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

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

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

Report No: WIR-028185
Date Inspected: 13-Aug-2012

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

OSM Arrival Time: 700
OSM Departure Time: 1930
Location: Job Site

CWI Name: See Below

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: OBG and Tower

Summary of Items Observed:

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

A). This Quality Assurance Lead Inspector (QALI) assigned the QA Inspectors to the following, but not limited to the work station(s) listed, to observe the welding and the QC inspection of the following:

Rodney Patterson-OBG E13 (Observation of excavations, repair welding, QC inspection and testing of deck field splices identified as 13E-E2.8 and 13E-PP122.2) and performed QA/UT verifications. Also, there were two (2) issues noted, see Summary of Conversations.

Fritz Belford-OBG W12 Drop-In Assembly (Observation of welding, QC inspection and testing floor beams also repair welding at various areas).

Joselito Lizardo-OBG W13, Drop-In Panels (Observation of excavations, repair welding, production welding, QC inspection deck stiffener flanges and floor beam field splices) and Tower, Shear Plates/ESW (Observation of excavations of UT repairs located at shear plates "B", "G" & "T").

Matt Daggett-OBG W13/W14 (Observation of welding, QC inspection and testing of G1 edge plate) and OBG E12 (Observation of back gouging, QC inspection and testing).

William Clifford-Tower Shear Plates/ESW "N", "W" & "B" (Performed QA/MPT & UT verification).

Doug Frey-OBG E12, Drop-In Corner Ass'y (Observation of excavation, repair welding, QC inspection and testing of edge plate), OBG E13, Drop-In Panel (Observation of welding, QC inspection and testing of floor beams) and observation of QC/UT of side identified as 12E-PP111.1-C1.

NOTE: See QA daily Weld Inspection Reports (WIR) and NDE reports for additional information and details.

Quality Assurance Lead Inspector (QALI) Summary

This QA Lead Inspector (QALI) observed the QA Inspector's Joselito Lizardo, William Clifford, Rodney Patterson, Fritz Belford, Doug Frey and Matt Daggett 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 for compliance with the contract specifications. 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. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications and no issues were noted during this shift.

OBG W13, Deck Stiffener Flange (DSF)

This QALI observed the Shielded Metal Arc Welding (SMAW) of the DSF to the "A" deck longitudinal stiffener identified as Weld Number (WN): 13W-PP122.2-LS3. The Partial Joint Penetration(PJP) groove welding was performed by ABF personnel Gue Wu Chen ID-1556 utilizing the Welding Procedure Specification (WPS) identified as ABF-WPS-D15-1162-4, Rev. 0. The WPS was also used by the Quality Control (QC) Inspector Bernie Docena to verify the welding parameters and to monitor the Complete Joint Penetration (CJP) welding. This QALI observed the QC inspector verifying the welding parameters and were noted as 127 amps. The minimum preheat temperature of 100 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius appeared to comply with contract documents. The E9018-H4R electrode was utilized with the welding performed in the overhead (4G) position and the work placed in an approximate horizontal plane and the weld metal deposited from the underside. The QA inspector assigned to this work station was, Joselito Lizardo.

OBG E13, Drop-In Field Splice Repairs

The QAI observed the excavation of the unacceptable discontinuities discovered during the Ultrasonic Testing (UT) performed by the QC Technician. The excavations were performed by welding personnel Wai Kit Lai ID-2953 utilizing the Air Carbon Arc (ACA) method to remove the defects and a 4" grinder to bring the finished surface to a bright metal. At the conclusion of the excavations the QC inspector, Salvador Merino, performed a visual inspection and a Magnetic Particle Test of the areas. No reject able indications were noted by the QC inspector and the welder commenced the welding of the excavations utilizing the WPS identified as ABF-WPS-D15-1004-Repair Rev. 0. This QALI observed the QAI, Rodney Patterson, verified the welding parameters and the minimum preheat temperature 60 degrees Celsius and the maximum interpass temperature of

230 degrees Celsius.

Mr. Patterson also informed this QALI that this repair identified as 13E-E2.8, R4 and a previous repair identified as 13E-PP122.2, R3 were repaired prior to the Engineer's approval. These welds are designated as Seismic Performance Critical Members (SPCM). For additional information see Summary of Conversations below and Mr. Patterson's daily Weld Inspection Report (WIR) for this date.

This QA Lead Inspector commence the review of NDT reports, tracking of welding and developing and generating weld maps for W13 drop-in panels, E12 and W12 corner drop-in assemblies. This QA Lead Inspector also reviewed RWR documents for tracking purposes.

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.

There were also, other pertinent conversations with QA Supervisor, William Levell, throughout the course of this shift in regards to scheduling of QA personnel, work progress and related structural steel and weld issues. There were two (2) significant issues noted below on this date.

Issues

This QALI also was notified by the QA inspector, Rodney Patterson, that at the weld joint identified as 13E-PP122. 2, repair cycle #3 and 13E-E2.8, repair cycle # 4 will require a contractor's Request for Weld Repair (RWR). These items are noted as third and fourth time repair cycles. The contractor was notified of these issues and elected to commence the excavation and repair welding prior to the engineer's approval. At the conclusion of this discussion, this QALI directed Mr. Patterson to generate and submit an Incident Report (IR) to the QA Task Leader, William Levell, for his review and disposition.

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 SMR Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer