

**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-009961**Date Inspected:** 25-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Jha and Wu Chi Chang**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 day CALTRANS OSM Quality Assurance Inspector (QA) S. Manjunath. Math was present during the times noted above for observations relative to the work being performed.

Orthotropic Box Girder (OBG) Trial Assembly Area

Segment 5AW

This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Chevron Bolts connecting Splice Plate to the Angle at PP 29, PP30 and PP 31 for Segment 5AW. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used are M22x75 RC Lot No. DHGM220005 and final Torque required was 473 N-m.

Manual Torque wrench has been used with Serial No. XQ2-599.

Segment 5BW

This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Chevron Bolts connecting Splice Plate to the Angle at PP 32, PP33 and PP 34 for Segment 5BW. Inspected 10% on a random basis and found the tension to be in general compliance.

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Bolt sizes used are M22x75 RC Lot No. DHGM220005 and final Torque required was 473 N-m.

Manual Torque wrench has been used with Serial No. XQ2-599.

Note: At PP 33 South side not Inspected the Tension Verification as bolts were not installed.

### Segment 5CW

This Quality Assurance (QA) Inspector witnessed final tension verification for Lower Chevron Bolts connecting Splice Plate to the Angle at PP 35 and PP 36 for Segment 5CW. Inspected 10% on a random basis and found the tension to be in general compliance.

Bolt sizes used are M22x75 RC Lot No. DHGM220005 and final Torque required was 473 N-m.

Manual Torque wrench has been used with Serial No. XQ2-599.

Note: At PP 36 North side not Inspected the Tension Verification as bolts were not installed.

### Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Carbon Arc Gouging for removing the defects found by Ultrasonic Test for Segment 2AW to 2BW between PP 16 and 17 at Side Panel for Weld No. OBW2A-003. Noted down the "Y" Datum Line locations from the reference line and recorded the preheat temperature and approximately depth of excavations.

### External Side

Y Location Start= 330mm and Y Location Stops=436 Length of excavation is 106mm.  
Y Location Start= 495mm and Y Location Stops=595 Length of excavation is 100mm.  
Y Location Start= 745mm and Y Location Stops=830 Length of excavation is 100mm.  
Y Location Start= 1170mm and Y Location Stops=1270 Length of excavation is 100mm.  
Y Location Start= 1680mm and Y Location Stops=1780 Length of excavation is 100mm.  
Y Location Start= 1970mm and Y Location Stops=2150 Length of excavation is 180mm.  
Y Location Start= 2570mm and Y Location Stops=2680 Length of excavation is 110mm.  
Y Location Start= 2925mm and Y Location Stops=3040 Length of excavation is 115mm.  
Y Location Start= 3350mm and Y Location Stops=3500 Length of excavation is 150mm.  
Y Location Start= 3770mm and Y Location Stops=3960 Length of excavation is 190mm.  
Y Location Start= 4530mm and Y Location Stops=5000 Length of excavation is 470mm.  
Y Location Start= 5230mm and Y Location Stops=5720 Length of excavation is 490mm.  
Y Location Start= 5770mm and Y Location Stops=5870 Length of excavation is 100mm.  
Y Location Start= 5950mm and Y Location Stops=6330 Length of excavation is 380mm.  
Y Location Start= 6670mm and Y Location Stops=6770 Length of excavation is 100mm.

### Lift 2 West

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This QA Inspector observed ZPMC welding personnel performing Carbon Arc Gouging for removing the defects found by Ultrasonic Test for Segment 2AW to 2BW between PP 16 and 17 at Edge Panel next to Side Panel for Weld No. OBW2A-002. Noted down the “Y” Datum Line locations from the reference line and recorded the preheat temperature and approximately depth of excavations.

External Side

Y Location Start= 290mm and Y Location Stops=390 Length of excavation is 100mm.

Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment to Segment Transverse weld at Bottom Panel for UT rejected area for Segment 2AW to 2BW between PP 16 and PP 17 found by Scanning in D Pattern. Repair welding is been performed from external side at three locations. The weld joint is identified as OBW2A-004. The welders are identified as 048659 and 054467. 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 Critical Welding Report B-CWR867 Rev.0.

Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment to Segment Transverse weld at Side Panel Counter Weight Side for UT rejected area for Segment 2AW to 2BW between PP 16 and PP 17 found by Scanning in D Pattern. Repair welding is been performed from internal side at three locations. The weld joint is identified as OBW2A-003. The welders are identified as 048659 and 054467. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-1G (1F)-FCM-Repair-1. The welding was been performed against Critical Welding Report B-CWR867 Rev.0.

Lift 2 West

This QA Inspector observed ZPMC welding personnel performing Shielded Metal Arc Welding (SMAW) for Segment to Segment Transverse weld at Edge Panel next to Side Panel for UT rejected area for Segment 2AW to 2BW between PP 16 and PP 17 found by Scanning in D Pattern. Repair welding is been performed from external side at three locations. The weld joint is identified as OBW2A-002. The welders are identified as 048659 and 054467. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-3G (3F)-FCM-Repair-1. The welding was been performed against Critical Welding Report B-CWR867 Rev.0.

Segment 5CE to 5BE

This QA Inspector observed ZPMC Heat Straightening personnel performing Heat Straightening for Longitudinal Diaphragm North and South side for segment 5CE to 5BE between PP 34 and 35 was in progress.

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## Segment 5BE

This QA Inspector observed ZPMC personnel had cut and removed the short Longitudinal Diaphragm and as the length was short re-build the length by buttering and bevel formed by grinding as on date layout and fit-up was in progress.

## Segment 6AE

This QA Inspector observed at 6AE at PP 37 Bottom Panel matched with 5CE segment and excess plate left during fabrication is been flame cut and removed.

## Segment 6BE

This QA Inspector observed at 6BE at PP 43 Bottom Panel hold back area grinding is in progress for facilitating removal of paint and preparing for fillet weld.

## Segment 5CW

This QA Inspector observed ZPMC personnel drilling holes on T-Ribs of Bottom Panel between PP 35 and 36 for facilitating installation of Electric Support structure.

## Segment 5CE

This QA Inspector observed ZPMC personnel drilling holes on Edge Panel next to Deck Panel for facilitating installation of Road Barrier.

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

### **Summary of Conversations:**

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>	Carreon,Albert	QA Reviewer
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