DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-026116
Date Inspected: 16-Aug-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
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: SAS 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 Complete Joint Penetration (CJP). The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process.

A). Tower Shear Plates

The QAI observed the Ultrasonic Testing (UT) of the ESW skewed T-Joints identified as WN: N-041 and WN: W- 041, located at the joints "N" and "W" accordingly. The testing was performed by the QC technician Steve McConnell utilizing a G.E./Krautkramer USM 35X. The examination was also conducted utilizing UT Procedure identified as SE-UT-D1.5-CT-108 Rev.4 and the applicable contract documents. QAI Note: This UT procedure has not been submitted to the Department for review as of this date. The QC technician performed the required longitudinal wave technique, utilizing a 1.0" diameter transducer, to perform the examination for base metal soundness and the shear wave technique for the examination of weld soundness which was performed utilizing a 16mm x 19mm rectangular transducer. At the conclusion of testing there was one rejectable indication noted by the QC technician in regards to WN: N-041. Weld number WN: W-041 there was no rejectable indications noted by the QC technician. The areas tested was 300 mm in length starting from the top of the shear plate. The QAI also verified the testing of the ESW and concurs with the QC inspector. For location and additional information see the TL-6027 generated on this date.

This QAI was informed on this date by Structures Representative, Douglas Wright, that the Request for Weld

Repair Approval was verbally approved in regards to the ESW's identified as WN: W-042, "M" and WN: N-041, "N".
The QAI observed the repair welding of the ESW identified as WN: W-042 located at joint "M". The welding was performed by Richard Garcia ID-5892 utilizing the SMAW as per the WPS identified as ABF-WPS-D15-1000-Repair, Rev. 2. The welding was performed in the vertical (3G) position with the work placed in an approximately vertical plane with the groove approximately vertical. The minimum preheat of 140 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius appeared to comply with the contract specifications. The QAI also observed the QC inspector, John Pagliero, monitor the welding and verify the welding parameters utilizing the WPS as a reference to perform this task. The welding parameters of 118 amps were noted by the QC inspector and verified by the QAI. The welding was not completed during this shift.

B). Tower Head at the 150 Meter El.

The QAI observed the welding, inspection and Magnetic Particle Testing of the areas where temporary attachments were removed. In the process of removing the attachments there were gouges induced into the A709-345 100 mm thick grillage plate. The gouges were measured by the QC inspector and the maximum depth was noted as 6mm at one location. The majority of the gouges measured, were observed and verified by the QAI and were found to be between 2 mm to 3 mm deep. The gouges were welded and ground by Rick Clayborn ID-2773 utilizing the SMAW process as per the WPS ABF-WPS-D15-1001, Repair. The minimum preheat temperature of 140 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius verified by the QC inspector William Sherwood prior to the welding of each area. This welding, inspection and testing was completed during this shift.

This QA Inspector also performed a daily review of field inspection reports 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 vertical positions utilizing the E7018-H4R. The 3.2 mm H4R electrodes were stored in a electrically heated, thermostatically controlled oven after the 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 welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure 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 photograph on page 3 of this report illustrate some of the work observed during this scheduled work date.

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