

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023005**Date Inspected:** 24-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	N/A	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 Trial Assembly	

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

BAY 11 – (Skid More Test)

This QA Inspector witnessed High Strength Bolt Testing for ASTM A325 Grade. Observed ZPMC QC Mr. Zhang Hai Jun (Bolting QC) performing bolts testing and ZPMC QC Inspector Mr. Lin Guang Guo (Testing Lab QC) generating report against the testing.

The testing of bolts was performed to determine

1. High Tension bolt capability (Proof Load).
2. Nut Rotation from Snug-Tight condition to Turn-of-Nut Pre-tensioning (Working Torque value at site).

Bolt assembly identified as ASTM A325 (High Strength Bolt), Bolt Assembly comprises of (a Bolt, a Nut and a Washer).

WELDING INSPECTION REPORT

(Continued Page 2 of 6)

Bolt testing was performed on a Unit: Skidmore-Wilhelm; Model: HT; Serial Number: 15866 (Calibration Expiration due date on April 29, 2011) and Torque Wrench identified as XO-326 and Torque Wrench with Dial gauge on it is identified as XO-2.

Three (3) bolt assemblies were tested per lot, after determining High Tension bolt capability (Proof Load) following Reports were generated by Mr. Ling Guang Guo.

Inspection Report # 35 for bolt size M20x85, RC Set# DHGM200035.

Inspection Report # 46 for bolt size M20x150, RC Set# DHGM200046.

Inspection Report # 57 for bolt size M20x160, RC Set# DHGM200057.

Five (5) bolt assemblies were tested per lot after determining Nut Rotation from Snug-Tight condition to Turn-of-Nut Pre-tensioning (Working Torque value at site) following Reports were generated by Mr. Zhang Hai Jun.

Inspection Report # 317 for bolt size M20x85, RC Set# DHGM200035, Torque value 277 N-m.

Inspection Report # 318 for bolt size M20x150, RC Set# DHGM200046, Torque value 270 N-m.

Inspection Report # 319 for bolt size M20x160, RC Set# DHGM200057, Torque value 280 N-m.

The generated reports were submitted to the Lead Inspector Mr. Mark Miller for review and disposition.

Segment 12AE (Floor Beam Angle Brace)

This QA Inspector witnessed final bolt tension verification for Floor Beam Angle Brace connecting the Bottom Panel to T-Ribs and Side Panel (Cross Beam and Bike Path side) for Segment 12AE. At the following locations, inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00662 Dated April 24, 2011.

Segment 12AE at PP 111.5 and PP 112.5

Floor Beam Angle Brace installed at 2nd and 13th T-Ribs (Bike Path side) reference taken from work point E1 towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 7th and 18th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

The bolt sizes used were M22 x 55 RC Lot # DHGM220011 and the final torque value established was 457 N-m.

The bolt sizes used were M22 x 60 RC Lot # DHGM220046 and the final torque value established was 483 N-m.

WELDING INSPECTION REPORT

(Continued Page 3 of 6)

The Manual Torque wrench used was Serial No. XO2-666.

Segment 12BE (Floor Beam Angle Brace)

This QA Inspector witnessed final bolt tension verification for Floor Beam Angle Brace connecting the Bottom Panel to T-Ribs and Side Panel (Cross Beam and Bike Path side) for Segment 12BE. At the following locations, inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00662 Dated April 24, 2011.

Segment 12BE at PP 113.5 and PP 114.5

Floor Beam Angle Brace installed at 2nd and 13th T-Ribs (Bike Path side) reference taken from work point E1 towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 7th and 18th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

The bolt sizes used were M22 x 55 RC Lot # DHGM220011 and the final torque value established was 457 N-m.

The bolt sizes used were M22 x 60 RC Lot # DHGM220046 and the final torque value established was 483 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Segment 12CE (Floor Beam Angle Brace)

This QA Inspector witnessed final bolt tension verification for Floor Beam Angle Brace connecting the Bottom Panel to T-Ribs and Side Panel (Cross Beam and Bike Path side) for Segment 12CE. At the following locations, inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00662 Dated April 24, 2011.

Segment 12CE at PP 115.2

Floor Beam Angle Brace installed at 3rd and 13th T-Ribs (Bike Path side) reference taken from work point E1 towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 7th and 17th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

Segment 12CE at PP 115.5

Floor Beam Angle Brace installed at 1st and 13th T-Ribs (Bike Path side) reference taken from work point E1

WELDING INSPECTION REPORT

(Continued Page 4 of 6)

towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 6th and 18th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

Segment 12CE at PP 116

Floor Beam Angle Brace installed at 1st and 13th T-Ribs (Bike Path side) reference taken from work point E1 towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 5th and 17th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

Segment 12CE at PP 116.5

Floor Beam Angle Brace installed at 1st and 11th T-Ribs (Bike Path side) reference taken from work point E1 towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 5th and 16th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

Segment 12CE at PP 117

Floor Beam Angle Brace installed at 10th T-Ribs (Bike Path side) reference taken from work point E1 towards E3.

Floor Beam Angle Brace installed at 3rd, 8th and 16th T-Ribs (Bottom Panel) reference taken from work point E3 towards E4.

Floor Beam Angle Brace installed at 5th T-Ribs (Cross Beam side) reference taken from work point E4 towards E6.

Note: Floor Beam Angle Brace installed at 4th I-Ribs (Bike Path side) reference taken from work point E1 towards E3 and Floor Beam Angle Brace installed at 3rd T-Ribs (Cross Beam side) reference taken from work point E4 towards E6 were not offered for inspection by ZPMC QC Mr. Zhang Hai Jun as they are not ready.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 60 RC Lot # DHGM220046 and the final torque value established was 483 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Segment 12AW (Truss Post and Road Barrier Brackets)

WELDING INSPECTION REPORT

(Continued Page 5 of 6)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the X37A Brackets, Road Barrier Brackets, Inclined Truss Post and Vertical Truss Post at Cross Beam and Counter Weight side between Panel Points (PP) 109 to PP 110 and PP 110 to PP 111 for Segment 12AW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00663 dated April 24, 2011.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220121 and the final torque value established was 393 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The bolt sizes used were M24 x 60 RC Lot # DHGM240001 and the final torque value established was 633 N-m.

The bolt sizes used were M24 x 65 RC Lot # DHGM240013 and the final torque value established was 540 N-m.

The bolt sizes used were M24 x 80 RC Lot # DHGM240011 and the final torque value established was 533 N-m.

The Manual Torque wrench used was Serial No. XO2- 666.

Segment 12AW (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the X37A Brackets and Road Barrier Brackets at Cross Beam and Counter Weight side between Panel Points (PP) 111 to PP 111.5; 111.5 to PP 112 and PP 112 to PP 112.5 for Segment 12AW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00663 dated April 24, 2011.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The Manual Torque wrench used was Serial No. XO2- 666.

Segment 12BW (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the X37A Brackets and Road Barrier Brackets at Cross Beam and Counter Weight side between Panel Points (PP) 112.5 to PP 113; 113 to PP 113.5; PP 113.5 to PP 114 and PP 114 to PP 114.5 for Segment 12BW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00663 dated April 24, 2011.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The Manual Torque wrench used was Serial No. XO2- 666.

Segment 12CW (Truss Post and Road Barrier Brackets)

WELDING INSPECTION REPORT

(Continued Page 6 of 6)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the X37A Brackets and Road Barrier Brackets at Cross Beam and Counter Weight side between Panel Points (PP) 114.5 to PP 115; 115 to PP 115.2; PP 115.2 to PP 115.5; PP 115.5 to PP 116; PP 116 to PP 116.5; PP 116.5 to PP 117; and PP 117 to PP 117.25 for Segment 12CW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00663 dated April 24, 2011.

The bolt sizes used were M22 x 120 RC Lot # DHGM220054 and the final torque value established was 497 N-m.

The Manual Torque wrench used was Serial No. XO2- 666.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

No relevant 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 Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Miller,Mark	QA Reviewer
