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

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 78.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-030000
Date Inspected: 13-Sep-2013

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Steward Machine Co.

OSM Arrival Time: 600
OSM Departure Time: 1630
Location: Birmingham, AL

CWI Name: Fred Hudson

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: E2 Shear Key Anchorages

Summary of Items Observed:

Quality Assurance Inspector (QAI) Fritz Belford was present on the date and times noted above in order to observe the fabrication and Quality Control (QC) functions performed by Steward Machine Company for the E2 Shear Key Anchorages for the SFOBB project. Material Test Reports (MTRs) for all materials used have been reviewed and approved by others at the XKT shop in Vallejo California prior to shipping to Steward Machine Company. The following items were observed:

STEWARD MACHINE - PLANT 1:
The QA performed a walkthrough at the shop to verify plates on site and to observe Steward Machine personnel at work machining and welding. Work performed at the Steward Machine shop as noted below:

Welder Ben Rhodes #481:
The welder was observed welding the S4B Lower Saddle Assembly East End root and cover passes utilizing Welding Procedure Specification (WPS) P2-W126-B for Flux Core Arc Welding-Gas Shielded (FCAW-G) in the 1G position. The welding parameters were observed adjusted and monitored by Certified Welding Inspector (CWI) Fred Hudson (Cert. #01061501) who was onsite with the WPS as required by contract documents. The welding parameters were measured to be 30volts/297amps using 1/16” Class E70T-1 filler and 100% CO2 at 40cfm. Assembly S4B as noted above includes plates S4B-f4, S4B-g4, S4B-d4, S4B-c4, S4B-h4, S4B-b4 & S4B-a4.

Plate Milling:
CNC Machine #211 milling plate S4C-g4 (Milling inside radius troughs)

CNC Machine #231 milling S10C assembly (Milling assembly ends)
CNC Machine #245 milling plate S3B-h3. (Milling inside radius)

The following plates were noted staged throughout the shop in various stages of processing.
Bay 1 – Plates:
S3C-h3. Formed, stressed relieved and partially machined.

Bay 3 – Plates:
S4C-h4. Formed, stressed relieved and partially machined.

Bay 4 & 5– Plates:
S10B Assembly (Plates c1, d1, b1, a1, b2 & a2). (Assembly was released to the job site at the end of the shift)
S10C Assembly (Plates c1, d1, b1, a1, b2 & a2). (6 plts)
S4B Assembly (Plates f4, g4, d4, c4, h4, b4 & a4). (7 plts)
S3B-a3. Formed, stressed relieved and partially machined.
S3B-b3. Formed, stressed relieved and partially machined.
S3B-c3. Formed, stressed relieved and partially machined.
S3B-d3. Formed, stressed relieved and partially machined.
S3B-f3. Formed, stressed relieved and partially machined.
S3B-g3. Formed, stressed relieved and partially machined.
S3C-a3. Formed, stressed relieved and partially machined.
S3C-b3. Formed, stressed relieved and partially machined.
S3C-c3. Formed, stressed relieved and partially machined.
S3C-d3. Formed, stressed relieved and partially machined.
S3C-f3. Formed, stressed relieved and partially machined.
S3C-g3. Formed, stressed relieved and partially machined.
S4C-a4. Formed, stressed relieved and partially machined.
S4C-b4. Formed, stressed relieved and partially machined.
S4C-c4. Formed, stressed relieved and partially machined.
S4C-d4. Formed, stressed relieved and partially machined.
S4C-f4. Formed, stressed relieved and partially machined.

COMPONENT RELEASES.
S10B Assembly released to the SFOBB job site.
Blue Tag release with SMR Reference No. 77-913 and Lot No. B359-59-13.
See TL-6014 for detailed information.

NON-DESTRUCTIVE TESTING (NDT).
The QA performed NDT on the following.
S4B Assembly Visual Testing (VT) and Magnetic Particle Testing (MPT):
- East Side Root Pass VT & MPT Acceptable. See TL-6028 for detailed information.

WELDING INSPECTION REPORT

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Summary of Conversations:

The QA Inspector informed the QC inspector Dale Janiszewski that an NCR would be submitted for the S10B assembly for shipping it without the final Magnetic Particle Testing of the weld repairs performed on Friday September 12th at 0700hours. The QC Inspector relayed to the QAI that he was aware of the situation and that it was out of his hands as the client wanted the assembly shipped immediately.

The QAI also informed Zach Lauria of ABF that no word was received from the SMR concerning the acceptability of the mechanical damage on the c1 plate of the S10B assembly. Zach informed the QAI that he would like to get an answer from the SMR soon. The QAI informed Zach that he would let him know soon as an answer is received. Zach Lauria also relayed to the QAI that the MPT on the S10B assembly was in way of an area that they will need to weld lugs on anyway and that they would remove the coating and perform the MPT if they have to at that time if the 48 hour wait period is not waived by the SMR.

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 Gary Thomas (916) 764 - 6027, who represents the Office of Structural Materials for your project.

Inspected By:	Belford,Fritz	Quality Assurance Inspector
Reviewed By:	Foerder,Mike	QA Reviewer