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STATE OF CALIFORNIA	Job Stamp	7-day Const. Calendar	Day No. 877
DEPARTMENT OF TRANSPORTATION	SFOBB SAS	Project Work Day No.	Day No. 1087
Form HC-10A (Rev. 6/80)	04-0120F4	Date	**5/8/2009**

Weather: Clear and cool (AM)
Clear and mild (PM)

Inspectors Hours	Start	0630	Stop	1700
Shift Hours	Start	0630	Stop	1700

ASSISTANT STRUCTURE REP.
JASON WILCOX

CONTRACTOR – TRAYLOR DUTRA JV

HOURS - ITEM NO. 8

EQUIPMENT AND/OR LABOR:

Equip. #	NO. MEN	DESCRIPTION (Of Equipment or Labor) Traylor Dutra	REGULAR	OVERTIME	DOUBLE TIME	NIGHT PAY						IDLE OR DOWN	REMARKS Name	Contractor

Description of Operation:
Erect Temporary Towers: TTGN Pile Splicing, Bolt Testing, and Truss Assembly and Erection

FIELD WORK:

TTGN Pile Splicing:

Thanh Le is observing this operation today and will have the detailed diary for the day. Throughout the day the crew of the DB-5 welded the connection plates between the piles and the driving frame. They also continued the splice welding of the remaining 48" piles.

Bolt Testing:

I received notice of bolt testing around 0645 hours, and prepared for observing the test. Upon arrival, there were already 3 engineers from ABF (Paul Lee, Sara Hansel, and Sebrina Levine), an ironworker (Kelly Edmunds), and an independent inspector from Smith Emery, (Barry Drake). Masoud Modanou and I were informed that there were 24 lots of bolts to be tested, all of them using the same lot of washers and nuts so there were to be 72 fastener assemblies, (24 X 3 = 72). However, there were 21 lots tested because there were some errors on the list given to us by ABF, so there were 63 assemblies. I was called away from the test to attend an electronic diary writing meeting, but Masoud was there to witness the whole test. Results are attached to this diary.

The Skidmore, (Model/Serial # MS15994) was unable to fit the 3" and 3.25" bolts, (they were too short), so these lots were placed into a steel bench fitted with a hole for them, snug tightened, then turned 1/3 of a turn and tested with a torque wrench, (Serial # 0707803033). The torque wrench used was a double handed wrench and did not have a "break" when the bolts torque was reached. However, the

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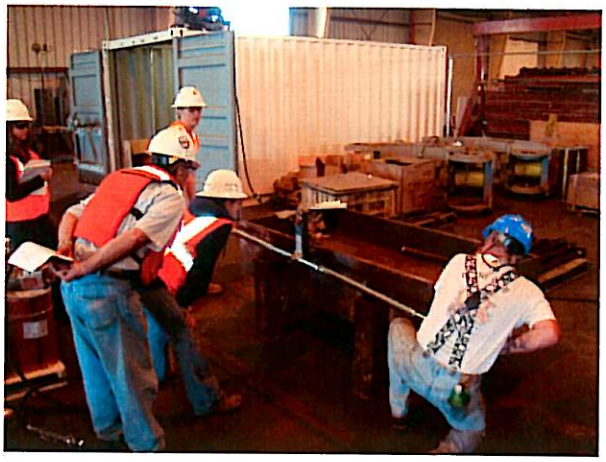
maximum reading on the wrench is 2800 N*m and most of the assemblies achieved this reading. This reading correlates to about 2,065 lb-ft. When calculated in the torque equation in the Steel Structures Technology Center handbook on pg. 60, T = 0.0167 x P x D, the tension in the bolts could be close to 110 Kips. Well above the 84 Kip minimum. There were only 3 lots tested like this.



Truss Assembly and Erection:

Massoud Modanlou is observing these operations and will have the detailed diary for them. The assembly of Truss segments 7E to 8E/9E is continuing throughout the day. There has been a push for this section to be erected before the B.5 to D section on the W-Line.

OFFICE WORK:

- 1000 hours PMIV diary writing meeting
- Wrote and reviewed diaries
- Reviewed Submittal 1123 – Temp Works Erection Plan Truss FS W4 to FS W9
- Reviewed information regarding the Seior Bridge Engineer exam
- Filled out TWIC form

CONVERSATIONS:

OVERTIME: Accrued 2 hours of overtime covering the Contractors operations.

Inspector:

Jason Wilcox _____ Transportation Engineer (D)/Asst. Structure Rep.

All bolts are 1.125 inch diameter
All nuts and washers are of the same lot and are DH / U and F436 respectively
METHOD: Turn of the nut

LOT	SIZE		1	2	3
240018A	3"		2800 Nm	2800Nm	2500Nm
252420A	3.25"		2500Nm	2500Nm	2800Nm
240021A	3.25"		2800Nm	2400Nm	2500Nm
252418A	3.5"		86Kips	86Kips	93Kips
246864A	3.5"		84K	88K	85K
252416B	3.75"		92K	88K	84K
253522A	4.25"		90K	86K	84K
246856A	4.5"		85K	85K	90K
248839A	4.5"		87K	95K	84K
252560A	4.5"		86K	84K	87K
248842A	5"		95K+	95K+	95K+
252407A	5.5"		95K+	95K+	95K+
253527A	6"		95K+	95K+	95K+
249847A	6"		95K+	95K+	95K+
253527B	6"		95K+	95K+	95K+
252405A	6.5"		95K+	95K+	95K+
249845A	6.5"		95K+	95K+	95K+
252404A	7"		95K+	95K+	95K+
249842A	7.5"		95K+	94K	95K+
252403A	7.5"		95K	95K+	94K
250022A	8"		93K	95K	93K

*First assembly failed. Added washer and the results were acceptable.

Search Ordered by Location 5/7/2009

LOCATION	DATE RECEIVED	BOLT DIAMETER	BOLT LENGTH	LOT_NO	QTY	NOTES	TEST 1	TEST 2	TEST 3
Order 32 & 35	3/23/2009	1.125	3	240018A	50	1 KEG	2800 NM	2800 NM	2500 NM
Order 32 & 35	3/23/2009	1.125	3.25	252420A	140	1 KEG	2500 NM	2500 NM	2800 NM
Order 32 & 35	3/23/2009	1.125	3.25	252420A	480	3 KEGS			
Order 32 & 35	3/23/2009	1.125	3.25	240021A	140	1 KEG, 8 KEGS MISSING	2800 NM	2400 NM	2500 NM
Order 32 & 35	3/23/2009	1.125	3.5	252418A	810	6 KEGS	86 KIPS	86 KIPS	93 KIPS
Order 32 & 35	3/23/2009	1.125	3.5	252418A	1215	9 KEGS			
Order 32 & 35	3/23/2009	1.125	3.5	252418A	135	1 KEG			
Order 32 & 35	3/23/2009	1.125	3.5	249864A	250	2 KEGS	84 KIPS	88 KIPS	85 KIPS
Order 32 & 35	3/23/2009	1.125	3.75	252416B	60	1 KEG	92 KIPS	88 KIPS	84 KIPS
Order 32 & 35	3/23/2009	1.125	3.75	252416B	945	7 KEGS, MISSING 2 KEGS			
Order 32 & 35	3/23/2009	1.125	3.75	252416B	270	2 KEGS			
Order 32 & 35	3/23/2009	1.125	3.75	252416B	1215	9 KEGS			
Order 32 & 35	3/23/2009	1.125	4.25	253522A	125	1 KEG	90 KIPS	86 KIPS	84 KIPS
Order 32 & 35	3/23/2009	1.125	4.5	252560A	230	2 KEGS			
Order 32 & 35	3/23/2009	1.125	4.5	249856A	805	7 KEGS	85 KIPS	85 KIPS	90 KIPS
Order 32 & 35	3/23/2009	1.125	4.5	253522A	135	1 KEG			
Order 32 & 35	3/23/2009	1.125	4.5	253522A	625	5 KEGS			
Order 32 & 35	3/23/2009	1.125	4.5	24889A	1035	9 KEGS	87 KIPS	95 KIPS	84 KIPS
Order 32 & 35	3/23/2009	1.125	4.5	252403A	1125	9 KEGS			
Order 32 & 35	3/23/2009	1.125	4.5	252560A	20	1 KEG	86 KIPS	84 KIPS	87 KIPS
Order 32 & 35	3/23/2009	1.125	5	248842A	105	1 KEG	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	5	248842A	95	1 KEG			
Order 32 & 35	3/23/2009	1.125	5.5	252407A	450	5 KEGS	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	5.5	252407A	50	1 KEG			
Order 32 & 35	3/23/2009	1.125	6	253527A	40	1 KEG	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	6	249847A	170	2 KEGS	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	6	253527B	425	5 KEGS	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	6	253527A	510	6 KEGS 3 KEGS MISSING			
Order 32 & 35	3/23/2009	1.125	6.5	252405A	600	8 KEGS, 1 KEG MISSING	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	6.5	249845A	75	1 KEG	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	6.5	252405A	150	2 KEGS			
Order 32 & 35	3/23/2009	1.125	6.5	249845A	65	1 KEG			
Order 32 & 35	3/23/2009	1.125	6.5	252405A	675	9 KEGS			

LOCATION	DATE RECEIVED	BOLT DIAMETER	BOLT LENGTH	LOT_NO	QTY	NOTES	TEST 1	TEST 2	TEST 3
Order 32 & 35	3/23/2009	1.125	7	252404A	350	5 KEGS	95+ KIPS	95+ KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	7	252404A	210	3 KEGS			
Order 32 & 35	3/23/2009	1.125	7	252404A	70	1 KEG			
Order 32 & 35	3/23/2009	1.125	7.5	249842A	280	4 KEGS	95+ KIPS	94 KIPS	95+ KIPS
Order 32 & 35	3/23/2009	1.125	7.5	249842A	10	1 KEG			
Order 32 & 35	3/23/2009	1.125	7.5	249842A	630	9 KEGS			
Order 32 & 35	3/23/2009	1.125	7.5	252403A	280	4 KEGS	95+ KIPS	95 KIPS	94 KIPS
Order 32 & 35	3/23/2009	1.125	8	250022A	40	1 KEG	93 KIPS	95 KIPS	93 KIPS
Order 32 & 35	3/23/2009	1.125	8	250022A	120	2 KEGS			
Order 32 & 35	3/23/2009	1.125	8	250022A	240	4 KEGS			

BOLT TESTING

WAREHOUSE

START: 0740

END:

5/8/09

*TORQUE WRENCH: SN: 0707803033

CAL:

PAUL

SARA

SEBRINA LEVINE

IRON BRO (~~KETTH~~ KELLY ANDERSON)

BARRY DRAKE (S-E)

* ALL THE SAME LOT FOR NUTS * WASHERS

NUTS: NJ131

F436 WASHERS: C1197

TURN	LOT	SIZE	TORQUE
1/3 TURN	240018A	3"	1) 2800 N·M 2) 2800 N·M 3) 2500 N·M
	252420A	3 1/4"	1) 2500 N·M 2) 2800 N·M 3) 2800 N·M
	240021 A	3 1/4	1) 2800 N·M 2) N·M 3) N·M
	GAP		TENSION
	252416 A	3 3/4	1) 92 K ✓ 2) 88 K 3) 84 K
	253522 A	4 1/4	1) 90 K 2) 86 K 3) 84 K
	SKIPPED 252560		
	249856A	4 1/2	1) 80 K LOW → CHECK 3 MORE 1) 85 K 2) 85 K 3) 90 K
	248839 A	4 1/2	1) 87 K 2) 95 K 3) 84 K
	252560 A	4 1/2	1) 86 K 2) 3)

IN OFFICE LOOKING FOR CT TORQUE WRENCH

(2000 N·M)

$T = \frac{2065 \text{ lb ft}}{.0167 (1.125)} =$

5/8/09

TURN	LOT	SIZE	TENSION
1/3	252560A	4 1/2"	1) 86 K 2) 84 K 3) 87 K
	252403A	~~NOT 4 1/2"~~ IS 7 1/2	1) 2) 3)
1/2	248842A	5"	1) 95+ K 2) 95+ K 3) 95+ K
	[illegible]A	5 1/2"	1) 95+ K 2) 95+ K 3) 95+ K

OFF CHART "

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(CALLED) TO MTG

A490

	TENSION	TORQUE
1 1/8	80 K	900 - 1500 - 2300

2800 N·m = 2,065 lb·ft

$T = .0167\,PD$

TORQUE — ~~TORQUE~~ TENSION — DIA.

$P = \frac{T}{.0167\,D}$

TENSION ≈ 109.9 ... K

SKIDMORE WILHELM

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South Euclid, OH 44121
216-481-4774
216-481-2427 fax
www.skidmore-wilhelm.com

Calibration Report

Reading	Actual Load	% Deviation
20,000	20,017	0.09%
40,000	39,959	-0.10%
60,000	60,028	0.05%
80,000	79,740	-0.33%

Date of Calibration	4/24/2009
Model/Serial Number	MS15994
Technician	William Robinson
Temperature (°F):	71

Tested with Morehouse Proving Ring S/N 2417, traceable to NIST per Report No. 2417F0606, dtd. 6/06/06.