

RL Engineering

Civil and Structural Design

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November 22, 2017

Ms. Wendy Sugimura
Mono County Department of Community Development
Post Office Box 8
74 North School Street
Bridgeport, CA 93517

Re: Bridgeport Cantilever Arch Structure

Dear Wendy:

I am sorry to report that I have not made significant progress on the design of the cantilever arch banner structure. As you know, my engineering practice has been extremely busy over the last 2 years.

When I recently started looking at the design of the arched banner support structure, I realized that the design was much more difficult and involved than I appreciated when I wrote the design proposal. This is not like a standard sign support structure design. The loads are anything but standard because of the 42-foot long banner in the middle, and the length of the cantilever is much farther than most traffic-related structures. Trying to use some "standard" structure design from a highway department catalog of standard plans would be an invitation to disaster. The bending moments on the cantilever arms are higher than on the original tower structures that I designed in 2014, which were designed to support just 2 tension cables and a banner. It is apparent that what would be needed is something with the strength of a three-dimensional truss, composed of 3 or 4 main chord members connected by a lattice of smaller web members. I do not have experience in designing structures this large and of this nature. I am concerned that there could be aspects of the design, such as vibration-induced fatigue, that I could completely overlook or mis-judge through lack of experience.

In the interest of seeing if another engineer might be interested in the project, I called and described the project to a colleague of mine who is a registered structural engineer in 10 western states, and is much more experienced than I am. He indicated that he was not experienced in this area, nor did he know of anyone else in the private consulting field who was knowledgeable. He was not interested in taking on the project. In the course of our conversation I suggested that state highway engineering departments are most familiar with these types of structures. My friend agreed and we left it at that.

I decided to call the Nevada DOT to find out if they could undertake a project like this. The engineer with whom I spoke indicated they were not in the habit of contracting out their services. He suggested that we contact Ameron and Valmont, 2 well-recognized designer-fabricators of sign support structures. I called both companies, but as of yet have only heard back from Ameron. The representative to whom I spoke discussed it with his engineering department after I forwarded our concept drawing to him, and they said they were not interested in the project.

In view of my lack of experience designing structures this large, and lack of experience designing 3-D trusses, I must decline to continue with the project. I apologize for not coming to this conclusion and letting you know sooner. I sincerely believe that none of us will be well served by my continuing with the project. Since you have received no useable product from me in terms of buildable plans, you will not receive an invoice from me for time spent.

If you have any questions or require additional information please contact us at your convenience at (775)884-3205 or rob.lauder@rl-engr.com.

Sincerely,

A handwritten signature in blue ink that reads "Robert F. Lauder". The signature is written in a cursive style with a large, stylized initial "R".

Robert F. Lauder, P.E.
RL Engineering