

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026815**Date Inspected:** 05-Dec-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** As noted 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 OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. 14W/PP127.2/W2 Vent Hole (Interior)
2. 13W/14W/D1 (Exterior)
3. 14W/PP125/W4 Lifting Lug hole W4 (Exterior)

Orthotropic Box Girder (OBG) section: The QC Documents observed being used by this QA Inspector for the following weld joints appeared to be designated as Seismic Performance Critical Members (SPCM).

1. 14W/PP127.2/W2 Vent Hole (Interior)

This QA Inspector randomly observed QC Inspector Sal Merino performing Magnetic Particle (MT) inspection on the back gouge of face "B" of vent hole 14W/PP127.2/W2 located on the interior of the OBG. This QA Inspector verified that the weld was free of indications and found to be satisfactory. This QA Inspector observed the QC Inspector measure the pre-heat of the joint to verify a minimum of 10 degrees C had been achieved and this QA Inspector noted the utilization of E9018-H4R electrodes with Amperage of 130. This QA Inspector randomly observed ABF welder Mike Jimenez (ID 4671) perform the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position and made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the

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approved WPS and the contract specifications.

2. 13W/14W/D1 (Exterior)

This QA Inspector randomly observed ABF welding operator Jeremy Dolman (ID 5042) performing the Flux Core Arc Welding with gas (FCAW-G) process utilizing a “Bug-O” motorized rail system with a magnetic base attached in the (4G) overhead position on the underside of bottom plate “D”, at 13W/14W of the OBG. This QA Inspector observed QC Inspector William Sherwood monitoring the welding to ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-3110-4. The parameters were recorded as (A=245/V=23.4/TS=165/HI=2.08). This QA inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance to the contract requirements.

13W/14W/H (Exterior)

The QA inspector observed QC inspector William Sherwood perform Magnetic Particle Inspection of the back gouged joint of edge plate “H” on the exterior of the OBG. . The QA inspector verified that the proper procedure was utilized as well as correct technique. The testing found no indications and the QA inspector verified the findings and noted that the work appeared to be in general conformance pertaining to the contract requirements.

This QA Inspector randomly observed ABF welder Richard Garcia (ID 5892) pre-heat the joint and performed welding utilizing the Flux Core Arc Welding with Gas (FCAW-G) process in the (3G) vertical position. This QA Inspector observed the QC Inspector monitoring the inter-pass temperatures and the welding to ensure the parameters were in compliance pertaining to ABF-WPS-D15-3110-4. The parameters were recorded as (A=245/V=23/TS=147/HI=2.3). This QA Inspector randomly observed the ABF welder grind and blend the start and stop areas of the weld throughout the joints depth. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was in progress and appeared to be in general conformance with the contract specifications.

Magnetic Particle Testing (QC)

This QA Inspector randomly observed QC Inspector Sal Merino perform a final Magnetic Particle (MT) inspection of the weld area on OBG “A” deck vent holes at the locations listed below. This QA Inspector observed that Mr. Merino found no rejectable indications and the work appeared to be in general conformance with the contract specifications.

14W/PP126.2/W5

14W/PP126.2/W2

3. 14W/PP125/W4 Lifting Lug hole W4 (Exterior)

This QA Inspector observed ABF welder Salvador Sandoval (ID 2202) pre-heat the joint to 10°C prior to performing SMAW in the (1G) flat position on Lifting Lug Hole (LLH) 14W/PP125/W4/W4. This QA Inspector observed the QC Inspector monitor the inter-pass temperatures and the welding to ensure the parameters were in compliance pertaining to ABF-WPS-D15-1050A-CU. The parameters were recorded as (Amperes=194) utilizing

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a 4.8 mm E7018-H4R electrode. This QA Inspector randomly observed the ABF welder grind and blend the start and stop areas of the weld throughout the joints depth. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance with the contract documents.

14W/PP125/W4 Lifting Lug Hole W1 (Exterior)

This QA Inspector observed QC Inspector Sal Merino utilize a Bridge Cam Gage to measure the fit-up of the 20 mm plate in the B-U4a joint on lifting lug hole 14W/PP125/W4/W1. This QA Inspector verified the fit-up as acceptable and employed a 65°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Salvador Sandoval performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position and observed the QC Inspector verify the welding parameters were in accordance with the above mentioned WPS. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was in progress and appeared to be in general compliance with the approved WPS and the contract specifications.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. No issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

Summary of Conversations:

The were no pertinent conversations to report.



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: Frey,Doug

Quality Assurance Inspector

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Reviewed By: Levell,Bill

QA Reviewer