

**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program**

333 Burma Rd.

Oakland, CA 94607

(510) 622-5660, (510) 286-0550 fax

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May 25, 2007

Contract No. 04-0120F4

04-SF-80-13.2 / 13.9

Self-Anchored Suspension Bridge

Letter No. 05.03.01-000270

Michael Flowers  
Project Executive  
American Bridge/Fluor Enterprises, a JV  
375 Burma Road  
Oakland, CA 94607

Dear Michael Flowers,

**Submittal 100 - Tower Cross Bracing Spherical Bushing Manual**

Submittal ABF-SUB-000100R00, "Tower Cross Bracing Spherical Bushing Manual," dated April 20, 2007 has been reviewed. This submittal does not contain sufficient information to be approved in accordance with the requirements of Section 10-1.49 the Special Provisions. Items requiring resubmittal are listed below. We are aware that ABF will be submitting portions of the required information with several different submittals. As such, please provide a clear outline of which items will be submitted in the various packages.

At a comment resolution meeting on May 23<sup>rd</sup> with TY Lin, Bob Kick from ABF and Ernie Manganiello representing Lubrite Technologies, the following items were discussed and should be addressed in resubmittals:

1. Each working drawing and calculation sheet shall be signed by an engineer who is registered as a Civil Engineer or Mechanical Engineer in the United States.
2. Additional calculations are required for the dowel pins and cap screws to demonstrate the ability of the unit to withstand splitting forces between halves of the two spherical housings.
3. The manufacturer shall confirm the coefficient of friction for the bearing lubricant will be equal to or less than 0.10 as required in the Special Provisions.
4. With regards to the portion of the submittal covering "Inspection", the following is required:
  - Details or sketches indicating the primary locations for inspection for leakage and binding.
  - Sketches indicating areas of special care when cleaning.
  - A list of indications of bearing defects and associated repair methods (if applicable) to satisfy Item B5 of the supplement to working drawings.

5. A detail for the rubber cover shall be submitted.
6. Please provide a copy of a standard Certificate of Compliance used by the manufacturer. In addition, provide a copy of any standard tracking documents used or proposed for use in tracing of all components during the fabrication and installation of the tower cross bracing spherical bushing bearing.
7. Details and ASTM designation shall be provided for the retainer ring, boss plate, pin and spacer pipe.

Other items that were discussed and agreed upon include the following:

- A stress analysis and/or test results to substantiate design assumptions used for the bearing and housing would be confirmed through the lubricant test plan.
- Portions of item D, "Storage and shipping plans" will be addressed in ZPMC's "Sea Transportation" plan and ABF's "Erection Plan" to be submitted at a later date.
- With regards to the manufacturer's recommended life expectancy, it was agreed the Department would respond, if possible, with information regarding cyclic loading that can be used by Lubrite in determining the life expectancy.

Please provide the required items in a revised submittal for the Department's review. If you have any questions you may contact Gary Lai in the Working Drawing Campus.

Sincerely,



GARY PURSELL  
Resident Engineer

cc: Rick Morrow  
Brian Boal

file: 05.03.01, 55.0100