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 #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-003149
Date Inspected: 01-Jul-2008

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

OSM Arrival Time: 2300
OSM Departure Time: 700
Location: Muroran, Japan

CWI Name: Anthony Carrado

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower, Jacking and Deviation Saddles

Summary of Items Observed:

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components of the West Deviation Saddles relative to this project. The following was observed:

Fabrication Shop # 4

At the start of the C-shift the QA inspector traveled to the Fabrication Shop # 4 to observe the continued Partial Joint Penetration (PJP) groove welding of the structural steel plate components for the West Deviation Saddle identified as W2E1. The West Deviation Saddle is mounted on a positioner located at Lane B between column lines B3 and B4. The Welding Procedure Specification (WPS) SJ-3011-2 and the Distortion Control Plan, Document Number SJ-3109 Rev. 1 was utilized by the Japan Steel Works, Ltd. (JSW) personnel during the performance of the production welding of the rib plate to base plate connections. The WPS was also used as a reference by the QC inspector during the verification of the welding parameters. The welding was performed in the Flat Position (1G) with the work in the horizontal plane and the weld metal deposited from above. The gas shielded Flux Cored Arc Welding (FCAW-G) process was utilized and the welding performed by JSW personnel Mamoru-Kubota ID 74-3666, Yuichi-Arai ID 08-5157 and Yoshito-Nakano ID 08-2011. The PJP welding appeared to be performed as per Step 5, Attachment 6 of the JSW Distortion Control Plan Revision 1.
The consumable utilized by the welding personnel appeared to be a Hobart Brothers Product and the trade name was identified as TM 95K2 which appeared to comply with the AWS Specification A5.29 and the AWS Classification E90T5-K2C H4. The size of the electrode was 1.6 mm in diameter.
The Quality Control (QC) inspection was performed by Intertek Testing Services personnel Anthony Corrado. The QC inspector verified the preheat temperatures, the Direct Current (DC) welding parameters and performed

the in process weld inspection during this shift.
The QC inspector verified the minimum preheat temperatures of 160 degrees Celsius and at the conclusion of verifying the preheat temperatures the QC inspector verified the DC welding parameters and was observed as follows for the welder Mamoru-Kubota, 345 amps and 35.0 volts with a travel speed measured at 310 mm/m and the calculated heat input appeared to be 2.37 Kj/mm. The welding parameters for the welder Yuichi-Arai were observed as follows, 350 amps and 35.0 volts with a travel speed measured at 305 mm/m. and the calculated heat input appeared to be 2.40 Kj/mm and for the welder Yoshito-Nakano the welding parameters were observed as follows, 349 amps and 34.5 volts with a travel speed measured at 292 mm/m and the calculated heat input at 2.47 Kj/mm.
The welding, inspection and the verification tasks were performed on the weld joints identified as E1Y-4L-1 and E1Y-4L-2. The welding of phase step # 5 was completed during this shift on this date.
Later in the shift the QA inspector observed the PJP groove welding of the rib plate to base plate connection which was identified as E1Y-11L and E1Y-12L. The WPS identified as SJ-3011-2 was utilized during the welding and the QC verification. The PJP welding of the rib to base plate connection was not completed during this shift on this date.
The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators for the surface temperatures.
The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Anthony Corrado appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

Foundry Shop

The QA inspector observed that no welding was performed on the saddle casting identified as W2E1 during this shift on this date.

Summary of Conversations:

There were no pertinent conversations relative to the project discussed during this shift on this date.

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 Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer