

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 #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024528**Date Inspected:** 22-Jun-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**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 & Tower**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various field fit-up of weld joints and the multi-pass fillet welding. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) and the Flux Cored Arc Welding (FCAW) processes.

A). North Tower Shaft/ Splice Plates

The QAI observed the multi-pass fillet welding of the northeast corner splice plates located at the 114 meter elevation and identified as WN's: 165 and 166. The welding was performed by Salvador Sandoval ID-2202 utilizing the FCAW process as per the WPS identified as ABF-WPS-D15-F2200-2 and F2200-3, Rev. 0.

The QAI also observed the multi-pass fillet welding of the north corner splice plate located at the 114 meter elevation and identified as WN: 165. The welding was performed by Xiao Jian Wan ID-9677 utilizing the FCAW process as per the WPS identified as ABF-WPS-D15-F2200-3, Rev. 0.

The WPS's were also used by the QC inspector, Steve Jensen, to perform the in process weld inspection utilizing the WPS to monitor the welding and to verify the welding parameters. The welding and the inspection of the splice plates appeared to comply with the contract specifications.

B). Lifting Lug Holes

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

The QAI observed the CJP welding of the lifting lug holes identified as WN: 9E-PP77-E3, W1& W3. The welding was performed by Jorge Lopez ID-6149 utilizing the WPS identified as ABF-WPS-D15-1050A-CU, Rev. 0 and 1110A, Rev. 1. The QAI also observed the QC inspector perform the visual inspection and verify the welding parameters during the production welding. The inspection performed by Fred Von Hoff appeared to comply with the contract specifications. The welding of these weld joints were not completed during this scheduled shift.

C). OBG Field Splice 11E/12E

At the request of the QC inspector, William Sherwood, the QAI verified the dimensions in regards to the planar alignment and root opening of the bottom plate field splice identified as 11E-12E-D1 and D2. At the conclusion of the verification the QAI concurs with QC's assessment and the dimensions were as follows; planar alignment=0 mm to 2 mm and the average root opening of 20 mm. At this time the continuous tack welding commence. The welding was performed by Hua Qiang Hwang ID-2930 and Wai Kitlai ID-2953 utilizing the FCAW-G process as per the WPS identified as ABF-WPS-D15-F3200-2, Rev. 0. The WPS was also used by the QC inspector Fred Von Hoff as a reference to monitor the welding and to verify the welding parameters and appeared to comply with the contract specifications.

Later in the shift the QAI observed Rick Clayborn perform the field fit-up of the "A" deck filed splice. This work was not completed during this shift.

This QA Inspector also performed a daily review and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

QA Summary

The welding was performed in the flat and overhead positions utilizing the E7018-H4R low hydrogen and E71T-1 consumables. The 3.2 mm and 4.0 mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The WPS's were also utilized by the QC inspector's as a reference to monitor the welding operation, verify the welding parameters and verify the minimum preheat and the interpass temperatures. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photographs on page 3 of this report illustrate some of the work observed during this scheduled shift.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection and N.D.E. testing personnel scheduled for this shift.

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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
