

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-018390**Date Inspected:** 21-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:** Mr. Chen xi**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:** Orthotropic Box Girder (OBG)**Summary of Items Observed:**

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

BAY- 3

This QA Inspector Randomly observed the following work in progress:

Flux Cored Arc Welding (FCAW) Repair welding of weld joint FB3286-001-395. Welder is identified as 050242. ZPMC Quality Control (QC) is identified as Mr. Zhan hai feng. The welding variables appeared to comply with the Applicable WPS: WPS-345-FCAW-2G (2F)-Repair. The repair welding was being performed as per the Welding Repair Report (WRR) No: B-WR17494. This weld was rejected by ZPMC UT Technicians and recorded on UT report No: B787-UT-17584. Refer the attached photos for reference.

FCAW Repair welding of weld joint FB3286-001-191. Welder is identified as 052696. ZPMC Quality Control (QC) is identified as Mr. Zhan hai feng. The welding variables appeared to comply with the Applicable WPS: WPS-345-FCAW-2G (2F)-Repair. The repair welding was being performed as per the Welding Repair Report (WRR) No: B-WR17456. This weld was rejected by ZPMC UT Technicians and recorded on UT report No: B787-UT-17584. Refer the attached photos for reference.

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During QA random in-process observations of the fabrication of OBG lift 14, East Floor beam FB3286A, this QA observed ZPMC workers have removed an entire CJP weld joint to perform a weld repair. ZPMC failed to notify the

Engineer of the intent to remove the entire weld. Due to the manner in which ZPMC excavated the weld, they appear

to have altered the specified weld joint detail as shown on WD481AG. The weld is a Complete Joint Penetration (CJP) with backing joining stiffener X4625C to stiffener X4626J. After being informed of this incident report, ZPMC has commenced repair welding of this joint using Flux cored Arc Welding (FCAW) in the vertical (3G) position. The repair joint preparation did not appear to comply with the contract documents concerning gouged grooves. The weld joint is identified as FB3286-001-174. ZPMC has prepared welding repair report (WRR) no. B-WR-17455 concerning this repair. The stiffener material thickness is 45 mm. The depth of excavation is approximately 50mm.

This QA Inspector generated an incident report on this date for the above issue, for further information see the incident report.

BAY- 2

FCAW Repair welding of weld joint FB3343-001-321. Welder is identified as 067876. ZPMC Quality Control (QC) is identified as Mr. Xu jie. The welding variables appeared to comply with the Applicable WPS: WPS-345-FCAW-2G (2F)-Repair. The repair welding was being performed as per the Welding Repair Report (WRR) No: B-WR17372. This weld was rejected by ZPMC UT Technicians and recorded on UT report No: B787-UT-17521. Refer the attached photos for reference.

FCAW Repair welding of weld joint FB3343-001-207. Welder is identified as 068917. ZPMC Quality Control (QC) is identified as Mr. Xu jie. The welding variables appeared to comply with the Applicable WPS: WPS-345-FCAW-2G (2F)-Repair. The repair welding was being performed as per the Welding Repair Report (WRR) No: B-WR17394. This weld was rejected by ZPMC UT Technicians and recorded on UT report No: B787-UT-17521. Refer the attached photos for reference.

FCAW of weld joint SA3450-001-013,014. Welder is identified as 045203. ZPMC Quality Control (QC) is identified as Mr. Zhu jun. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2132-3.

FCAW of weld joint SA3445-001-013,014. Welder is identified as 067184. ZPMC Quality Control (QC) is identified as Mr. Zhu jun. The welding variables appeared to comply with the Applicable WPS: WPS-B- T-2132-3.

This QA Inspector performed photo documentation on Lift 14 Hinge plates are identified as FB3286A, FB3273A, FB3272A, FB3328B, FB3327A, FB3343A, SA3325A, SA3324A, SA3409A and SA3410A located in sub assembly bay 2 and 3. These photos has been sent to QA lead Inspector and Structural Material Representative (SMR) by mail.

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



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## Summary of Conversations:

Only general conversation was held between QA and Quality Control (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 Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

**Inspected By:** Prabhu,Surendra

Quality Assurance Inspector

**Reviewed By:** Hall,Steven

QA Reviewer