

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012943**Date Inspected:** 08-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**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 Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the E2/E3, W1/W2 and W2/W3 field splices:

- A). Welding of the Field Splice W1 to W2.
- B). Fit-up of the Field Splice W2 to W3.
- C). Removal of Backing Bars.

A) Welding of Field Splice W1/W2

The QAI observed the Shielded Metal Arc Welding (SMAW) process of the bottom plate field splice identified as Weld Number (WN): 1W-2W-D. The welding was performed by AB/F welding operator Jordan Hazelaar ID-2135, Kenneth Chappell ID-3833 and James Zhen ID-6001 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A Rev. 1. The WPS was also used by the AB/F Quality Control (QC) Inspector Bernie Docena as a reference to perform QC verification of the Direct Current Electrode Positive (DCEP) welding parameters during the fillet welding of the backing bar to the bottom plate. Later in the shift the QAI observed the QC inspector verifying the welding parameters during the fillet welding and the average amperage was noted as follows: 138 amps. The QC inspector also monitored the surface temperatures during the field welding and the following was observed and noted by the QAI: the minimum preheat temperature of 20 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The QAI also observed the machining of the CJP cover pass on the deck plate field splice identified as WN: 1W-2W-A. Machining of the welded surface was performed

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utilizing the portable grit sander, GI-75, manufactured by Fien. The weld preparation appeared to comply with the contract specifications.

B) Assembly Fit-Up at OBG Splice W2/W3

The QAI also observed the fillet welding of the fitting gear to the bottom plate field splice to be utilized during the alignment process of the field splices. The work was performed on the joints identified as WN: 2W-3W-B, 2W-3W-C, 2W-3W-E and 2W-3W-F. The welding and the assembly fit-up was performed by Rick Clayborn ID-2773 utilizing the SMAW process during the welding as per the WPS ABF-WPS-D15-F1200A Rev. 1. The WPS was also used by the QC inspector Bonifacio Daquinag as a reference to verify the DCEP welding parameters and were noted as follows: 124 amps. Later in the shift the QAI observed the QC inspector verify the surface temperatures and appeared to comply with the contract documents were noted as follows: 20 degrees Celsius (preheat temperature) and the maximum interpass temperature of 230 degrees Celsius. Later in the shift the QAI inspector verified the alignment of the bottom plate field splice identified as WN: 2W-3W-D. At the conclusion, the QAI recorded the maximum misalignment of the 20mm bottom plate to be 1 mm which appeared to be within the maximum allowable of 10% of the part.

C) Removal of Backing Bar at Field Splice E2/E3

Later in the shift the QAI inspector observed the back gouging of the side plate field splice identified as 2E-3E-C. The back gouging on the "B" Face of the CJP was performed by AB/F personnel Salvador Sandavol utilizing the plasma arc cutting process.

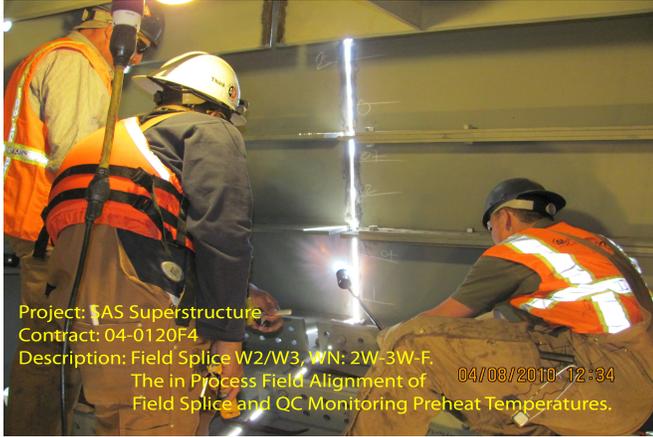
QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector's and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized for the SMAW process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift was not completed and appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

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

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Summary of Conversations:

There were no pertinent conversations discussed in regards to the project except as noted above.

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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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