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 #: 78.28

WELDING INSPECTION REPORT

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

Report No: WIR-030001
Date Inspected: 11-Sep-2013

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

OSM Arrival Time: 1500
OSM Departure Time: 2330
Location: Birmingham, AL

CWI Name:	Fred Hudson / Jimmy Brewer			**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: E2 Shear Key Anchorages

Summary of Items Observed:

Quality Assurance Inspector (QAI) Andrew Webster 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. The following items were observed:

Steward Machine - Plant 1:
This QAI 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:

CNC Machine #211 milling plate S4C-g4. (Milling excess stock off ends); (offline at 1630)
CNC Machine #231 milling S10C assembly (Milling excess stock off ends)
CNC Machine #245 milling plate S3B-h3. (Milling excess stock off ends); (offline at 1630)

The following plates were noted staged throughout the shop in various stages of processing.
Bay 2 – Plates:
S3C-h3. Formed, stressed relieved and partially machined.
S4C-h4. Formed, stressed relieved and partially machined.

Bay 4 – Plates:
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.
Pallet of R3 plates.

Welding jig Bay 4 – S10C assembly plates:
S10C-a1. Formed, stressed relieved and partially machined.
S10C-a2. Formed, stressed relieved and partially machined.
S10C-b1. Formed, stressed relieved and partially machined.
S10C-b2. Formed, stressed relieved and partially machined.
S10C-c1. Formed, stressed relieved and partially machined.
S10C-d1. Formed, stressed relieved and partially machined.

This QAI noted the welding of the above mentioned plates in the welding jig. The welding was done by qualified welder John Roy (469) on the west end. The welding was done to the approved welding procedure (WPS) P2-W126-B. All welding done was monitored by Certified Welding Inspector (CWI) Fred Hudson. Welding was completed at 1630 and part was moved to CNC Machine #231 at 1800 for milling.

Welding jig Bay 4 – S4B assembly plates:
S4B-a4. Formed, stressed relieved and partially machined.
S4B-b4. Formed, stressed relieved and partially machined.
S4B-c4. Formed, stressed relieved and partially machined.
S4B-d4. Formed, stressed relieved and partially machined.
S4B-f4. Formed, stressed relieved and partially machined.
S4B-g4. Formed, stressed relieved and partially machined.
S4B-h4. Formed, stressed relieved and partially machined.

This QAI noted the welding of the above mentioned plates in the welding jig. The welding was done by qualified welder Ben Rhodes (481). The welding was done to the approved welding procedure (WPS) P2-W126-B. All welding done was monitored by Certified Welding Inspector (CWI) Fred Hudson. Welding was completed at 1630 at which time the night shift began welding. The night shift welding was done by qualified welder Daniel Rowe (73). The welding was done to the approved welding procedure (WPS) P2-W126-B. All welding done was monitored by Certified Welding Inspector (CWI) Jimmy Brewer. Welding was done on the north side.

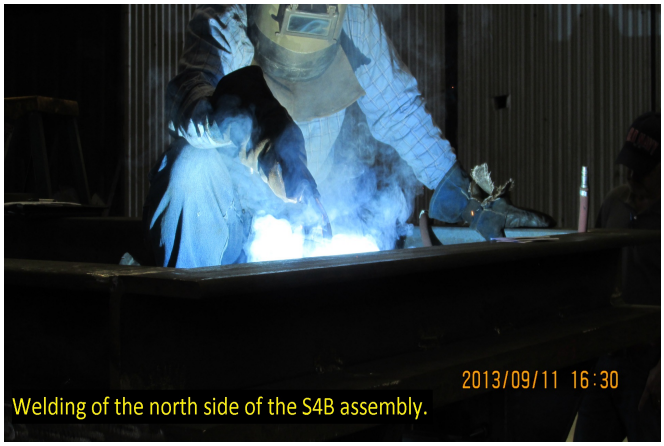
Steward Machine - Plant 2:
This QAI performed a walkthrough at the shop to verify plates on site and to observe Steward Plant 2 personnel at work. Work performed at the Steward Plant 2 shop as noted below:

The following plates were noted staged throughout the shop.
S3B-e3. Formed, stressed relieved, partially machined and stud welded.
S4B-e4. Formed, stressed relieved, partially machined and stud welded.
S3C-e3. Formed, stressed relieved, partially machined and stud welded.
S4C-e4. Formed, stressed relieved, partially machined and stud welded.
p3 (x8). Cut, beveled and stud welded.

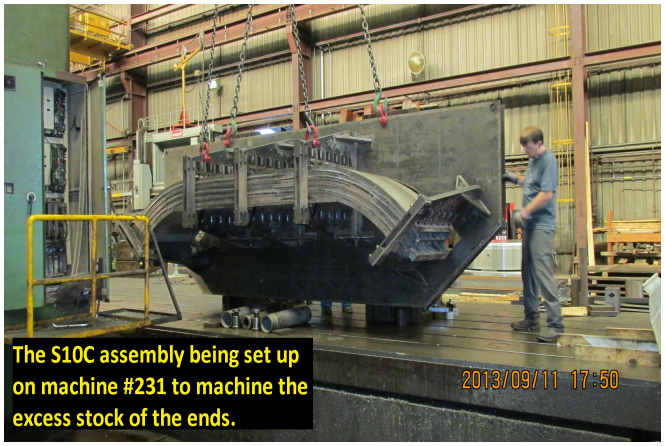
NON-DESTRUCTIVE TESTING (NDT).
The QA performed NDT on the following.

Assembly S4B (Root Pass North End) at Steward Plant 1:
- Visual Testing (VT) & Magnetic Particle Testing (MPT) Accept. (See TL-6028 for detailed information.)

The Non Destructive Testing (NDT) listed above were observed performed and accepted by the QC Inspectors prior to the QA Inspector performing the tests. The QC Inspectors performed 100% NDT with the QA Inspector performing over 10% NDT.



Welding of the north side of the S4B assembly.



The S10C assembly being set up on machine #231 to machine the excess stock of the ends.

Summary of Conversations:
No significant conversations held on this date for this contract.

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.

WELDING INSPECTION REPORT

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Inspected By:	Webster,Andrew	Quality Assurance Inspector
Reviewed By:	Foerder,Mike	QA Reviewer