

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-026964**Date Inspected:** 28-Dec-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite

<b>CWI Name:</b>	As noted below		
<b>Inspected CWI report:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	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:

- 11E/PP101/E3 Lifting Lug Hole W1 Repair (Interior)
- FW Spencer PS-4 Welding
- 11E/PP103/E3 Lifting Lug Holes QC UT (Exterior)

- 11E/PP101/E3 Lifting Lug Hole W1 Repair (Interior)

This QA Inspector randomly observed ABF welder Salvador Sandoval performing the back-gouge operation of an ultrasonic rejectable indication on "A" deck lifting lug hole W1 section 11E/PP101/E3 located at "Y" location 314 mm (25 mm wide; 60 mm length; and 7 mm in depth), "Y" 471 mm (20 mm wide; 130 mm length; and 10 mm in depth).

This QA Inspector randomly observed ABF welder Salvador Sandoval (Welder ID 2202) performing the repair welding operation on excavations as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on "A" deck lifting lug hole W1 section 11E/PP101/E3. The excavated areas were as noted above and this QA Inspector observed QC Inspector John Pagliero verify that the preheat temperature was at the minimum of 150 Degrees F and that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS D1.5 - 1001 Repair. The welding parameters observed at this location appeared to be in general

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compliance with approved WPS and the contract specifications.

## 11E/PP101/E3 Lifting Lug Hole Repair (Exterior)

This QA Inspector randomly observed ABF welder Salvador Sandoval (Welder ID 2202) performing the repair welding operation of ultrasonic indications as per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on "A" deck Lifting Lug Holes W1-W4 at 11E/PP101/E3. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters (Amps=135) were in accordance with WPS D1.5-1001- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications.

## QC Magnetic Particle Testing

This QA Inspector randomly observed QC Inspector Sal Merino perform Magnetic Particle Inspection (MT), of the weld areas on "A" deck lifting lug holes 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.

11E/PP100/E3 W1 Final MT

11E/PP101/E3 W3 Final MT

11W/PP101/W4 W1 and W3 back gouge MT

## 2. FW Spencer PS-4 Welding

This QA Inspector observed F.W. Spencer welding personnel Damian LLamos ID# 6645 fit-up and weld two (2) PS-4 brackets to channel attached to the South Tower at elevation 52. This QA Inspector observed QC inspector Jesse Cayabyab monitoring welding and to ensure the parameters were in compliance pertaining to WPS-FWS Fillets Murex SFOBB Revision 1. The welder was observed implementing 1/8" (3.4mm) E7018-H4R Murex electrodes. The welder utilized the SMAW process in the (2F) horizontal position and incorporated the E7018-H4R Murex electrodes conforming to the above welding procedure. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work listed below was completed on this date and appeared to be in general conformance with the contract documents.

## 3. 11E/PP103/E3 Lifting Lug Holes QC UT (Exterior)

This QA Inspector randomly observed ABF Quality Control Inspector Mr. Jesse Cayabyab performing Ultrasonic Testing (UT) inspection on "A" deck lifting lug holes 11E/PP103/E3 at W1-W4. This QA Inspector observed that Mr. Cayabyab detected rejectable ultrasonic indications at locations listed below. The deck plate section is 14 mm thick and the depth of the ultrasonic indications range from 7 to 10 mm's in depth.

W1 – y+80 (20mm's in length, 7-10mm's in depth), y+175 (80mm's in length, 7-10mm's in depth) y+360 (20mm's in length, 10mm's in depth), y+515 (20mm's in length, 7mm's in depth).

W2- y+78 (528mm's in length, 7-10mm's in depth).

W3- y+160 (50mm's in length, 10mm's in depth), y+314 (314mm's in length, 4-10mm's in depth).

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W4- y+147 (260mm's in length, 7-10mm's in depth).

## Splice Survey

This QA Inspector performed a progress survey of the westbound and eastbound OBG plate splices, lifting lug hole and vent holes from 11W-14W and 11E-14E as directed by QA Lead Inspector, Daniel Reyes.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. The 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.

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**Inspected By:** Frey,Doug

Quality Assurance Inspector

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**Reviewed By:** Levell,Bill

QA Reviewer