

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010605**Date Inspected:** 08-Dec-2009**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**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 Trail Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, 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) Trial Assembly Areas

Segment 5AE

This Quality Assurance (QA) Inspector witnessed final tension verification for Cable Tray between PP 29, PP 30 and 31 and for Segment 5AE which are installed at Bottom Panel T-Ribs. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M 3/4 x 2 1/4 RC Set# DHG60580 and final torque required is 340 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 114.

Segment 5BE

This Quality Assurance (QA) Inspector witnessed final tension verification for Cable Tray between PP 32, PP 33 and 34 and for Segment 5BE which are installed at Bottom Panel T-Ribs. Inspected 10% on a random basis and

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found the tension to be in general compliance.

Bolt sizes used were M 3/4 x 2 1/4 RC Set# DHG60580 and final torque required is 340 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 114.

Note: At PP 32 Cable Tray structure was not installed, as it will interfere with Sea Fastening Structure.

### Segment 5CW

This Quality Assurance (QA) Inspector witnessed final tension verification for Cable Tray between PP 35 and 36 and for Segment 5CW which are installed at Bottom Panel T-Ribs. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M 3/4 x 2 1/4 RC Set# DHG60580 and final torque required is 340 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 114.

### Segment 2AE

This Quality Assurance (QA) Inspector witnessed final tension verification for Cable Tray between PP 13.5, 14, 15 and 16 and for Segment 2AE which are installed at Bottom Panel T-Ribs. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M 3/4 x 2 1/4 RC Set# DHG60580 and final torque required is 340 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 114.

Note: Panel Point (PP) 13 to 13.5 Cat Walk Structures not offered for Inspection and from PP 14 to 14.5 Top Cable Tray connecting angles not installed as per Sea Fastening Plan.

### Segment 2BE

This Quality Assurance (QA) Inspector witnessed final tension verification for Cable Tray between PP 17 and 18 and for Segment 2BE which are installed at Bottom Panel T-Ribs. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used were M 3/4 x 2 1/4 RC Set# DHG60580 and final torque required is 340 N-m.

Manual Torque wrench is been used with Sr. No. XO2 - 114.

### Segment 6AW to 6BW

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for Side

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Panel to Side Panel Transverse Splice weld between Panel Point (PP) 40 and PP 41 for Segment 6AW to 6BW Counter Weight side. The welder was identified as 067876 and 066674. The Weld joint is identified as OBW6B-002. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B –T-2233T. The parameters noted down by QC are been in compliance with WPS.

Segment 6AW to 6BW

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for Side Panel to Side Panel Transverse Splice weld between Panel Point (PP) 40 and PP 41 for Segment 6AW to 6BW Cross Beam side. The welder was identified as 220067 and 220063. The Weld joint is identified as OBW6B-004. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B –T-2233T. The parameters noted down by QC are been in compliance with WPS.

Segment 6AW to 6BW

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for Deck Panel to Deck Panel Transverse Splice weld between Panel Point (PP) 40 and PP 41 for Segment 6AW to 6BW. The welder was identified as 220069 and 066674. The Weld joint is identified as OBW6-002, OBW6-003 and OBW6-004. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B –T-223(2)1T-2.

Cantilever

This QA Inspector observed ZPMC welding personnel performing Flux Cored Arc Welding (FCAW) for Cantilever Box Bracket for Segment 5CE. The Weld joint is identified as BK-001-018-068. The welder was identified as 066746. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-FCAW-3G (3F)-Repair. The repair welding was performed against the Welding Repair Report B-WR8051 Rev.0 Dated Dec 01, 2009.

Segment 5BE to 5CE

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Deck Panel Transverse Splice Weld between PP 36 and PP 37 for Segment 5BE to 5CE. The welder was identified as 066258 and 037743. The Weld joint is identified as OBE5-008. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-FCM-Repair-1. The welding was been performed against the Welding Repair Report B-WR 8820 Rev. No. 0 Dated Nov 25, 2009 and ZPMC Ultrasonic Report No. B787-UT-9889 Dated Nov 25, 2009. The repairs Y Datum Location were identified as 6430, 6920, 7120, 7660, 7865, 9540, 11270, 12730, 12870, 14875, 15925, 17460, 17670, 18270, 19835 and 20465 (Total 16 Nos.).

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

**Summary of Conversations:**

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No relevant conversations.

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

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<b>Inspected By:</b>	Math,Manjunath	Quality Assurance Inspector
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<b>Reviewed By:</b>	Miller,Mark	QA Reviewer
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