

TOLL PROGRAM/DIST. 4 CONSTR.

Job Stamp:
04-SF-80-13.2/13.9 04-0120F4
SFOBB SAS
San Francisco Co. in San Francisco
Fm 0.6 km to 1.3 km East of Yerba Buena
Tunnel East Portal

Report No. **46.B**

Date the Shift Began: **4/23/09**

NIGHTWORK **THURSDAY**

Shift Hrs Start **6:30** Stop **17:00**
Engineer's Hrs Start **7:30** Stop **18:00**

ASSISTANT RESIDENT ENGINEER'S DAILY

BRIDGE

REPORT

Location: Piers E2 & W2	7-day const. cal.: 862	Weather: Overcast & Windy - Cold
Remark:	Project work day: 1072	

Description of Operation: Post Tensioning at Bent W2 - Day 2; Falsework Removal at Pier E2

EQUIPMENT AND/OR LABOR:			HOURS - ITEM NO.					REMARKS		Prime / Sub
EQPT. NO.	NO. MEN	DESCRIPTION (Of Equipment or Labor)	RT					Name	Classification	
		Pier E2								
		Pile Driver	8.00					Terry Cronk	General Foreman	p
		Pile Driver	8.00					Alan Briney	Journeyman	p
		Pile Driver	8.00					Luke Paulk	Journeyman	p
		Pile Driver	8.00					Ed Mendoza	Journeyman	p
		Pile Driver	8.00					Karl Nisley	Journeyman	p
		Pile Driver	8.00					Harry Wheat	Journeyman	p
		Pile Driver	8.00					Jamal Whitney	Apprentice	p
		Pile Driver	8.00					Richard Yambao	Apprentice	p
		Laborer	8.00					Byron Contreras		p
		Operator	8.00					Brad Buffalow		p
		Operator	8.00					Joe Showman		
		Oiler	8.00					Theodore Rhor		
		Oiler	8.00					Doug Greene	Apprentice	p
		Ringer Barge #1	8.00					Manitowac Crane		
		Crane Barge RT 160	8.00					60-Ton Mobile Crane		
002062		Lincoln Electric	8.00					Vantage 500	6008088	
002083		Lincoln Electric						Vantage 500	6008091	
002068		MQ Power Generator	8.00					Whisperwatt 25	6007939	
002069		MQ Power Generator						Whisperwatt 25		
		Honda 115 Horse Skiff								
002075		Ingersoll Rand P185R								
S-125		Manlift	8.00					Genie	481936009	

Please Note: All the employees and equipment listed above are those who worked at Pier E2 today. For the list of Schwager Davis/ ABF employees, consult Matt Bruce's diary.

At bent cap W2, the post-tensioning continued today with Tendon #15 in the sequence-CBT24. Starting at 6:45, SDI completed tensioning 5 tendons by 8:00 AM. This happened despite fighting the scaffold that was in their way almost each and every time they had to move the ram. The worst situation happened following the completion of the 5th tendon, when they were trying to tension Tendon CBT28-the 20th one in the sequence. The same problem beset these guys yesterday as well. It took 20 minutes to rectify the problem and by 8:24, this tendon was completed as well. At 8:39, the 21st tendon in the sequence, CBT34 was completed and due to the interference with the scaffolding, the SDI crew, consulting Mike Schwager decided to move to the North side. This way, they could complete the second end stressing on the 21 tendons stressed from the South side, thus completing these tendons. This in turn will enable SDI to proceed with the cutting of the strands for the completed tendons and the scaffolding can then be removed without the long tails of the tendons interfering with the re-location of the scaffolding. Following the completion of the 2nd end, SDI can return to the South side and work on stressing the first end (South side) on the

GR

REF: 09 MAY 09 11:05:47A

ASSISTANT RESIDENT ENGINEER'S DAILY

BRIDGE

REPORT

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5 remaining tendons-22 thru. 26.

Also, SDI began stressing the high strength rods shown on Plan Sheet 472R3 of 1204, titled "W2 Cap Beam Post Tensioning Detail No. 10." For details on this operation, consult Matt Bruce's report. The **Gage No.** used for this operation is **B36A** and the **Jack No. B36**. The Pj for these rods/tendons is **4600 psi**, with the theoretical elongation of 27 mm. This operation began at 8:28. At this point Matt stayed with this operation and I continued with the post-tensioning of the strand.

The following information was missing from my April 22, 2009 diary on the post-tensioning:

26, 27-strand tendons to be tensioned at both ends

Strand Dia. 15.2mm (0.6")

Area 140 sq. mm. (0.217 in²)

E 196,500 mpa (2.87x10e07 psi)

Pjack 5,273 KN (1,185 Kips)

Jack No. CH600-8-110A

Gage No. CH600-8-110

Jack Capacity: 600 Tons

Eff. Ram Area: 141.82 sq. inch

Load/Strain Gage Indicator: CT59432

ND (Numerical Display Setting): 9125 (Vs 9131 from the HQ calibration chart)

GF (Gage Factor): 0.858 (Vs. 0.862 from the HQ calibration chart)

The calibration of the Jack was conducted on the following Tendons: **CBT15, 14, and 16**, which were the first three tendons tensioned. Initially, the ram was taken to 20% of Pjack and a value on the load cell observed and recorded. 20% of Pjack is 1710 psi corresponding to **240 Kips** on the **Ram Calibration Chart**. The value read off the load cell was then compared with this value. In this instance, this value was **233 Kips**, which compares very well with the value obtained from the Ram Calibration Chart. The ram was then taken to 2000 psi before we read the corresponding load on the **Load Cell**. Thereafter, at increments of 1000 psi on the Jack, we read the corresponding load value on the load cell. This process continued until we reached 8000 psi on the Jack and terminated once we reached **Pjack at 8550 psi**. All the load readings off the **Load Cell**, varied between 1%-2% from values obtained off the Load Calibration Chart-well below the 5% requirement.

Attached, please find the Prestress Calibration Monitoring sheet for April 22 and 23, 2009. We conducted two calibration monitoring of the ram on April 23rd (the 2nd day of the stressing operation) on the following tendons: **CBT 32 & 33**.

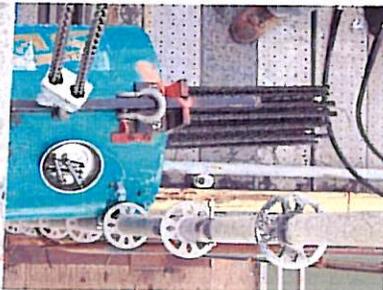
Once on the North side of the cap beam, SDI reverted to the original sequence, tensioning the tendon **CBT15** for the first tendon tensioned from both sides. At the end of the day, SDI was able to tension 20 of 21 tendons from the North side, leaving **ONLY 6** tendons before the double tensioning of the tendons is complete.

Please refer to the attached spreadsheet for information on the elongation of tendons tensioned thus far.

SAFETY

As discussed in yesterday's report, the scaffolding ABF has set-up for SDI is quite un-safe for this operation. I pointed out the unsafe condition of the scaffold to Charles Kanapicki, ABF's Quality Control Manager, who in turn took a photo to show to ABF's safety manager. It should be mentioned in passing that I have seen ABF's safety manager just once on the job site over the last 15 months.

The following pictures show the hazardous situation discussed over these two days, yet again.



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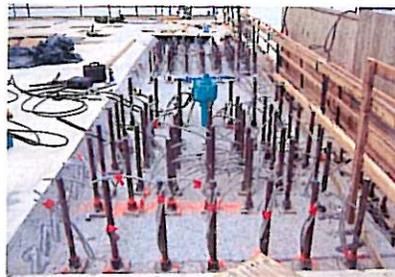
ASSISTANT RESIDENT ENGINEER'S DAILY

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REPORT

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The following photos show the post-tensioning of the strands followed by the tensioning of the vertical bars at the W2 Cap Beam.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CP-CEM 4601 (Rev. 4/99) (Old HC-10A)

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Finally, the lowering of the falsework at Pier E2 began in earnest at around 9:00 AM. By the end of the day, as shown on the photos, the soffit was almost at mid flight. Tomorrow should mark the conclusion of this operation.



Materials:

Insp. Hrs.	
REG:	INTERMITTENT
OT:	INSPECTION

Saman Soheili
 Saman Soheili

ASR/CT
 Title

First End Stressing (South Side) @ Bent W2										2nd End Stressing (North Side)				
Day1 - April 22, 2009										Day2 - April 23, 2009				
Sequence	Tendon ID	Elongation				1st End Elongation	Total			2nd End Elongation	Total Elongation	Total		
		@ 20% mm	@ 100% mm	100%-20% mm	after Seating mm		Elongation mm	Theoretical Elongation mm	Tolerance (+7%)			Tolerance (-7%)	Elongation mm	Theoretical Elongation mm
1	CBT15	250	582	332	565	315	351	376	326	65	380	351	376	326
2	CBT14	300	611	311	590	290	352	377	327	55	345	352	377	327
3	CBT16	300	623	323	607	307	357	382	332	37	344	357	382	332
4	CBT17	300	620	320	610	310	359	384	334	54	364	359	384	334
5	CBT13	300	610	310	595	295	357	382	332	55	350	357	382	332
6	CBT12	300	627	327	617	317	362	387	337	48	365	362	387	337
7	CBT18	300	608	308	598	298	359	384	334	55	353	359	384	334
8	CBT19	300	606	306	596	296	359	384	334	56	352	359	384	334
9	CBT11	300	586	286	576	276	352	377	327	73	349	352	377	327
10	CBT20	300	607	307	597	297	365	391	339	40	337	365	391	339
11	CBT21	300	625	325	615	315	355	380	330	40	355	355	380	330
12	CBT22	300	635	335	621	321	348	372	324	35	356	348	372	324
13	CBT23	300	600	300	590	290	341	365	317	33	323	341	365	317
14	CBT30	300	570	270	556	256	338	362	314	62	318	338	362	314
Day2 - April 23, 2009														
15	CBT24	300	577	277	564	264	338	362	314	53	317	340	364	316
16	CBT31	300	587	287	572	272	340	364	316	64	336	356	381	331
17	CBT32	300	562	262	549	249	356	381	331	70	319	353	378	328
18	CBT33	300	584	284	570	270	353	378	328	62	332	352	377	327
19	CBT29	300	547	247	537	237	352	377	327	80	317	349	373	325
20	CBT28	300	592	292	582	282	349	373	325	52	334	350	375	326
21	CBT34	300	579	279	564	264	350	375	326					

DEPARTMENT OF TRANSPORTATION
**PRESTRESS CALIBRATION
 MONITORING SHEET**

JOB STAMP

DS-C86 (REV 08/08)

DATE 4/29/2009
 NAME OF SYSTEM _____
 JACK NO. _____
 GAGE NO. CH600-8-110 A&B
 STRESSING FOREMAN _____

BR Matt Bruce
 INSPECTOR(S) SAMAN SOHEILI
 BRIDGE W2 CAP BEAM

FOR 1/2" 270 KSI STRAND ABSOLUTE MAX...Pj
 31^K X #STRANDS/TENDON = 31 X _____ = _____ (Pj)

FOR 6" 270 KSI STRAND ABSOLUTE MAX...Pj
 44^K X #STRANDS/TENDON = 44 X 27 = 1188K

CONTRACT REQUIRED...Pj

THEORETICAL MAX GAGE PRESSURE...Pj / RAM AREA = 1188K / 141.81 in² = 8377 psi
 #DIV#1

MAX GAGE PRESSURE FROM LATEST CONTRACTOR'S CALIBRATION
 STRAIN GAGE INDICATOR CT 59432
 ELECTRO HYDRAULIC CELL NO. _____
 NUMERICAL DISPLAY SETTING 9125 Vs 9131
 ACTUAL GAGE FACTOR 0.862 Vs 0.858
 MEASURABLE ELONGATION = 8 TOTAL ELONGATION = _____

CBT 33 #18 in the sequence

GAGE READING (PSI)	LOAD FROM INDICATOR	LOAD FROM CALIBRATION CHART K	REMARKS
1710	233	240	20% of Pj
1783		250 (i)	
2000		280	@ 7:15 a leak in a hose stopped the operation. Restart 7:27. GAGE "B" attached as well at this time.
3000	410	419	
3583		500	
4000		557	
5000		696	
5400		750	
6000	822	834	
7000	951	973	
7200		1000	
8000	1093	1111	
8550	1169	1188	Pjack

(i) All highlighted values are taken off the RAM CALIBRATION CHART

BY _____
 REPORTING PARTY

DEPARTMENT OF TRANSPORTATION
**PRESTRESS CALIBRATION
 MONITORING SHEET**

JOB STAMP

DS-C86 (REV 08/08)

DATE 4/29/2009
 NAME OF SYSTEM _____
 JACK NO. _____
 GAGE NO. _____
 STRESSING FOREMAN _____

BR MATT BRUCE
 INSPECTOR(S) SAMAN SOHEIL
 BRIDGE SAS: W2 CAP BEAM

FOR 1/2" 270 KSI STRAND ABSOLUTE MAX...PJ
 31^K X #STRANDS/TENDON = 31 X = (P)

FOR 6" 270 KSI STRAND ABSOLUTE MAX...PJ
 44^K X #STRANDS/TENDON = 44 X 27 = 1188K

CONTRACT REQUIRED...PJ

THEORETICAL MAX GAGE PRESSURE...PJ / RAM AREA = 1188K / 141.81 in² = 8377 psi
 #DIV/0!

MAX GAGE PRESSURE FROM LATEST CONTRACTOR'S CALIBRATION

STRAIN GAGE INDICATOR _____

ELECTRO HYDRAULIC CELL NO. _____

NUMERICAL DISPLAY SETTING _____

ACTUAL GAGE FACTOR _____

MEASURABLE ELONGATION = 8 TOTAL ELONGATION = _____

Handwritten note: CBT 32 #17 in the Sequence

GAGE READING (PSI)	LOAD FROM INDICATOR	LOAD FROM CALIBRATION CHART K	REMARKS
1710	237	240	20% of P _j
1783		250 (H)	
2000		280	
3000		419	
3583		500	
4000	548	557	
5000	688	696	
5400		750	
6000	818	834	
7000	957	973	
7200		1000	
8000	1095	1111	
8550	1176	1188	P _{JACK}

(i) All highlighted values are taken off the RAM CALIBRATION CHART

BY _____
 REPORTING PARTY

DEPARTMENT OF TRANSPORTATION
**PRESTRESS CALIBRATION
 MONITORING SHEET**

JOB STAMP

DS-C86 (REV 08/08)

DATE 4/22/2009
 NAME OF SYSTEM _____
 JACK NO. _____
 GAGE NO. CH600-8-110A
 STRESSING FOREMAN _____

BR "W/2" CAP BEAM
 INSPECTOR(S) SAMAN SOHEILI
 BRIDGE MATT BRUCE

FOR 1/2" 270 KSI STRAND ABSOLUTE MAX...PJ (K) X (#STRANDS / TENDON) = (PJ)
 31^K X #STRANDS/TENDON = 31 X _____ = _____
 FOR 6" 270 KSI STRAND ABSOLUTE MAX....PJ
 44^K X #STRANDS/TENDON = 44 X 27 = 1188K
 CONTRACT REQUIRED....PJ

THEORETICAL MAX GAGE PRESSURE...PJ / RAM AREA = 1188K / 141.81 in² = 8377 psi
 -#DIV/0!

MAX GAGE PRESSURE FROM LATEST CONTRACTOR'S CALIBRATION
 STRAIN GAGE INDICATOR CT 59432
 ELECTRO HYDRAULIC CELL NO. _____
 NUMERICAL DISPLAY SETTING 9125 Vs (9131)
 ACTUAL GAGE FACTOR 0.858 Vs (0.862)
 MEASURABLE ELONGATION = 8 TOTAL ELONGATION = _____

CBT 16

GAGE READING (PSI)	LOAD FROM INDICATOR	LOAD FROM CALIBRATION CHART K	REMARKS
1710	233	240	20% of P _s
1783	238	250 (1)	
2000	286	280	
3000	411	419	
3583		500	
4000	545	557	
5000	683	696	
5400		750	
6000	818	834	
7000	959	973	
7200		1000	
8000	1094	1111	
8550	1165	1188	P _{jack}

(1) All highlighted values are taken off the RAM CALIBRATION CHART

BY _____
 REPORTING PARTY

DEPARTMENT OF TRANSPORTATION
**PRESTRESS CALIBRATION
 MONITORING SHEET**

JOB STAMP

DS-C86 (REV 08/08)

DATE 4/22/2009 BR MATT BRUCE
 NAME OF SYSTEM _____ INSPECTOR(S) SAMYAN SOHEILI
 JACK NO. _____ BRIDGE SAS: W2 CAP BEAM
 GAGE NO. CH600-8-110A
 STRESSING FOREMAN _____

FOR 1/2" 270 KSI STRAND ABSOLUTE MAX...PJ (#STRANDS / TENDON) = (PJ)
 31" X #STRANDS/TENDON = 31 X _____ = _____

FOR 6" 270 KSI STRAND ABSOLUTE MAX...PJ
 44" X #STRANDS/TENDON = 44 X 27 = 1188K

CONTRACT REQUIRED...PJ

THEORETICAL MAX GAGE PRESSURE...PJ / RAM AREA = 1188K / 141.81 in² = 8377 psi
 #DIV/GI

MAX GAGE PRESSURE FROM LATEST CONTRACTOR'S CALIBRATION
 STRAIN GAGE INDICATOR CT 59432
 ELECTRO HYDRAULIC CELL NO. _____
 NUMERICAL DISPLAY SETTING 9125 Vs (9131)
 ACTUAL GAGE FACTOR 0.858 Vs (0.862)
 MEASURABLE ELONGATION = 8 TOTAL ELONGATION = _____

CBT14

GAGE READING (PSI)	LOAD FROM INDICATOR	LOAD FROM CALIBRATION CHART K		REMARKS
1710	233	240		
1783		250 (1)	300 mm	20% of P _s
2000		280		
3000	413	419		
3583		500		
4000		557		
5000		696		
5400		750		
6000		834		
7000		973		
7200		1000		
8000		1111		
8550	1166	1188	Cell mm 590mm	P JACK

(1) All highlighted values are taken off the RAM CALIBRATION CHART

BY _____
 REPORTING PARTY

DEPARTMENT OF TRANSPORTATION
**PRESTRESS CALIBRATION
 MONITORING SHEET**

JOB STAMP

DS-C86 (REV 08/08)

DATE: 4/22/2009
 NAME OF SYSTEM _____
 JACK NO. _____
 GAGE NO. CH600-8-110A
 STRESSING FOREMAN _____

BR W2" CAP BEAM
 INSPECTOR(S) MATT BRUCE
 BRIDGE SAMAN SOHELJI

FOR 1/2" 270 KSI STRAND ABSOLUTE MAX...Pj (K) X (#STRANDS / TENDON) = (Pj)
 31^K X #STRANDS/TENDON = 31 X =

FOR 6" 270 KSI STRAND ABSOLUTE MAX.....Pj
 44^K X #STRANDS/TENDON = 44 X 27 = 1188K

CONTRACT REQUIRED....Pj

THEORETICAL MAX GAGE PRESSURE...Pj / RAM AREA = 1188K / 141.81 in² = 8377 psi
 -#DIV/0!

MAX GAGE PRESSURE FROM LATEST CONTRACTOR'S CALIBRATION
 STRAIN GAGE INDICATOR CT 59432
 ELECTRO HYDRAULIC CELL NO. _____
 NUMERICAL DISPLAY SETTING 9125 vs 9131
 ACTUAL GAGE FACTOR 0.858 vs 0.862
 MEASURABLE ELONGATION = 8 TOTAL ELONGATION = _____

CBT 15

GAGE READING (PSI)	LOAD FROM INDICATOR	LOAD FROM CALIBRATION CHART K		REMARKS
1710	234	240	10in ALWAYS	20% of Pj
1783		250 (H)		
2000	272	280		
3000	416	419		
3583		500		
4000	549	557		
5000	688?	696		
5400		750		
6000	822	834		
7000	959	973		
7200		1000		
8000	1099	1111		
8550	1169	1188		Piack

(i) All highlighted values are taken off the RAM CALIBRATION CHART

BY _____
 REPORTING PARTY