



SAS Superstructure

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 21-Nov-14

Time 11:28 PM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 512 Const Calendar Day: 900 Date: 25-Feb-2012 Saturday

Inspector Name: Bruce, Matt Title: Transportation Engineer

Inspection Type: Intermittent

Shift Hours: 04:30 am 01:00 pm Break: 00:30 Over Time: 08:00

Federal ID:

Location:

Reviewer: Schmitt, Alex Approved Date: Status: Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature 7 AM 40 - 50 12 PM 50 - 60 4PM 50 - 60

Precipitation 0.00"

Condition Partly Cloudy and severe winds

Working Day [ ] If no, explain:

Diary:

Dispute

Work description.

- Phil Latasa, Sami Dauok, Daryoush Bahar, Michelle Chui, and myself checked the out to out distance for the cable strands today as Sami's and my measurements are tabulated below. Sami and I were responsible for both the north/south mainspans today. Similarly Daryoush, and Phil were responsible for checking the north/south sidespans and the west-loop. Sami assisted me with the measurements and tabulating the data as I took all of the measurements unless otherwise noted. I used the Maletic gauge (#1) to take the out to out measurements of the cable strands.

All measurements by both crews were reported to Michelle who was stationed in the Caltrans Connex recording and analyzing the data. When all of the measurements were completed, I was responsible for reviewing the measurements with ABF engineer Zach Lauria.

Ambient temperatures were taken with the red temperature gauge. Wind speeds were obtained from weather.com at the time of the measurements. However due to the high winds today the anemometer was also used to measure/document the high wind speeds today on the catwalks. The steel temperature measurements were taken with the digital thermometer placed on the outer cable strand wires.

The official sunrise time per weather.com for San Francisco today was at 6:47am. The following measurements were taken of the relative sag from cable strand number 1 at the given times below:

// North Mainspan //

Time = 4:39am

Ambient Temperature = 50.0F

Condition = Fair

Wind = NNW @ 20mph

ABF Surveyor(s) = Terry Denis and Mike Bonidici

Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Table with 5 columns: Cable Strand, Steel Temperature (F), O-O (#1) CT (mm), Theor (mm), CT Delta (mm). Rows include data for strands 1, 49, and 50.

Comments: The measurements presented above were taken but not with a high degree of confidence due to the high wind speeds violently oscillating the bundle of cable strands. I took the measurements at this location with the Maletic gauge (#1). The bundle of cable strands appeared to be swaying +/- 2ft back in forth from the north to the south. Since the wind was coming from the north, myself and Sami decided to



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try and take measurements on the south mainspan.

- At or around 5:14am myself and Sami made it to the south mainspan surveyed midpoint. The conditions at this location were not much better and we abandoned taking any measurements given the cable oscillations. It also should be noted that we felt unsafe working on the catwalks as the temporary bridges were swaying back in forth in the wind. I was in constant communication with Michelle, Phil, and Alex (over the phone on his day off) describing the severity of the situation as to why measurements weren't taken.

- ABF surveyors and engineer Zach Lauria were seen reinstalling the straps around the cable strand bundle at the north catwalk anchorage at or around 5:45am.

- Phil recorded wind speeds of 30+mph on the south sidespan catwalk at or around 5:45am using an anemometer. We decided at this point to at least go measure the cable strands presented for acceptance at the west-loop. Phil and Daryoush would take the south west-loop and myself and Sami would take the north west-loop.

// North West-Loop //

Time = 5:54am

Ambient Temperature = 49.9F

Condition = Fair

Wind = NNW @ 19mph

ABF Engineer(s) or Surveyor(s) = None at this time

Caltrans Engineer(s) = Matt Bruce and Sami Dauok

| Cable Strand | Steel Temperature (F) | O-O (#1Y) CT (mm) | Theor (mm) | CT Delta (mm) |
|--------------|-----------------------|-------------------|------------|---------------|
| 1            | 50.0                  | Baseline or Zero  | 80         | 0             |
| 55           | 49.9                  | 137 (-126) = 11   | 9          | + 2           |
| 56           | 50.1                  | 222 (-126) = 96   | 103        | - 7           |
| 57           | 50.5                  | 335 (-126) = 209  | 198        | + 11          |
| 58           | 50.2                  | 418 (-126) = 292  | 292        | 0             |
| 59           | 50.4                  | 507 (-126) = 381  | 387        | - 6           |
| 60           | 50.1                  | 618 (-126) = 492  | 481        | + 11          |
| 61           | 50.0                  | 698 (-126) = 572  | 575        | - 3           |

Comments: All cable strands were considered to be free-hanging at the time of measurement on the north west-loop. Sami took all of the measurements at this location. I recorded the data while the measurements were being taken. The ( ) denotes the fixed timber block (by ABF) to cable strand number 1 dimension in millimeters. The measurements at this location were completed at 6:17am.

- After the measurements were completed at the north/south west loop by both crews, we headed to the Caltrans Connex. Wind speeds at this time were still very high, although we were going to wait to see if the conditions would improve to try and measure cable strands that were presented for acceptance. Warren was coming to the jobsite after receiving word from Brian Boal and Alex Schmitt of the issues related to adjusting. Since there were cable strands presented for acceptance that were going to be buried, a work stoppage was a real possibility. We meet with Warren to brief him of the issue at hand and to discuss the next course of action since the implications of not getting measurements were significant. Since the ABF surveyors were still trying to get measurements on the north mainspan, myself and Phil decided to try and get measurements on the south mainspan.

// South Mainspan //

Time = 7:00am

Ambient Temperature = 47.0F

Condition = Fair

Wind = N @ 16mph

ABF Surveyor(s) = None at this time



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Caltrans Engineer(s) = Matt Bruce, Warren Collins, and Phil Latasa

| Cable Strand | Steel Temperature (F) | O-O (#1) CT (mm)                 | Theor (mm) | CT Delta (mm) |
|--------------|-----------------------|----------------------------------|------------|---------------|
| 1            | 47.7                  | Baseline or Zero                 | 76         | 0             |
| 47           | 47.5                  | 252, 245 - Ave = 249             | 239        | + 10          |
| 50           | 47.6                  | 518 (-39), 514 (-39) - Ave = 477 | 415        | + 62          |
| 51           | 48.0                  | 517 (-2), 519 (-2) - Ave = 518   | 474        | + 44          |
| 52           | 48.9                  | 545, 547 - Ave = 546             | 532        | + 14          |
| 53           | 49.0                  | 600, 596 - Ave = 598             | 591        | + 7           |
| 54           | 48.3                  | 661, 659 - Ave = 660             | 650        | + 10          |

Comments: I took all of the measurements with the Maletic gauge (#1) while Phil assisted me with setting up the targets, being level, normal to cable, etc. Warren was there to observe how difficult it was to obtain acceptable measurements given the condition and situation. Cable strand numbers 50 and 51 were buried in the bundle of cable strands as numbers 60 and 61 were placed directly over these strands. In order to obtain a measurement, the Maletic gauge was inverted and a stick tape or stainless steel ruler was used to tape down from the gauge plate to the top of the cable strand. To reiterate myself, Warren, and Phil felt the conditions were not suitable for accurately measuring the cable strands today.

- It should be noted that Warren went to observe Terry and Mike on the north mainspan take measurements around 6:30am. See Warren's email dated 02/25/12 at 5:16pm for more details about this issue and in response to Kevin Smith's email mentioned below.

- After all of the measurements for the west-loop and attempted measurements on the main/sidespans were made; myself Warren, and Phil went to go speak with ABF engineer Zach Lauria about the measurements this morning. Prior to going to meet with Zach numerous discussions took place between Warren, Brian, Alex, Phil, Michelle, and myself as to what action needs to be taken given the circumstances. We met with Zach at 8:30am in the ABF Connex located at elevation 145m on the north side (near Favco crane) of the erection tower. To summarize Warren's discussion with Zach the following points were made:

- 1.) The concern for taking valid measurements given the extreme wind conditions.
- 2.) It was made clear that we were not stopping the work. However the issue of cable strands that haven't been accepted for tolerable sag prior to being buried by subsequent strands needed to be addressed. This issue would be elevated to higher management on the project.
- 3.) ABF noted that the cable strands prior to being buried were already close to tolerable deltas. Zach verbally stated that the adjustment measurements taken at the west face of the tower saddle corresponded with the calculated sag ratios. There was a degree of confidence that the cable strands would probably be acceptable. Warren agreed with Zach's rationale however he reiterated that no measurement was made to confirm this theory. See Kevin Smith's email dated 02/25/12 for more details regarding the specific cable strands in question.
- 4.) Given that the cable strand hauling and placing operations were too far ahead of the cable strand adjusting operation, Zach resigned to the fact that another shift was needed to catch-up. It appears that ABF recognized the severity of the situation of not having acceptable sags for cable strands that would be buried by subsequent strands

and

addressed the issue. Later in the morning Zach called me and informed me that the surveyors would be coming in at 2:30am and the ironworkers at 3:00am. At this point I informed Alex, Warren, Phil, et al regarding the next shift and the situation.

- Completed compiling all my measurements taken yesterday and today on the daily cable strand sag adjustment sheets.

- Prepared for the upcoming early morning shift for cable strand sag adjustment measurements.



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- Resumed composing outstanding diaries that need to be turned in for the month of January.