

**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-026594  
**Date Inspected:** 26-Oct-2011

**Project Name:** SAS Superstructure  
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV  
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 600  
**OSM Departure Time:** 1630  
**Location:** Job Site

<b>CWI Name:</b>	See Below	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG	

**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned to the QAI, Douglas Frey, to the following, but not limited to, work stations:

OBG W12/13W & Lifting Lug Holes (LLH)  
OBG E13/E14

1). The QAI, Doug Frey, observed the continued Complete Joint Penetration (CJP) groove welding of the edge plate field splice identified as 12W-13W-F. The welding was performed by Jorge Lopez ID-6149 utilizing the Flux Cored Arc Welding w/gas (FCAW-G) as per the Welding Procedure Specification (WPS) ABF-WPS-D15-3110-3 Rev. 0. The QC inspector John Pagliero performed the inspection and verified the welding parameters utilizing the WPS as a reference. The welding of the "B" Face performed at this work station was completed during this shift on this date.

Later in the shift the QAI observed the welder, Mr. Lopez, had mobilized to the Orthotropic Box Girder (OBG) W11 to set-up and to perform the CJP welding of the LLH identified as 11W-PP100-W4-W3. The field fit-up and welding was performed utilizing the WPS ABF-WPS-D15-1050A-CU and was also utilized by the QC inspector, Patrick Swain, to monitor the welding and verify the welding parameters.

2). The QAI also observed the welder Jeremy Dolman ID-5042 preparing the set up of the Plasma Arc Cutting

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(PAC) equipment in preparation to remove the backing bar of the weld joint identified as 12W-13W-D. The cutting operation was delayed due to mechanical and electrical issues with the Bug-O mortorized tractor .

3). Later in the shift, the QAI, observe the Complete Joint Penetration (CJP) groove welding of the bottom plate field splice identified as 12W-13W-E. The welding was performed by the welder Rory Hogan ID-3186 utilizing the Flux Cored Arc Welding w/gas (FCAW-G) process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1, Rev. 0. The QC inspector, John Pagliero, performed the inspection and verified the welding parameters utilizing the WPS as a reference. No issues were noted by the QC inspector at the time of random observations. The welding performed at this work station was not completed during this shift on this date.

4). The QAI, Mr. Frey, also observed the Submerged Arc (SAW) of the Special Performance Critical Member (SPCM) weld joint identified as 13E-14E at weld segments A2.2 through A5. The welding was performed by the welding operator, James Zhen ID-6001 and Todd Jackson utilizing the WPS identified as ABF-WPS-D15-4042B-1, Rev. 0. The QC inspector, Fred Von Hoff, performed the in process weld inspection and verified the welding parameters utilizing the WPS, as noted, as a reference. The welding of the weld joint (A-Face) identified as 13E-14E-D2 was not completed during this shift. \*See the Quality Assurance, SPCM, Lead Inspector (QALI, SPCM) Summary for additional project information on page 4 of this report.

The QAI, Douglas Frey, verified the welding, the associated documentation, QC inspection and testing, of the above items 1-4, meet the requirements of the contract specifications.

B). This Quality Assurance Lead Inspector (QALI) assigned to the QAI, Joselito Lizardo, to the following, but not limited to, work stations:

Electrical Cable Tray Supports  
Tower Service Platform at the 53 Meter El., QA Verification  
Lifting Lug Hole (LLH), Repair Cycle # 1  
FW Spencer (Piping Systems)

1). The QAI, Joselito Lizardo, was assigned to this designated work station to observe the fillet welding and QC inspection of the cable tray supports located at the cross beam number 1. The welding was performed by Mike Jiminez ID-4671 utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-F1200, Rev. 2 which was used by the QC inspector, Patrick Swain, as a reference during the welding operation.

2). The QAI also performed a Magnetic Particle Test (MPT) on the multi-pass fillet welds of the bolted connection plates located at the 53 Meter elevation of the south tower shaft . The areas were tested to verify the welds and testing by QC meet the requirements of the contract documents. The examination was performed as per the contract documents and a TL-6028 was generated on this date.

3). The QAI observed the repair welding and QC inspection of the LLH identified as 11E-PP104-E3-W1 and W2. The Welding was performed by the welder Fred Kaddu ID-2188 utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-1001 Repair, Rev. 0. The QC inspection and monitoring of the welding, including verifying the welding parameters, was performed by Patrick Swain utilizing the WPS noted as a reference. The repair welding of welds #1 and # 2 were completed during this shift.

4). The QAI, Joselito Lizardo, also observed the continued welding and the QC inspection of the piping systems identified as the compressed air and domestic water located along grid line E5 between PP46-PP58. The CJP welding was performed by Curtis Jump utilizing the WPS identified as 1-12-1, Rev. 2 (1.12) which was also

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utilized by the QC inspector, Steve Jensen, to monitor and verify the welding parameters.

C). This Quality Assurance Lead Inspector (QALI) assigned to the QAI, Craig Hager, to the following, but not limited to, work stations:

OBG 13E/14E

1). The QAI, Craig Hager, observed the CJP welding of the bottom plate field splice identified as 13E-14E-D2. The welding was performed utilizing the Flux Cored Arc Welding w/gas (FCAW-G) as per the Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-1, Rev. 0 which was utilized by the QC Inspector, Patrick Swain, as a reference to monitor the welding, verify the welding parameters and the preheat and interpass temperatures. The welding was performed by the welders Wai Kitlai ID-2953 and Xiao Jian Wan ID-9677. The QC inspection tasks and the welding performed were randomly observed by the QAI and appeared to comply with contract documents. The welding was not completed during this shift.

2). The QAI, Mr. Hager, also observed the Submerged Arc (SAW) of the "A" deck Special Performance Critical Member (SPCM) weld joint identified as 13E-14E at weld segments A2.2 through A5. The welding was performed by the welding operators, James Zhen ID-6001, Todd Jackson ID-4639 and Daniel Ieraci ID-3232 utilizing the WPS identified as ABF-WPS-D15-4042B-1, Rev. 0. The QC inspector, Fred Von Hoff, performed the in process weld inspection and verified the welding parameters utilizing the WPS, as noted, as a reference. The welding of the weld joint (A-Face) identified was not completed during this shift. \*See the Quality Assurance, SPCM, Lead Inspector (QALI, SPCM) Summary below for additional project information.

D). This Quality Assurance Lead Inspector (QALI) assigned to the QAI, Art Peterson, to the following, but not limited to, work stations:

OBG E13/E14

OBG E12/E13

1). The QAI, Art Peterson, observed the Submerged Arc (SAW) of the "A" deck Special Performance Critical Member (SPCM) weld joint identified as 13E-14E at weld segments A2.2 through A5. The welding was performed by the welding operators, James Zhen ID-6001, utilizing the WPS identified as ABF-WPS-D15-4042B-1, Rev. 0. The QC inspector, Fred Von Hoff, performed the in process weld inspection and verified the welding parameters utilizing the WPS, as noted, as a reference. The welding of the weld joint (A-Face) was not completed during this shift. \*See the Quality Assurance, SPCM, Lead Inspector (QALI, SPCM) Summary below for additional project information.

2). The QAI, Mr. Peterson also observed the QC inspector's Pat Swain and John Pagliero perform the Magnetic Particle Testing (MPT) on the back gouged surface of the bottom plate field splice identified as WN: 12E-13E-D1, D2 and D3. At the conclusion of the testing the QAI was informed by Mr. Swain that the testing of the back gouge was complete and there were no issues noted at the time of testing.

Quality Assurance Lead Inspector (QALI) Summary

Later in the shift, this QA Lead Inspector (QALI) also observed the QA Inspector's Doug Frey, Craig Hager,

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Joselito Lizardo and Art Peterson monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures as described above. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications with no issues noted.

For additional detailed information see the individual submitted and approved QAI Weld Inspection Reports (WIR).

\*Prior to the start of the shift, this QA SPCM Lead Inspector perform an observation of the baking of the flux in the oven identified as Phoenix Dry Rod Electrode Stabilizing Oven, Type 750 HT and manufactured by Phoenix Products Co., Inc. This QAI verified the temperature of 322 degrees Celsius at approximately 0630.

This report was generated upon the discussions with the QA Inspectors, random visual observations and review of the QAI field reports.

### Review of QA Tracking Plan

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates. The QAI also updated the tracking records for the pipe welds and the pipe supports.

On this date the QAI commence the review of QA tracking documents for the OBG's identified as E3, E4 and E5.

### Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

### 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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<b>Inspected By:</b>	Reyes,Danny	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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