

Please reference the pictures attached for more comprehensive details.

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

Segment 12AE (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector performed Dimension Control Inspection on the Longitudinal Diaphragm to Longitudinal Diaphragm at Work Point E3 (Bike Path side) for the Segment 12AE between Panel Point (PP) 111 to PP 112 at the following locations after Heat Straightening.

The offset was measured at 5 (five) different locations in which 2 (Two) locations were at Flange area and 3 (Three) locations were at Web area. The QA Inspector measured the Offset using 1(One) Meter Straight Edge.

The Sweep was measured at 100 mm from both sides of the Floor Beam and 800mm from both sides of floor Beam and at Center (Total 5 Locations) using string line.

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 12AE (Flatness Check)

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This QA Inspector performed Dimension Control Inspection along with ABF QA Inspector for the Segment 12AE from Panel Point (PP) 111 to PP 112 at the following locations:

The skin flatness was verified and measured across the longitudinal butt weld at Deck Panel (DP) to Corner Assembly (CA) at the Cross Beam (CB) side from Panel Point (PP) 111 to PP 112. The QA Inspector measured the skin flatness using 600mm 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 12AE (Cantilever Bracket)

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 OBE12C-030. The welder identification was 044504 and was observed welding in the 1G (Flat) position using approved Welding Procedure Specification WPS-B-P-2211-Tc-U4b-FCM-1. The piece mark was identified as Cantilever Brackets welded at Edge Panel at PP 112.5, Cross Beam side.

Please reference the pictures attached for more comprehensive details.

Segment 12AW (Cantilever Bracket)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Fillet weld. The weld joint was designated as OBE12C-031/032. The welder identification was 044504 and was observed welding in the 3F (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213-FCM-1. The piece mark was identified as Cantilever Brackets welded at Edge Panel at PP 112.5, Cross Beam side.

Please reference the pictures attached for more comprehensive details.

Segment 12BW (Cantilever Bracket)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Fillet weld. The weld joint was designated as OBE12C-018/019. The welder identification was 044504 and was observed welding in the 3F (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213-FCM-1. The piece mark was identified as Cantilever Brackets welded at Edge Panel at PP 114.5, Cross Beam side.

Please reference the pictures attached for more comprehensive details.

Segment 12AE (Connection Clips)

This QA Inspector observed ZPMC personnel performing free hand flame cutting at the Connection Clips. Connecting Clips are connecting the Floor Beam to Bottom Panel T-Ribs Flange at work point E3 (Bike Path side)

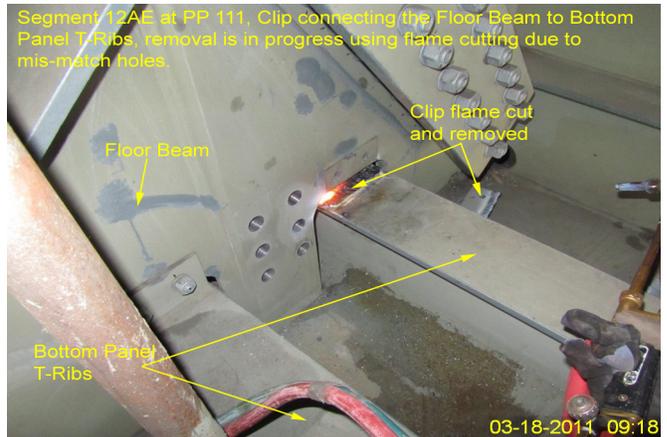
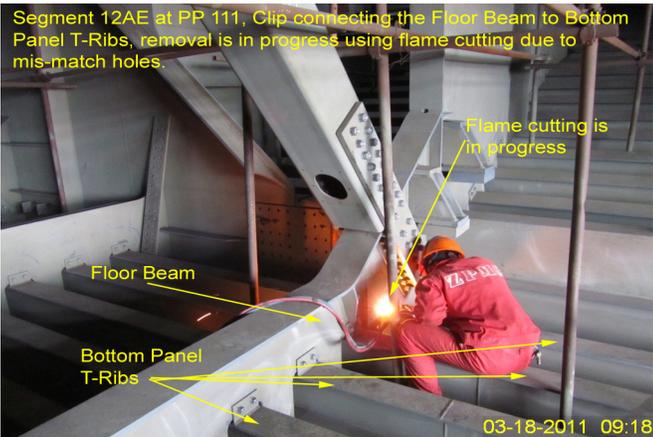
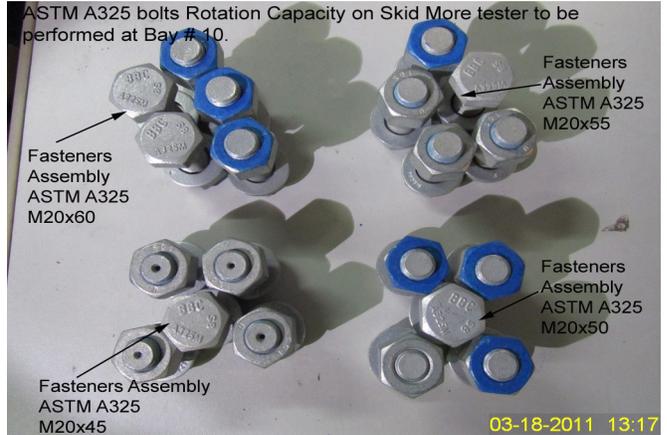
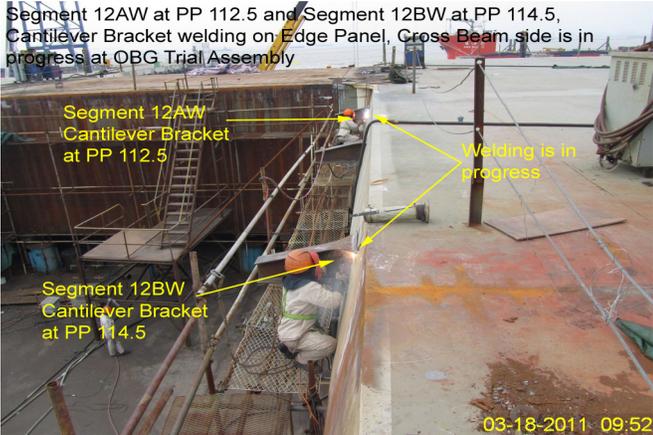
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and work point E4 (Cross Beam side), cutting was performed to rectify the mis-match holes between Floor Beam to Connection Clip.

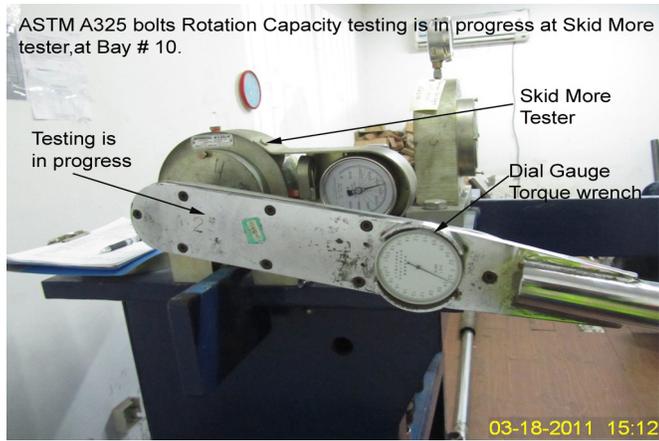
Please reference the pictures attached for more comprehensive details.

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



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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

Reviewed By: Miller,Mark QA Reviewer