**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
MATERIALS ENGINEERING AND TESTING 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
FAX: (707) 649-5493

Contract # : 04-0102E4
Cty S.F./Ala. Rte 80 PM 13.4/13.80
File # 01 .25 B

# QUALITY ASSURANCE - NONCONFORMANCE REPORT

**Location**: SFOBB T1 Foundation **JOBSITE NCR** ☒ **Date**: 10-03-07

**Prime Contractor:** Kiewit/FCI/Manson (KFM) Joint Venture **NCR #**203

**Submitting Contractor:** KFM

**Type of problem: Loss of Preheat**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Welding** | ☒ | **Concrete** | ☐ | **Other** | ☐ | |
| **Welding:** | ☒ | **Curing:** | ☐ | **Procedural:** | ☐ | **Bridge No.** 34-0006 L/R |
| **Joint fit-up:** | ☐ | **Coating:** | ☐ | **Other:** | ☐ | **Component:** T-1 Foundation |
| **Procedural:** | ☐ | **Procedural:** | ☐ | | | |

**Description of Non-Conformance:** The Contractor failed to maintain the preheat temperature during the welding of T1 pile head connection plate (PHCP) as required by Caltrans Special Provisions, Section 10-1.31, Field Welding of Pile/Sleeve Connection Plates, Line F. The loss in preheat occurred on PHCP pile 1, plate H, weld 1. There root and second passes were deposited prior to the loss of heat. The Contractor elected to leave the weld passes in place and perform magnetic particle testing, bring the weld up to the required minimum preheat, and commence welding. The loss of pre-heat was measured from the top of the weld groove approximately 68 millimeters and was verified below the minimum specified temperature of 121 Celsius (250 degrees Fahrenheit) with a 107 Celsius (225 degree Fahrenheit) and a 97 Celsius (200 degree Fahrenheit) temperature indicating crayon. It should also be noted that the pre-heat temperature was verified to be below 200 degrees Fahrenheit adjacent to the weld on the base metal material as well as inside the bevel face.

**Applicable reference:** Caltrans Special Provisions, Section 10-1.31, Field Welding of Pile /Sleeve Connection Plates, Line F

**Who discovered the problem:** Quality Control (QC) Inspector Dan Smith

**Name of individual from Contractor notified:** KFM General Welding Foreman, Jim Belcher

**Time and method of notification:** 1830 hours-10/03/07-Verbal

**Name of Caltrans Engineer notified:** Assistant Structure Representative; Art Pannu

**Time and method of notification:** 1845 hours-10/03/07-Verbal

**QC Inspector's Name:** Dan Smith

**Was the QC Inspector aware of problem:** Yes

**Contractor's proposal to correct the problem:** None at this time.
**Comments:** This report is for the purpose of determining general 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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

Inspected By: Daniel L. Reyes Quality Assurance Inspector

Reviewed By: Albert Carreon Lead QA Reviewer



*Hardcopy Routing Instructions:*
*1. Resident Engineer* *2. Inspecting Branch Contract File* *3. Responsible Branch Contract File (with supporting documentation)*

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

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# QUALITY ASSURANCE - NONCONFORMANCE REPORT

**Location:** SFOBB T1 Foundation **JOBSITE NCR** ☒ **Date:** 10-03-07

**Prime Contractor:** Kiewit/FCI/Manson (KFM) Joint Venture **NCR** #203

**Submitting Contractor:** KFM

**Type of problem: Loss of Preheat**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Welding** | ☒ | **Concrete** | ☐ | **Other** | ☐ | |
| **Welding:** | ☒ | **Curing:** | ☐ | **Procedural:** | ☐ | **Bridge No.** 34-0006 L/R |
| **Joint fit-up:** | ☐ | **Coating:** | ☐ | **Other:** | ☐ | **Component:** T-1 Foundation |
| **Procedural:** | ☐ | **Procedural:** | ☐ | | | |

**Description of Non-Conformance:** The Contractor failed to maintain the preheat temperature during the welding of T1 pile head connection plate (PHCP) as required by Caltrans Special Provisions, Section 10-1.31, Field Welding of Pile/Sleeve Connection Plates, Line F. The loss in preheat occurred on PHCP pile 1, plate H, weld 1. There root and second passes were deposited prior to the loss of heat. The Contractor elected to leave the weld passes in place and perform magnetic particle testing, bring the weld up to the required minimum preheat, and commence welding. The loss of pre-heat was measured from the top of the weld groove approximately 68 millimeters and was verified below the minimum specified temperature of 121 Celsius (250 degrees Fahrenheit) with a 107 Celsius (225 degree Fahrenheit) and a 97 Celsius (200 degree Fahrenheit) temperature indicating crayon. It should also be noted that the pre-heat temperature was verified to be below 200 degrees Fahrenheit adjacent to the weld on the base metal material as well as inside the bevel face.

**Applicable reference:** Caltrans Special Provisions, Section 10-1.31, Field Welding of Pile /Sleeve Connection Plates, Line F

**Who discovered the problem:** Quality Control (QC) Inspector Dan Smith

**Name of individual from Contractor notified:** KFM General Welding Foreman, Jim Belcher

**Time and method of notification:** 1830 hours-10/03/07-Verbal

**Name of Caltrans Engineer notified:** Assistant Structure Representative; Art Pannu

**Time and method of notification:** 1845 hours-10/03/07-Verbal

**QC Inspector's Name:** Dan Smith

**Was the QC Inspector aware of problem:** Yes

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**Contractor's proposal to correct the problem:** None at this time.

**Comments:** This report is for the purpose of determining general 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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

Inspected By: Daniel L. Reyes Quality Assurance Inspector

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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program**
333 Burma Rd.
Oakland, CA 94607
(510) 286-0538, (510) 286-0550 fax

Kiewit-FCI-Manson, JV
220 Burma Rd.
Oakland, CA 94607

Attn: Mr. Rich Bienek
Welding Quality Control Manager

October 11, 2007

Contract No. 04-0120E4
04-SF-80-13.4, 13.8
SAS T1 & E2 Foundations
SFOBB-ESSSP

Letter No. 05.003.01-003547

Subject: NCR - Kiewit-FCI-Manson, 10/03/07 (Failure to Maintain Preheat)

Dear Rich,

The Department issued a Non-conformance Report (NCR) at the SAS T1/E2 Foundations project site on October 3, 2007. The NCR was generated when the Contractor failed to maintain the preheat temperature as required by the Special Provisions, Section 10-1.31, Subsection "Field Welding of Pile/Sleeve Connector Plates," Line F, during welding of Pier T1 Pile Head Connection Plate (PHCP) at pile 1, weld H1. QA verbally notified Mr. Jim Belcher, KFM General Welding Supervisor, of this non-conformance on October 3, 2007.

The Department understands that the Contractor returned the weld to the minimum preheat temperature and that MT was performed on the in-place weld prior to resuming welding. The Department considers this NCR to be closed. However future instances of loss of preheat will be documented as necessary.

If you have any questions or need additional information, please contact Mark Vilcheck at (510) 286-0526.

Sincerely,

Mark Vilcheck
Structure Representative

For: Pedro J. Sanchez
Resident Engineer

cc: P. Sanchez
M. Woods
R. Smith

file: 05.003.01, 09.006.03