Daily Diary Report by Bid Item

Contract No.: **04-0120F4**

Diary #: **476** **Const Calendar Day:** 855 **Date:** **11-Jan-2012** **Wednesday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Continuous
Shift Hours: 07:00 am 06:30 pm **Break:** 00:30 **Over Time:** 03:00
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

Working Day ☐ If no, explain:

Diary: Dispute ☐

Work description.

- The tasks completed today by the Alta Vista surveyors included the following:
  1.) Dave assisted me with marking the staked-out points on the YBITS W-Line bridge. After the point was marked on the concrete surface by Dave, Chris then drilled the hole and epoxied the PK nail in the top deck concrete.
  2.) Dave and Chris then used the Trimble total station to establish local coordinates of the points on the W-Line YBITS bridge. This was done since ABF surveyors were using control point TWL270. The points will be tied into the SFOBB bridge datum tomorrow.
  3.) Both surveying consultants also continued to process todays surveying data.

- The following is the hours worked by the Alta Vista consultants today:
  Dave Garrett (survey party chief) = 8hrs
  Chris Ferrucci (instrumentman) = 8hrs
  Erol Schaller (rodman) = off (gone all week to take the CWI test)

- Calculated the equal spacing of the points within the cantilever span(column 3 to the cantilever tip) and continuous span (column 3 to 4) using hand calculations and Caice to obtain northings, and eastings for the station and offsets. Prepared the Topcon GPS data collector for todays survey with the calculated values for the equally divided points within the span. Distributed numbers to the Alta Vista surveyors so they could prepare their total station.
- Attended weekly Team Cable meeting in the Connex on the SAS bridge deck (E-Line) at 7:20am. The safety issues discussed at this meeting are done in-lieu of attending the SAS Safety Tailgate meetings on Thursday because of the dynamic work taking place in the field during the day. Also issues related to cable work are discussed and analyzed at this meeting prior to inspecting in the field on this day.
- Used the Topcon GPS equipment to stake-out 21 points (measured at 5 epochs) on the YBITS W-Line bridge for the deflection monitoring of the Hinge K tie-down operation. It should be noted that the K-value was 1 during the survey. Also used the GPS at 180 epochs to check the three ABF brass disks at the end of the cantilever from third column. The intent of placing these points is to be able to analyze the deflection of the bridge from the cantilever back to column 3 and from column 3 to 4 (continuous span). The offsets for 7 points were along the bridge centerline, and the other 14 were offsets at 11.000m L/R of the centerline. The points in the GPS data collector were denoted as 1 = Left, 2 =Center, 3 = Right, and then followed by the station number. The following stations were set to divide the span equally along the W-Line station:

STA #1 = 54+43.200m
2 = 54+64.400m
3 = 54+85.600m

4 = 55+06.800m
5 = 55+28.000m
6 = 55+45.240m
7 = 55+62.480m

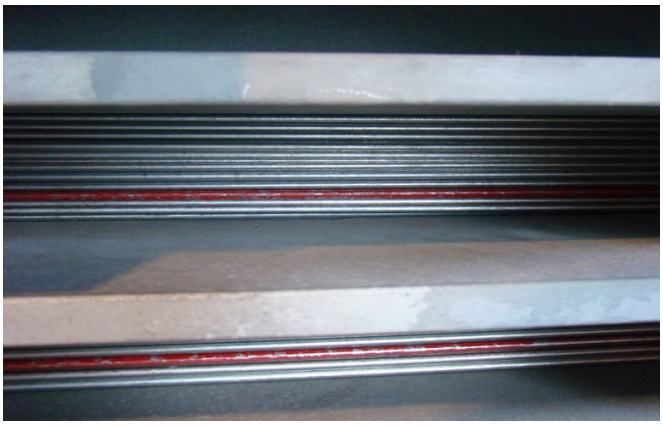
- Observed the operation to form/place cable strand No. 2 at the tower saddle. See Doug Wright and Saman Soheilifard's diaries for additional details on the operation, labor, and equipment.
- Observed the operation to form/place cable strand No. 3 at the west loop. See Roman Granados, John Lyons, and Victor Altamirano's diaries for additional details on the operation, labor, and equipment.
- At the request of ABF engineer Zach Lauria myself, Alex Schmitt, and John Lyons checked the out to out distance between cable strand no.1 and no. 2 with the modified calipers at the north and south sections of the west loop. I measured the heights with the modified calipers while John assisted me holding the calipers level and normal to the cable cross section. Measurements on these two sections began at 6:50am where the ambient temperature at the time was 42F. The measured steel temperatures were 48F at the north section of the west loop and 46F at the south section. The steel temperatures were measured with the infrared temperature gun probe. The end of the probe was wedged in between the cable strand wires at the perimeter of the measured strands. The measured out to out distance was 196mm for the north loop and 189mm for the south loop. The theoretical values are 198mm for the north and south loops. Therefore the delta = -2mm for the north and the delta = -9mm for the south. Since cable strand no. 2 was rotated measurements were also taken to the top of strand no. 1 and to the top and bottom of strand no. 2. The following are the measurements taken to account for cable strand no. 2 twist:

Cable Strand Location	North Measurement (mm)	South Measurement (mm)
Top of CS#2	195	189
Bottom of CS#2	114	128
Centroid of CS#2	195-114 = 81/2 = 40.5	189-128 = 61/2 = 30.5
Top of CS#1	67	68
Bottom of CS#1 (baseline)	0	0
Centroid of CS#1	67/2 = 33.5	68/2 = 34
Centroid of CS#1 to CS#2	195 - 40.5 -33.5 = 121	189 - 30.5 - 34 = 124.5
Theoretical Centroid Hgt	198 - 79.77 = 118.23	198 - 79.77 = 118.23
Centroid Delta	121 - 118.23 = +2.77	124.5 - 118.23 = +6.27

See Alex Schmitt's diary on the discussions with ABF engineer Zach Lauria and the decision for acceptance.

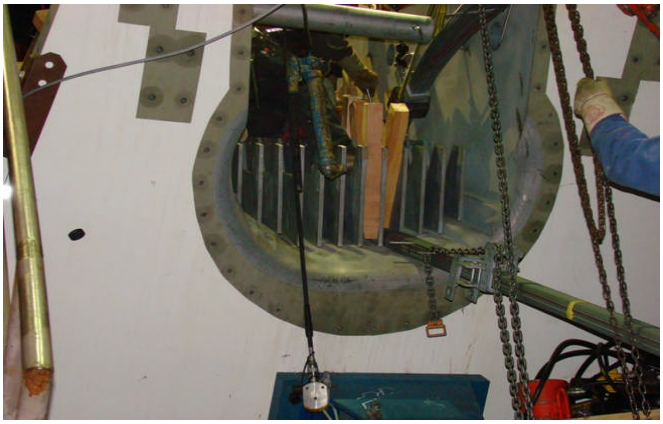
Attachment

ABF ironworkers placing cable strand No.3 into the W2W west deviation saddle trough.



Placement of cable strand No.3 into the W2E west deviation saddle trough where the orientation of the wires is not ideal.

PK nail drilled and epoxied into the concrete surface of the top deck of the YBITS W-Line bridge.

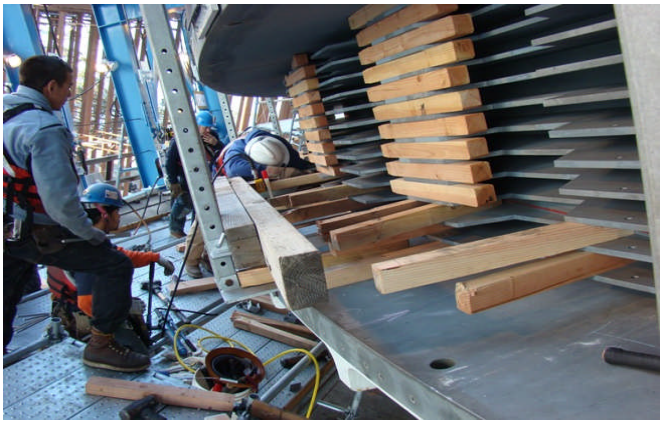


Cable strand no.2 placement in the south tower saddle trough near completion at the end of the east face of the saddle.

Operation at the tower saddle to place cable strand no. 2 into the trough from the apex out in the east and west directions.

ABF ironworkers in the process of pushing the protective covers of the E-Line Hinge K pipe beams.

ABF ironworkers placing cable strand No. 2 into the tower saddle trough working 12hr shifts.



ABF ironworkers placing cable strand No.3 into the W2E west deviation saddle trough.

View of the north section of the west loop looking south.

The protective covers of the W-Line Hinge K pipe beams were pushed back over the end of the pipes.