

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-019299**Date Inspected:** 18-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 Grillage (Lift 5) – East

This QA Inspector witnessed final bolt tension verification on bolts connecting the Top Covering Plate to Angle Piece installed at Tower Grillage East Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00615 dated January 18, 2011.

The bolt sizes used were M24 x 160 RC Lot # DHGM270022 and the final torque value established was 1600 N-m.

The bolt sizes used were M24 x 140 RC Lot # DHGM240018 and the final torque value established was 900 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

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Please reference the pictures attached for more comprehensive details.

Tower Grillage (Lift 5) – West

This QA Inspector witnessed final bolt tension verification on bolts connecting the Top Covering Plate to Angle Piece installed at Tower Grillage West Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00615 dated January 18, 2011.

The bolt sizes used were M24 x 160 RC Lot # DHGM270022 and the final torque value established was 1600 N-m.

The bolt sizes used were M24 x 140 RC Lot # DHGM240018 and the final torque value established was 900 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

Tower Grillage (Lift 5) – South

This QA Inspector witnessed final bolt tension verification on bolts connecting the Top Covering Plate to Angle Piece installed at Tower Grillage South Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00615 dated January 18, 2011.

The bolt sizes used were M24 x 160 RC Lot # DHGM270022 and the final torque value established was 1600 N-m.

The bolt sizes used were M24 x 140 RC Lot # DHGM240018 and the final torque value established was 900 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

Tower Grillage (Lift 5) – North

This QA Inspector witnessed final bolt tension verification on bolts connecting the Top Covering Plate to Angle Piece installed at Tower Grillage North Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00615 dated January 18, 2011.

The bolt sizes used were M24 x 160 RC Lot # DHGM270022 and the final torque value established was 1600 N-m.

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The bolt sizes used were M24 x 140 RC Lot # DHGM240018 and the final torque value established was 900 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

Tower Grillage (Lift 5) – North

This QA Inspector witnessed final bolt tension verification on bolts connecting the Top Covering Plate to Angle Piece installed at Tower Grillage North Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00615 dated January 18, 2011.

The bolt sizes used were M24 x 160 RC Lot # DHGM270022 and the final torque value established was 1600 N-m.

The bolt sizes used were M24 x 140 RC Lot # DHGM240018 and the final torque value established was 900 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

Tower Grillage (Lift 5) – Lifting Lug

This QA Inspector witnessed final bolt tension verification on bolts connecting the Lifting Eye Pad. Lifting Eye Pad is installed between South Shaft and East Shaft. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00616 dated January 18, 2011.

The bolt sizes used were M24 x 170 RC Lot # DHGM240068 and the final torque value established was 610 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

Tower Grillage (Lift 5) – Lifting Lug

This QA Inspector witnessed final bolt tension verification on bolts connecting the Lifting Eye Pad. Lifting Eye Pad is installed between North Shaft and West Shaft. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00616 dated January 18, 2011.

The bolt sizes used were M24 x 170 RC Lot # DHGM240068 and the final torque value established was 610 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

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Please reference the pictures attached for more comprehensive details.

BAY 11 – (Skid More Test)

This QA Inspector witnessed Bolt Testing for ASTM A3250 Grade. Observed ZPMC QC Mr. Zou Jian performing bolts testing and ZPMC QA Inspector Mr. Zhang Jia Di was present during the course of Bolt 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 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: 1014 (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).

Tested bolt sizes were identified as M24x80 RC Set# DHGM240018.

5 bolt assemblies were tested per lot.

After determining High Tension bolt capability verification test Inspection Report # 284 for bolt size M24x80 was generated by ZPMC QA.

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

Please reference the pictures attached for more comprehensive details.

Segment 12BW to Segment 12CW (Edge Panel I-Rib Stiffener Splice weld)

This QA Inspector observed the in process welding operation by the Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The weld joint was designated as EP3008-001-013. The welder identification was 057333 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 Edge Panel, I-Rib Stiffener Splice weld, Cross Beam side.

Segment 12BE to Segment 12CE (Edge Panel I-Rib Stiffener Splice weld)

This QA Inspector observed the in process welding operation by the Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The weld joint was designated as EP3005-001-014. The welder identification was 044515 and was observed welding in the 1G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1. The piece mark was identified as the Edge Panel,

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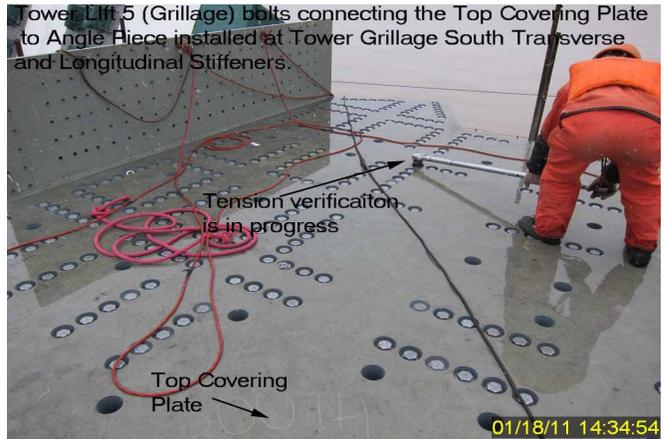
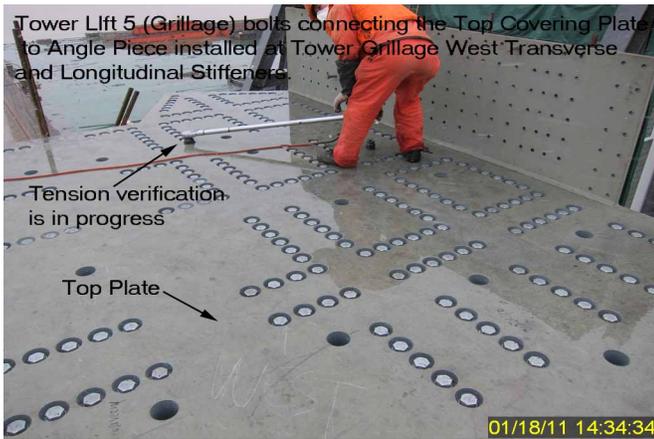
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I-Rib Stiffener Splice weld, Bike Path side.

Segment 12BE to Segment 12CE (Side Panel I-Rib Stiffener Splice weld)

This QA Inspector observed the in process welding operation by the Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The weld joint was designated as EP3005-001-031. The welder identification was 050289 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 Edge Panel, I-Rib Stiffener Splice weld, Cross Beam side.

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



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Bay 11. Bolt Testing Lab: The testing of ASTM A325, M24x80 bolts assembly for determining Nut Rotation from Snug-Tight condition for Turn-of-Nut.



Tower Lift 5 (Grillage) bolts connecting the Top Covering Plate to Angle Piece installed at Tower Grillage North Transverse and Longitudinal Stiffeners.



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