

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-022494**Date Inspected:** 11-Apr-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:** Steve Jensen**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:** Tower**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Tower Splice – 83 Meter elevation, South Tower leg: This QA Inspector randomly observed the status of the upper and lower Interior Corner Closure Splice Plates located at the B- C corner and C-D corner. During this shift the following was observed.

B-C corner, upper plate: This QA Inspector randomly observed ABF welding personnel Salvador Sandoval (#2202) performing production welding on the bottom half of the splice plate using the Flux Cored Arc Welding (FCAW) process. This QA Inspector observed a hand held gas torch was being used to preheat areas prior to welding. This QA Inspector observed QC Inspector Steve Jensen using an electronic temperature gauge to verify the preheat temperature. This QA Inspector performed a verification of the welding parameters and observed 245 amperes and 21.9 volts with a travel speed of 95 mm per minute which produced a heat input of 3.39 Kj per mm. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-3. The welding of the vertical fillet welds appeared to be completed. This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the Shielded Metal Arc Welding (SMAW) process for the bottom fillet weld in the overhead position (4F). This QA Inspector randomly observed QC Inspector Steve Jensen verify the following welding parameters; 175 amperes. The welding appeared to comply with ABF-WPS-D15-F1200A. By the end of the shift the production welding appeared to be completed. This QA Inspector observed ABF

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personnel rigging the induction heat blanket into position on the splice plate for a 3 hour post weld heat.

C-D corner, upper plate: This QA Inspector randomly observed ABF welding personnel Richard Garcia (#5892) using the Flux Cored Arc Welding (FCAW) process to start production welding on the bottom half of the splice plate. This QA Inspector observed QC Inspector Steve Jensen verify the following welding parameters; 255 amperes and 22 volts with a travel speed of 110 mm per minute which produced a heat input of 3.06 KJ per mm. The welding observed appeared to comply with ABF-WPS-D15-F2200-3. This QA Inspector observed the welding appeared to be 95% complete, both vertical fillet welds appeared to be completed but the overhead fillet weld had not been started. This QA Inspector observed ABF personnel rigging the induction heat blanket into position on the splice plate for a 3 hour post weld heat.

Tower Splice – 83 Meter elevation, West Tower leg: This QA Inspector randomly observed the status of the upper and lower Interior Corner Closure Splice Plates located at the B- C corner and C-D corner. During this shift the following was observed.

B-C corner, upper plate: This QA Inspector had previously noted the splice plate had been fit up using a 3 mm thick filler plate the width of the splice plate and approximately 100 mm in length. The filler plate is directly above the bolted corner splice plate. This QA Inspector observed the plate was being held into position by fitting aids (dogs) and that QC Steve Jensen had marked “fit-up” “OK” on the splice plate. This QA Inspector asked QC Inspector Steve Jensen how the fit up could be accepted without the Engineers’ approval to use the filler plate and that the plate had not been tack welded. QC Inspector Steve Jensen stated a Request For Information (RFI) was going to be submitted by QCM Jim Bowers therefore Engineering approval was pending. QC Inspector Steve Jensen informed this QA Inspector he had and will continue to check the fit up after tack welding to verify the plate did not shift or move prior to tack welding and securing the plate into position.

This QA Inspector observed the remaining splice plates; BC corner, lower, C-D corner upper and lower were all fit up and held into position with the fitting aids and that QC Inspector Steve Jensen had marked the plates “fit up OK”.

Tower Base – 3 to 13 Meter elevation; This QA Inspector randomly observed ABF welding personnel Wai Kitlai (#2953) using the SMAW process to fit and tack weld the various pates used as temporary attachments for the Electro Slag Welding (ESW) process. This QA Inspector randomly observed ABF welding personnel Rick Clayborn (#2773) using the FCAW process for production welding of the various plates. This QA Inspector randomly observed QC Inspector Pat Swain monitoring the work at these locations. This QA Inspector observed scaffolding had been erected at the South end of the tower and that erection had started at the North end.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable 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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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Inspected By:	Hager, Craig	Quality Assurance Inspector
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Reviewed By:	Levell, Bill	QA Reviewer
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