

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007399**Date Inspected:** 18-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Japan Steel Works**Location:** Muroran, Japan

CWI Name:	Chung Fu Kuan		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	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:** Tower, Jacking, and Deviation Saddles**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. Art Peterson was present during the times noted above for observations relative to the work being performed in Fabrication shop #4 and the Foundry shop at Japan Steel Works.

Machine Shop #4:

Final Machining Operation on Saddle: Tower Saddle Segment T1-1 (cast section welded to steel section)

The QA Inspector observed that tower saddle segment T1-1 is located in Machine Shop #4 to have the final machining performed. On this date, the QA Inspector observed that the interior of the north cable trough is being milled to final dimensions on the tower saddle segment.

Fabrication Shop #4:

NDT operation in process on Saddle: Tower Saddle Segment T1-2 (cast section welded to steel section)

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT personnel Mr. M. Sato (#81) performing the ultrasonic test (UT) inspection on complete-joint penetration groove weld joint no. 8Y-5L-1, 8Y-5L-2, and 8Y-5L-3 on the rib plate (steel section) to base plate (steel section) of tower saddle segment T1-2. The QA Inspector observed that the ultrasonic inspection was in accordance with AWS D1.5-2002 section 6.13 and to the UT acceptance-rejection criteria- compressive stress in Table 6.4. The QA Inspector observed that the UT inspection was in process at the end of the QA Inspectors' shift.

NDT Operation in process on Saddle: Tower Saddle Segment T1-3 (cast section welded to steel section)

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Inspector Mr. R.

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Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) of the complete-joint penetration (CJP) and partial-joint penetration (PJP) groove welds on the rib (cast section) to rib plate (steel section) and the stem (cast section) to stem plate (steel section) on tower saddle segment T1-3. The QA Inspector observed that the MPT inspection was in process on tower saddle segment T1-3 at the end of the QA Inspectors' shift.

Storage of Saddle: West Deviation Saddle Segment W2-E1 (cast section welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E1 is located in Fabrication Shop #4. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-E1 on this date.

Storage of Saddle: West Deviation Saddle Segment W2-E2 (cast section welded to steel section)

The QA Inspector observed that west deviation saddle segment W2-E2 is located in Fabrication Shop #4. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-E2 on this date.

Machine Shop #2

Final Machining Operation pending on Saddle: West Deviation Saddle Segment W2-E3

The QA Inspector observed that west deviation saddle segment W2-E3 is located in Machine Shop #2. The JSW personnel completed the dimensional inspection and verified the locations of the ribs and stem against the approved drawings. Afterwards, the JSW personnel scribed the assembly control lines (ACL) on the edges of the ribs, stem and base plate for reference points during the machining operation. The QA Inspector observed that the machining operation has not started on west deviation saddle segment W2-E3 on this date.

Fabrication Shop #4

Grinding Operation in process on Saddle: West Deviation Saddle Segment W2-W1 (cast section welded to steel section)

The QA Inspector observed the JSW personnel performing the grinding operation on the exterior side of rib (4-17) to remove the weld overlay after the lifting lug was removed by the air-carbon arc process. The QA Inspector observed that the grinding operation was in process on west deviation saddle segment W2-W1 at the end of the QA Inspectors' shift.

Beveling Operation in process on Saddle: West Deviation Saddle Segment W2-W2 (steel section)

The QA Inspector observed JSW personnel performing the re-beveling operation on the rib plates and stem plate's prepared edges (face of bevels) of west deviation saddle W2-W2 (steel section). These areas are being re-beveled to the layout marks (scribe lines and punch marks) of the final dimensions of the groove areas prior to the fit-up operation of west deviation saddle W2-W2 (cast section). The QA Inspector observed that the re-beveling operation was in process at the end of the QA Inspectors' shift.

Temporary Attachment welding completed on Saddle: West Deviation Saddle Segment W2-W2 (cast section)

The QA Inspector observed that the JSW welding personnel completed the welding of the (4) temporary attachments - (stay plates) on the interior of the trough and (2) lifting lugs each on the rib end sections of west deviation saddle segment W2-W2. The QA Inspector observed that no other work was performed on west deviation saddle segment W2-W2 on this date.

Weld Operation in process on Saddle: West Deviation Saddle Segment W2-W3 (built-up section)

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The QA Inspector observed the partial-joint penetration groove weld operation on the rib plate to base plate of west deviation saddle W2-W3. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the weld operation that the minimum preheat temperature of 160 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. T. Kawakami (08-5079) on weld joint no. W3Y-16V were in compliance with WPS SJ-3011-3 per the FCAW-G process in the (1G) flat position using (1.6) mm diameter TM95 electrode. The QA Inspector observed that the partial-joint penetration groove weld operation was in process at the end of the QA Inspectors' shift.

Weld Operation completed on MC Shapes to Rocker Bearing Plate Assembly: East Saddle E2-W1

The QA Inspector observed the fillet weld operation on the miscellaneous channel (MC) to the rocker bearing plate of the rocker bearing plate assembly for location E2-W1 has been completed. The next operation will be for the JSW personnel to remove the temporary fixtures welded to the edge of the bearing plate. The QA Inspector observed that no other work was performed on the rocker bearing plate assembly on this date.

Back-Gouge Operation in process on End Splay Cover Plate Assembly: East Saddle E2-W1

The QA Inspector observed the back-gouge operation by the air-carbon arc method on the complete-joint penetration double bevel groove tee joint weld from the second side of cover plate stiffener no. (24-5) to base plate no. (24-1) on the end splay cover plate assembly for east saddle E2-W1. The QA Inspector observed that the back-gouge operation was in process at the end of the QA Inspectors' shift.

Foundry:

Layout Operation pending on Saddle: West Deviation Saddle Segment W2-W3 (cast section)

The QA Inspector observed that west deviation saddle segment W2-W3 (cast section) is located to Machine Shop #2. The JSW personnel will perform the dimensional inspection of the ribs and stem of the west deviation saddle segment to verify the location and dimensions of the ribs and stem against the approved dimensional drawings. The JSW personnel will place the layout marks (scribe lines and punch marks) based on the assembly control lines of the ribs and stem of the west deviation saddle. The QA Inspector observed that the layout operation of west deviation saddle segment W2-W3 has not started at the end of the QA Inspectors' shift.

Excavation Map in process on Cast Saddle: East Saddle E2-E1 (cast saddle)

The JSW Representative Mr. Hideaki Kon informed the QA Inspector that the JSW personnel are preparing the major and minor repair excavation maps along with the proposed repair procedures that will be submitted as an engineering communication sheet (ECS) to American Bridge Fluor (ABF) for approval by the Caltrans Engineer of the Major repairs prior to the start of the repair weld operation. The excavated areas were previously inspected by NIS QC NDT Inspector Mr. K. Nishida (#311) by the liquid penetrant test (PT) method and the magnetic particle test (MPT) method to ensure the complete removal of the rejectable indications. The QA Inspector observed that the JSW personnel were in process on preparing the excavation maps for east saddle E2-E1 at the end of the QA Inspectors' shift.

Weld Operation in process on Cast Saddle: East Saddle E2-W1 (cast saddle)

The QA Inspector observed the repair weld operation on excavated areas on exterior of the trough on the identification (ID) side of east saddle E2-W1. The QA Inspector observed Quality Control (QC) representative Mr. T. Imai verify prior to and during the weld operation that the minimum preheat temperature of 150 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. Y. Kabutomori (06-8000) were in

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compliance with WPS SJ-3026-4 per the SMAW process in the horizontal position using (5.0) mm diameter E9016-G electrode. The QA Inspector observed that the repair weld operation was in process at the end of the QA Inspectors' shift.

Shaping Operation in process on Saddle: West Jacking Saddle (cast saddle)

The QA Inspector observed the JSW personnel performing the shaping (scarfing) operation- (removal of excess cast material on the rough casting) by the air-carbon arc gouge method using (19) mm diameter carbon electrode on the opposite side of the identification (ID) side on the trough, stem and rib sections of the west jacking saddle to profile the trough, stem, and rib sections of the west jacking saddle to the proper shape, dimension and radius. The QA Inspector observed that the JSW personnel were in process on the shaping operation at the end of the QA Inspectors' shift.

Unless otherwise noted, all observations reported on this date appeared to be in general compliance with the applicable contract specifications.

Summary of Conversations:

No significant conversations were reported on this date.

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:	Peterson, Art	Quality Assurance Inspector
Reviewed By:	Guest, Kittric	QA Reviewer
