

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017706**Date Inspected:** 03-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), 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 Segments**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, Dan Hernandez was present during the times noted above to observe the fit up, welding and related activities associated with the fabrication of the San Francisco Oakland Bay Self Anchored Suspension Bridge at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

OBG Trial Assembly Yard

Segment 11CE/11DE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated BP188-001-026, Bottom Plate WT stiffener web Splice. The welder is identified as #500363 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-B-U2-F.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated BP080-001-024, Bottom Plate WT stiffener web Splice. The welder is identified as #047353 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-B-U2-F.

Segment 11DE

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This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG072A-043, Side Plate to Bottom Plate hold back weld. The welder is identified as #040367 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231-B-U2-F.

### Segment 11BE/11CE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated EP171-001-014, Edge Plate I-rib stiffener splice. The welder is identified as #040458 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231-B-U2-F.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SP715-001-033, Side Plate I-rib stiffener Splice. The welder is identified as #040458 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-B-U2-F.

### Segment 11CE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG070A-014, Side Plate to Bottom Plate hold back weld. The welder is identified as #044515 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1.

### Segment 11DW/11EW

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBW11C-008, Bottom Plate transverse splice. The welder is identified as #053486 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231T-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBW11A-008, Deck Plate transverse splice root pass. The welder is identified as #040759 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-223(2)1T-1.

### Segment 11CW/11DW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SP142-001-054, Side Plate WT stiffener web splice. The welder is identified as #057333 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-B-U2-FCM-1.

### Segment 11BW/11CW

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This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBW11B-009, Side Plate transverse splice. The welder is identified as #040656 and was observed welding in the 3G (overhead) position using approved Welding Procedure Specification WPS-345-SMAW-3G (3F)-FCM-repair, UT repair for WR16506.

### Segment 11AE

This QA Inspector observed Base Metal Repair using the Shielded Metal Arc Welding (SMAW) process at locations of removed fit up plates along the exterior of the Deck Plate transverse CJP field splice. The welder is identified as #040378 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-345-SMAW-1G (1F)-FCM-repair-1 for CWR1957.

### Cross Beam 17

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SP3026-017-153, 154, stiffener to west Side Panel. The welder is identified as #066421 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-TC-U4b-F.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated SP3026-017-103, 104, stiffener to west Side Panel. The welder is identified as #066421 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2133.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Liu Hua Ji, Fang Ya Jun and Zhou Yuan Yuan. The welding variables recorded by QC appeared to comply with the Applicable WPS.

### Segment 11CW/11DW

This QA Inspector observed ABF personnel performing Magnetic Particle Testing along the Deck Plate transverse CJP splice at locations of removed fit up plates.

### Segment 11AE

This QA Inspector observed ABF personnel performing Magnetic Particle Testing along the Edge Plate transverse CJP splice at locations of removed fit up plates, cross beam side at west end of segment.

### Segment 11AW

This QA Inspector observed fit up of the Light Bracket at Deck Plate/Edge Plate.

### QA Verification

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This QA Inspector performed Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC UT personnel. The following items were tested:

Splice Plate X201F

1 Plug weld on mis drilled bolt hole on 3 splice plates.

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 Eric Tsang, 150-0042-2372 , who represents the Office of Structural Materials for your project.

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