

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-027060**Date Inspected:** 17-Jan-2012**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:** Job Site**CWI Name:** Salvador Merino**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:** OBG Components**Summary of Items Observed:**

On this date, Quality Assurance Inspector (QAI) Kenneth Riley was present at the San Francisco Oakland Bay Bridge job site at Yerba Buena Island to observe erection and welding activities for the San Francisco Oakland Bay Bridge (SFOBB) project. This Quality Assurance Inspector (QAI) observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

- A) Lifting Lug Holes Repairs
- B) Field Splice Repairs for D3
- C) QC NDT for 12W-13W Repairs
- D) OTD Bike Path Divider's
- E) Submittal Reviews

A). Lifting Lug Holes

The QAI observed that welder Mike Jimenez, was pre-heating the area prior to welding at 12W-PP115-W4-W1 lifting lug hole. The temperature required as outlined in the WPS is 20 degrees Celsius (50 degrees F) that was verified using a tempstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1050A-CU for the Complete Joint Penetration weld with copper backing in the flat (1G) position. The electrode used for the root pass was 3.2mm diameter with welding amps verified as 134. The welder was observed grinding the root pass, the

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QC inspector was then observed performing MT at this location where there was several locations that required additional grinding to sound weld metal. Once this was accomplished the QC the performed the MT again and found it acceptable. The welder then started placing the intermediate weld passes for this location using the 4.0mm diameter electrode with a welding amp of 187. The welder was also observed using a chipping hammer, power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Salvador Merino and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time of the observations no issues were noted by the QAI.

The QAI observed that welder Rick Clayborn was observed welding of lifting lug holes, 12W-PP115-W4-W1. The welder had back gouged the weld in the overhead (4G) position using the Carbon Arc Cutting (CAC) method. This area was then ground to a bright metal and Magnetic particle testing was performed by the QC inspector. The results of this test as relayed to the QAI were acceptable and the welder could proceed. The welder was using the Shielded Metal Arc Welding (SMAW) process with electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1110A for the Complete Joint Penetration weld at this location. The pre-heat was observed as being a minimum of 40 degrees Celsius with the welding current observed at; 133 amps for the 3.2mm electrode. The QC inspector was observed onsite overseeing the operations, along with verifying, and documenting the welding parameters for this location. At the time of the observations no issues were noted by the QAI.

C). Field Splice Repairs for D3

D3

The QAI observed welder Rich Garcia, performing Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1001R for the Complete Joint Penetration weld repair. The preheat was observed as being a minimum of 60 degrees Celsius (125 Degrees Fahrenheit) with the welding current observed at 125 amps. The welder was observed using the 3.2mm electrode for this repair. The location of the welding was on the west bound lane (WB) at field splice bottom plate 12w/13w located at D3 this repair is an R2 at Y=400. The welder was observed as placing the intermediate and cover passes for this location. The QC inspector Salvador Merino was observed onsite overseeing the welding operations for this location. Mr. Merino was observed verifying and documenting the welding parameters for this location.

D). OTD Bike Path Divider's

This QAI observed 42 OTD Bike Path Divider's located on the west bound lane of the SFOBB jobsite. The dividers are being released to RW Fabrication located at 3412 E. Bismarck Ave., Spokane Wash. Due to modification required per the contract documents. The component numbers released were 1~12 North and 1~12 South. This is for CCO-192

E). Submittal Review

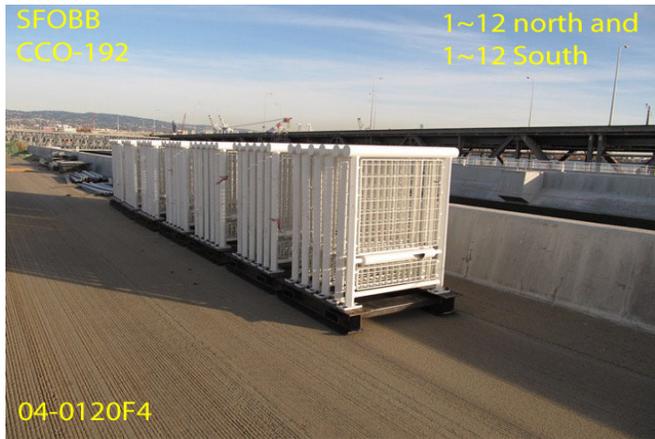
This QAI performed submittal reviews for weekly welding reports from Watson Bowman Acme under submittal numbers ABF-SUB-002550 Rev 19. These reviews includes, the Weekly Welding Report for the week ending 10/8/11 containing Inspection Checklist, Weld Maps and KTA Daily Checklists for October 3, 2011 through October 8, 2011. The submitted documents, as noted above, have been reviewed and were found to comply with project specifications.

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QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding utilizing the WPS's as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspectors utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized for the welding process stated appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators. Unless noted otherwise, all work observed on this date appeared to be in general compliance with the contract documents at the time of observations.



Summary of Conversations:

Basic conversation, fundamental to completion of the tasks at hand, occurred between this QAI and ABF QC personnel.

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:	Riley, Ken	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
