

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-029751**Date Inspected:** 20-Jun-2013**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**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 deck; Piping splices and supports**Summary of Items Observed:**

At the start of shift, this Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various fillet welds of the East and West Orthotropic Box Girders (OBG's). The welding was performed utilizing Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specifications (WPS's).

This QAI witnessed the welding of piping support brackets to their mounting plates on the Westbound Cable Shroud for the following locations: PP118(+120), PP118.5, PP119(-420), PP119.5(-620). The welding was performed by F.W. Spencer welder #6520 Barry Mullaney utilizing E7018 electrodes as per the approved WPS #FWS Fillets Murex SFOBB Rev. 1. The AB/F QC Fred Michels was present, monitoring the welding in progress. These welds all appeared to comply with the requirements of the contract documents.

Welding was observed by this QAI of full penetration end-butt splices of 2-1/2" diameter water piping at the following Bikepath locations: PP97, PP99, PP101; PP103, PP105, PP107. The welding was being performed by Tim Esquivel #8348 of F.W. Spencer utilizing E6010 electrodes for the root passes and E7018 electrodes for the fill and cap passes as per the approved WPS 1-12-1. The AB/F QC Fred Michels was present, monitoring the WPS parameters of the welding in progress. These welds all appeared to meet the requirements of the contract documents.

This QAI performed along with AB/F QC William Sherwood identification and mapping of discontinuities on the deck top surface of the Westbound OBG from PP8-through-PP29 between W2 and W5. The following locations exhibited arc-strikes which were subsequently removed by flap-wheel sanding to sound metal as verified by

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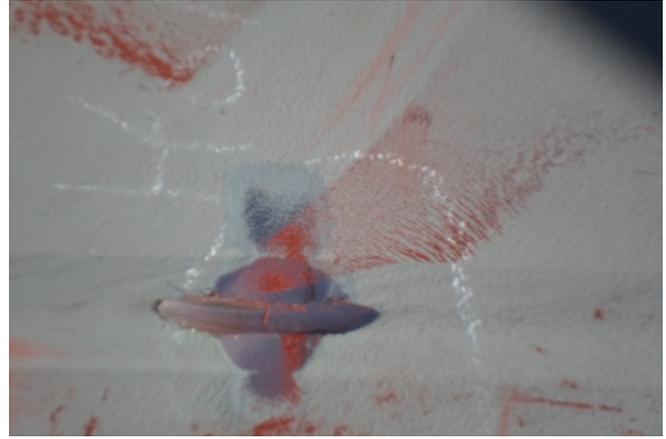
Magnetic Particle Testing (MPT):

PP8(+500)/W4(-3750)
PP8(+2030)/W3(+4710)
PP9(-1600)/W4(-3020)
PP9(-1160)/W4(-1000)
PP9(-1770)/W5(-2010)
PP9(-3100)/W4(-10)
PP10(-270)/W4(-930)
PP9(-200)/W5(-2670)
PP11(-470)/W4(+30)
PP11(-220)/W5(-1980)
PP13(-200)/W4(2880)
PP16(-500)/W5(-4280)
PP20.5(+1110)/W2(+2040)
PP23(+1720)/W3(-35)
PP22(+1110)/W4(-1900)
PP22.5(+870)/W4(-1640)
PP22(+1770)W5(-2600)
PP25(+480)/W5(-3560)
PP24.5(+1020)/W3(+140)
PP26.5(+1110)/W5(-2770)
PP28(-260)/W4(-1640)
PP29(-880)/W2(+1980)
PP28.5(-380)/W4(+1900)
PP29(+1040)/W3(+1720)

Two other indications were noted; one of which was a gouge indication at location PP14(+1450)/W3(+0) which was flap-wheel sanded to an acceptable profile. The other indication was a 3mm diameter piping porosity at the center of a longitudinal deck splice weld at location PP16(+1230)/W5(-3770). The piping porosity indication was 'flap-wheel' sanded to remove by AB/F personnel visually to a depth of 2.5mm. After the visually detected porosity indication was removed, an MPT inspection was performed by AB/F QC inspector William Sherwood and a transverse linear indication 6mm long became visible directly beneath where the original indication had existed. The AB/F QC directed that the transverse indication be removed, which required additional flap-wheel sanding to a depth of 5.5mm to achieve. The removal to sound metal was verified at that depth with an MPT inspection by AB/F QC. A subsequent repair by welding to full cross-section was performed by AB/F welder #2773 Rick Clayborn utilizing E7018 electrodes as per WPS #1040C, Rev.1. The AB/F QC performed an MPT inspection of this repair area as well as of the other arc strike removal areas. This QAI performed an MPT verification inspection of the above-mentioned repair and arc-strike removal areas. There were no indications noted at this time. See the TL6028 Magnetic Particle Testing report for details.

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Summary of Conversations:

There were general conversations with the contractor's Quality Control personnel at the start of the shift regarding the location of welding and 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 SMR Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Morris, Monty	Quality Assurance Inspector
Reviewed By:	Reyes, Danny	QA Reviewer
