

**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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018126**Date Inspected:** 14-Nov-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

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	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 11CE (Connection Plates)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib connections plates at Side Panel (Cross Beam and Bike Path side) and at Bottom Panel at the Panel Points (PP) 101, PP 102 and PP 103 for Segment 11CE. 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. 00551 dated November 14, 2010.

The bolt sizes used were M16 x 45 RC Lot # DHGM160010 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160021 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160008 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 65 RC Lot # DHGM160006 and the final torque value established was 180 N-m.

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The Manual Torque wrench used was Serial No. XO2-114.

Note: ZPMC QC did not offer inspection, for the 1st Connection clip (reference of numbering taken from the work point E4 towards work point E6) at PP 103, as no bolts are installed due to mis-match hole.

Please reference the pictures attached for more comprehensive details.

### Segment 11DE (Connection Plates)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib connections plates at Side Panel (Cross Beam and Bike Path side) and at Bottom Panel at the Panel Points (PP) 104, PP 105 and PP 106 for Segment 11DE. 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. 00551 dated November 14, 2010.

The bolt sizes used were M16 x 45 RC Lot # DHGM160010 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160021 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160008 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 50 RC Lot # DHGM160004 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 65 RC Lot # DHGM160006 and the final torque value established was 180 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

Please reference the pictures attached for more comprehensive details.

### Segment 11EE (Connection Plates)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib connections plates at Side Panel (Cross Beam and Bike Path side) and at Bottom Panel at the Panel Points (PP) 107 and PP 108 for Segment 11EE. 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. 00551 dated November 14, 2010.

The bolt sizes used were M16 x 45 RC Lot # DHGM160010 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160021 and the final torque value established was 180 N-m.

The bolt sizes used were M16 x 45 RC Lot # DHGM160008 and the final torque value established was 200 N-m.

The bolt sizes used were M16 x 65 RC Lot # DHGM160006 and the final torque value established was 180 N-m.

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The Manual Torque wrench used was Serial No. XO2-114.

Note: ZPMC QC did not offer inspection, for the 2nd Connection clip (reference of numbering taken from the work point E3 towards work point E1) at PP 107 and PP 108 as no bolts are installed due to mis-match hole.

Please reference the pictures attached for more comprehensive details.

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

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector Mr. Murugan Manikandan on the Longitudinal Diaphragm to Longitudinal Diaphragm at Work Point E3 (Bike Path side) and at Work Point E4 (Cross Beam side) for the Segment 11BE to Segment 11CE between Panel Point (PP) 100 to PP 101 at the following locations:

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 11DE (Lower Chevron Flatness Survey)

This QA Inspector performed Dimension Control Inspection along with ZPMC QC Mr. Zhang Hai Jung on the Splice plate installed at Lower Chevron from East and West side to ensure flatness is within the allowable tolerance before snug tightening the bolts for Segment 11DE at Panel Points (PP) 104, PP 105 and PP 106 at Cross Beam side, work point E4 and Bike Path side, work point E3.

The QA Inspector measured the Flatness using 1(One) Meter Straight Edge and the results appeared to be in general compliance with contract requirements.

Segment 11EE (Lower Chevron Flatness Survey)

This QA Inspector performed Dimension Control Inspection along with ZPMC QC Mr. Zhang Hai Jung on the Splice plate installed at Lower Chevron from East and West side to ensure flatness is within the allowable tolerance before snug tightening the bolts for Segment 11EE at Panel Points (PP) 107 and PP 108 at Cross Beam side, work point E4 and Bike Path side, work point E3.

The QA Inspector measured the Flatness using 1(One) Meter Straight Edge and the results appeared to be in general compliance with contract requirements.

Segment 13BE (U-Rib to U-Rib)

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This QA Inspector performed Dimension Control Inspection for measuring offset along with Caltrans QA Inspector Mr. Murugan Manikandan on the U-Rib to U-Rib from Cross Beam side towards Bike Path side at a total of 34 locations on Segment 13BE between Panel Points (PP) 121 to PP 121.5 at the following locations:

The offset was measured within 50mm from the Deck Panel on U-Rib on the South and North side. The QA Inspector measured the 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: At location 13 and 27 there are no U-Rib as per design.

Segment 13CE (U-Rib to U-Rib)

This QA Inspector performed Dimension Control Inspection for measuring offset along with Caltrans QA Inspector Mr. Murugan Manikandan on the U-Rib to U-Rib from Cross Beam side towards Bike Path side at a total of 37 locations on Segment 13CE between Panel Points (PP) 123 to PP 123.5 at the following locations:

The offset was measured within 50mm from the Deck Panel on U-Rib on the South and North side. The QA Inspector measured the 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: At location 13 and 27 there are no U-Rib as per design.

Segment 13CE (U-Rib to U-Rib)

This QA Inspector performed Dimension Control Inspection for measuring offset along with Caltrans QA Inspector Mr. Murugan Manikandan on the U-Rib to U-Rib from Cross Beam side towards Bike Path side at a total of 37 locations on Segment 13CE between Panel Points (PP) 124 to PP 124.5 at the following locations:

The offset was measured within 50mm from the Deck Panel on U-Rib on the South and North side. The QA Inspector measured the 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: At location 13 and 27 there are no U-Rib as per design.

Segment 12AW (FL3 T-Ribs)

This QA Inspector performed Dimension Control Inspection along with Caltrans QA Inspector Mr. Murugan

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Manikandan on the FL3 T-Ribs at Side Panel T-Ribs to T-Ribs for the Segment 12AW between Panel Point (PP) 110, PP 111 and PP 112 at the following locations after Adjustment:

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 and measured the Horizontal Offset on the web using a Bridge Cam gauge.

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.

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



### 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.

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

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