

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-027105
Date Inspected: 23-Jan-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: 1730
Location: Job Site

CWI Name:	See 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:	OBG	

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:

Doug Frey-OBG Field Splice E12/E13 (Observation of repair welding and QC inspection of the bottom plate splice identified as D2), OBG field splice E13/E14 (Observation of repair welding operation and QC inspection of the side plate splice identified as "E1 & E2") and QA NDE verification.

Ken Riley-(Submittal reviews)

Skyway-No Work

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 Douglas Frey monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the

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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 was noted on this date. This QAI also verified the following in progress work:

The QA verification of the above items appeared to comply with the contract specifications.

OBG Field Splice W12/W13

The QAI observed the welder, Jeremy Dolman ID # 5042, perform the repair welding of the areas marked as UT rejects on the Complete Joint Penetration (CJP) groove weld identified as WN: 12W-13W-D1 . The repair welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.0 mm electrode as per the Welding Procedure Specification (WPS) identified as ABF-WPS-1001 Repair Rev. 0. The WPS was also used by the QC inspector, Steve Jensen, as a reference to monitor and to perform the in progress production welding. The welding parameters were noted as 179 amps and the minimum preheat temperature and the maximum interpass temperature appeared to comply with the contract specifications. The welding was performed in the flat position (1G) with the work positioned approximately in a horizontal plane and the weld metal to be deposited from the upper side.

This QAI also observed the welder Richard Garcia ID # 5892 perform the repair welding of areas indicated as UT rejects on the weld joint identified as WN: 12W-13W-D2, R3. The welding process and WPS utilized are the same as noted in the above paragraph. Mr. Jensen monitored the welding and this QAI observed and verified the surface temperatures and welding parameters which appeared to comply with the contract specifications. The QA verification of the above items appeared to comply with the contract specifications.

OBG Field Splice W13/W14

The QAI also observed the fillet welding of the key plates (temporary attachments) to the side and edge plate field splices to be utilized during the alignment process of the field splice. The work was performed on the weld joints identified as WN: 13W-14W-E and F. The welding and the assembly fit-up were performed by Rick Clayborn ID-2773 utilizing the SMAW process during the welding as per the WPS ABF-WPS-D15-F1200A Rev. 1. The WPS was also utilized by the QC inspector Steve Jensen as a reference to verify the welding parameters and were noted by the QC inspector as follows: 130 amps. Later in the shift the QAI observed the QC inspector verify the minimum preheat temperature of 20 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. This work was completed on this date and appeared to comply with the Temporary Welded Attachment Plan, Submittal 1361 Rev.1.

Later in the shift, at the request of the QC inspector Steve Jensen, this QAI verified the alignment of the weld joints. See attached alignment map.

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FW Spencer/Pipe Welding of Utility Systems

This QALI observed the fit-up and CJP welding of the pipe splices of the 2.5" and 4" utility service systems. The welding was performed by FW Spencer personnel Damian LLanos, identification # 6645, utilizing the WPS identified as 1-12-1 and this WPS was also utilized as a reference by the QC Inspector, Steve Jensen. The average amperage reading was noted as 87 amps. The work performed on this date was located at the west OBG W4 through W6 along grid line W2 between PP27 and PP39. Later in the shift, Mr. Jensen, requested QA verification of the following pipe welds:

WATER SYSTEM	COMPRESSED AIR SYSTEM
14/2.5/27/NW	14/4.0/27/NW
16/2.5/31/NW	16/4.0/31/NW
17/2.5/33/NW	17/4.0/33/NW
18/2.5/35/NW	18/4.0/35/NW
19/2.5/37/NW	19/4.0/37/NW
20/2.5/39/NW	20/4.0/39/NW

QALI NOTE: Due to inclement weather (rain) the following work was suspended on this date:
Lifting Lug Holes at east and west bound OBG (ABF)

QA Summary

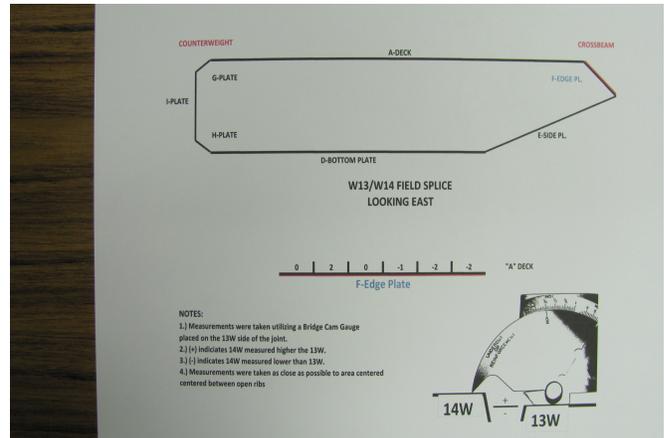
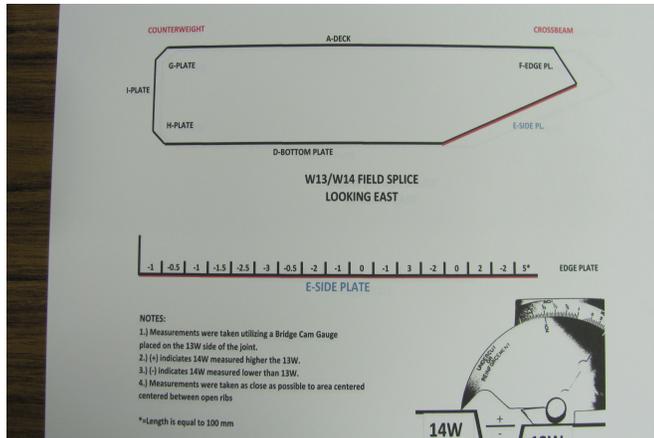
The QC inspection and welding performed on the lifting lug holes and pipe welding was observed at random intervals by this QA Inspector. The QAI observations included verification of the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. This QAI 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. The random observations, verifications of the welding and QC inspection, WPS's, consumables, welding parameters, preheat and interpass temperatures appeared to comply with the contract specifications.

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 digital photographs on page 4 of this report illustrate the detailed dimensions of the field splice alignment.

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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.

Inspected By: Reyes, Danny

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer