

**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-018222**Date Inspected:** 18-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**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 11EE

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Partial Joint Penetration (PJP) weld joint. The Weld joint is designated LB4-003-058, Light Bracket to Deck Plate. The welder is identified as #044473 and was observed welding in the 2G (horizontal) position using approved Welding Procedure Specification WPS-B-T-2232-ESAB.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Partial Joint Penetration (PJP) weld joint. The Weld joint is designated LB4-003-044, Light Bracket to Deck Plate. The welder is identified as #040367 and was observed welding in the 2G (horizontal) position using approved Welding Procedure Specification WPS-B-T-2232-ESAB.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Partial Joint Penetration (PJP) weld joint. The Weld joint is designated LB4-003-075, Light Bracket to Edge Plate. The welder is identified as

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#052910 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2314-TC-P4.

### Segment 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 CSD9-PP108-151, Stiffener Plate P30 to Edge Plate. The welder is identified as #045175 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231-TC-U4c-FCM.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CSD9-PP108-153, Stiffener Plate P30 to Corner Assembly Intermediate Diaphragm. The welder is identified as #045175 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-T-2233-TC-U4c-FCM.

### Cross Beam 16

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CA202A-016-001, Side Panel to Deck Panel hold back weld. The welder is identified as #040611 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CA202A-016-013, Side Panel to Deck Panel hold back weld. The welder is identified as #044551 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

### Segment 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 SSD12A-PP106-169, FL3 Web to Deck Plate hold back weld. The welder is identified as #040611 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SSD10A-PP104-170, FL3 Web to Deck Plate hold back weld. The welder is identified as #040611 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

### 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 CA087-006, Edge Plate to Deck Plate. The welder is identified as #067752 and was observed welding in the 4G (overhead) position using approved Welding Procedure

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Specification WPS-345-SMAW-4G (4F)-FCM-repair-1 for WR17233, UT repair.

### Segment 11DE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG072\*-044, Edge Plate to Deck Plate. The welder is identified as #067752 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)-FCM-repair-1 for WR17233, UT repair.

### Segment 11CE/11DE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated OBE11C-002, Side Plate transverse splice. The welder is identified as #040320 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G (4F)-FCM-repair-1 for WR17231, UT repair.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Wang Li Yang and Zhou Yuan Yuan. The welding variables recorded by QC appeared to comply with the Applicable WPS.

### Segment 11CE/11DE

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Bottom Plate to Side Plate CJP hold back weld, cross beam side.

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Bottom Plate WT stiffener hold back fillet welds.

### Segment 11DW/11EW

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Edge Plate to Deck Plate and Edge Plate to Side Plate CJP hold back welds, cross beam side.

### QA Verification

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:

11CE/11DE WT stiffener web splice and I-rib web splice

SP702-001-032

SP557-001-055

SP587-001-046

SP637-001-052

BP188-001-022

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BP080-001-020  
BP134-001-020  
SP382-001-044  
SP355-001-054  
SP328-001-051  
SP716-001-031  
DP720-001-020

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
<b>Reviewed By:</b>	Dsouza,Christopher	QA Reviewer

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