

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-018445**Date Inspected:** 06-Dec-2010**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

Segment 11BE to 11CE (Transverse Splice T-Ribs)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Side Panel Bike Path Side (from work point E1 towards E3) and Cross Beam side (from work point E4 to E6) between Panel Point (PP) 100 to PP 101 for Segment 11BE to 11CE. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00564 Dated December 06, 2010.

The bolt sizes used were M22 x 65 RC Lot # DHGM220116 and the final torque value established was 333 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220038 and the final torque value established was 480 N-m.

The Manual Torque wrench used was Serial No. XO2-776.

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Please reference the pictures attached for more comprehensive details.

Segment 11BE to 11CE (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs after bolting for the Segment 11BE to Segment 11CE between Panel Point (PP) 100 to PP 101 at the following locations:

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

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.

Note: Work Point E3 towards Work Point E4 (Bottom Panel) total 18 T-Ribs, the dimension control inspection after bolting was not performed as (2) two rows and 5 (five) columns of fasteners assembly were installed due to interference with temporary sea fastening structures.

Segment 11BW to 11CW (Transverse Splice T-Ribs)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Side Panel Cross Beam Side (from work point W6 towards W4) and Counter Weight side (from work point W3 to W1) between Panel Point (PP) 100 to PP 101 for Segment 11BW to 11CW. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00563 Dated December 06, 2010.

The bolt sizes used were M22 x 65 RC Lot # DHGM220116 and the final torque value established was 333 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220038 and the final torque value established was 480 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. XO2-776.

Segment 11BW to 11CW (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs after bolting for the Segment 11BW to Segment 11CW between Panel Point (PP) 100 to PP 101 at the following locations:

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

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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.

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.

Note: Work Point W3 towards Work Point W4 (Bottom Panel) total 18 T-Ribs, the dimension control inspection after bolting was not performed as (2) two rows and 5 (five) columns of fasteners assembly were installed due to interference with temporary sea fastening structures.

Segment 11BE to Segment 11CE (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Longitudinal Diaphragm to Longitudinal Diaphragm between Panel Points (PP) 100 and PP 101 for Segment 11BE to Segment 11CE at work point E4, Cross Beam side and work point E3 Bike Path side. 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. 00564 dated December 06, 2010.

The bolt sizes used were M24 x 70 RC Lot # DHGM240075 and the final torque value established was 680 N-m.

The bolt sizes used were M24 x 95 RC Lot # DHGM240021 and the final torque value established was 540 N-m.

The Manual Torque wrench used was Serial No. XO2-776.

Please reference the pictures attached for more comprehensive details.

Segment 11EW

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Fillet weld. The weld joint was designated as Seg073B-021/022. The welder identification was 049220 and observed welding in the 2F (Horizontal) position using approved Welding Procedure Specification WPS-B-T-2233-ESAB. The piece mark was identified as Longitudinal Diaphragm web weld connecting Bottom Panel at work point W3.

Please reference the pictures attached for more comprehensive details.

Segment 11EW

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Fillet weld. The weld joint was designated as Seg073C-005/006. The welder identification was 040759 and observed welding in the 2F (Horizontal) position using approved Welding Procedure Specification WPS-B-T-2233-ESAB. The piece mark was identified as Longitudinal Diaphragm web weld connecting Bottom Panel at work point W4.

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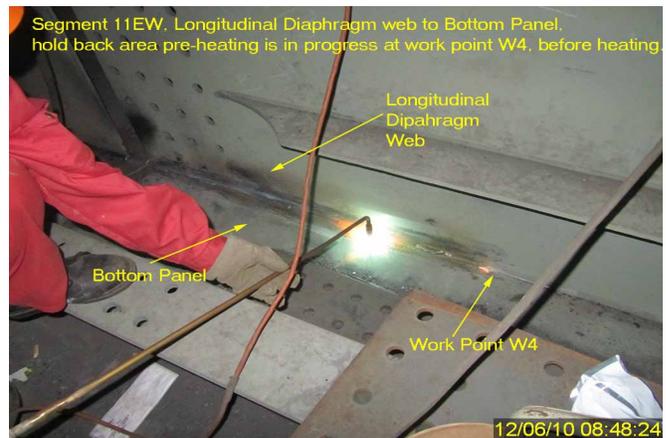
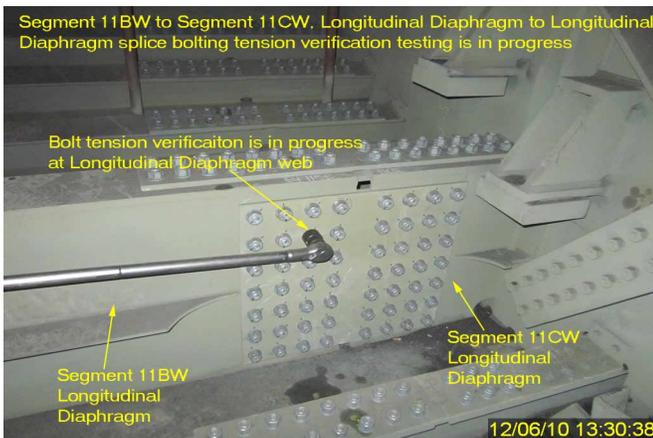
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Please reference the pictures attached for more comprehensive details (pictures taken during the stage of pre-heating).

Segment 11EE (Corner Assembly hold back weld)

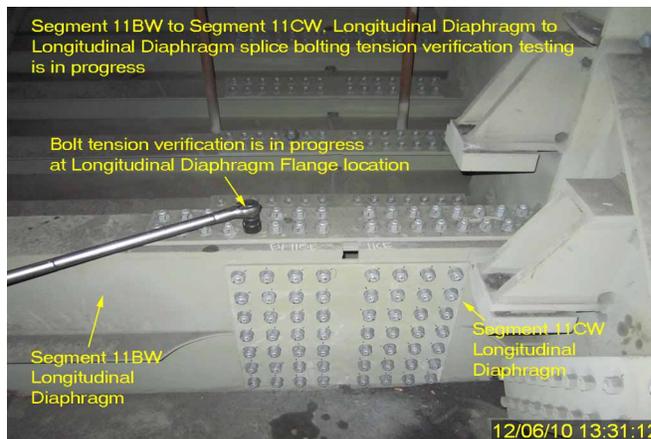
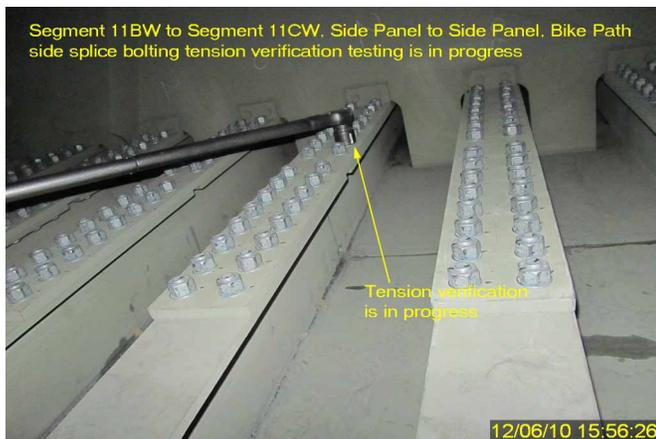
This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as CA093-006. The welder identification was 040320 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-Tc-U4b-FCM-1. The piece mark was identified as Side Panel to Deck Panel hold back weld at work point E5.

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 150000422372, who represents the Office of Structural Materials for your project.

Inspected By: Math,Manjunath

Quality Assurance Inspector

Reviewed By: Dsouza,Christopher

QA Reviewer
