

**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-003025**Date Inspected:** 30-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Chen Chih-Ming / An Qingxiang			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

**Bridge No:** 34-0006**Component:** OBG side and bottom panels, tower skin plate**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG new assembly bay 2

QA observed ZPMC qualified welding personnel perform SAW welding on BP-016 to SP-078 joint# SEG-018A-007 following the guide lines of WPS# WPS-B-T-223(2)-1T. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 31.3 Amps: 620 Travel speed: 580mm/min

QA observed ZPMC personnel fitting floor beam FL1 north to FL2-1 and FL2-2 at PP-23 segment 3BW (SEG 15).

Other general observations include ZPMC personnel grinding side and bottom panels and weld bevel prep.

New Tower Bay 1

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# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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QA observed ZPMC qualified welding personnel perform SAW welding on skin plate joint# SSD1-SA15A/F-15A following the guide lines of approved WPS# WPS-B-T-2221-B-U3c-S and WPS-B-T-2221-B-U3c-S-1. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 32.6 Amps: 658 Travel speed: 560mm/min

ZPMC Quality Control (QC) inspectors discovered an 80mm long crack in tower skin plate weld joint SSD1-SA178C/D-18. ZPMC elected to excavate the affected area to a depth of approximately 16 – 18mm x 120mm in length x 30mm wide. The excavation was Magnetic particle Tested (MT) by QA for information only and found to contain what appeared to be several transverse and several longitudinal indications. ZPMC QC notified Caltrans QA of this condition and is apparently submitting a Critical Weld Repair (CWR) procedure concerning this issue.

QA performed 10% Ultrasonic Testing (UT) verification of the following tower skin plate joints: SSD1-SA159D/J-2A and SSD1-SA159A/J-11A. Both areas UT'ed appeared to be compliant with AWS D1.5 2002 and the contract documents.

## New Tower Bay 2

QA performed R1 repair Ultrasonic Testing (UT) verification on two areas of the following tower skin plate joint: ESD1-SA77A/E-34B. Both areas tested appeared to be compliant with AWS D1.5 2002 and the contract documents.

Other general observations in the New Tower bays include weld bevel preparation, flame straightening, CNC parts cutting, hole drilling and grinding.



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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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## Summary of Conversations:

Only general conversations were held between QA and QC concerning this project.

## 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 Patrick Lowry (858)-344-2712, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hall,Steven	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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