



Boston Bridge Architect Cites Safety Concerns. *Boston Globe (Boston, MA)* (August 2, 2001)(702 words)

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Byline: Thomas C. Palmer Jr.

Aug. 2--The Swiss architect who designed the Leonard P. Zakim Bunker Hill Bridge disagreed with Big Dig officials and said construction flaws detected on the \$100 million span do pose a safety problem.

"We have to repair it because of the safety of the bridge," Christian Menn said yesterday during a visit to the bridge. "I want safety. I will not accept a reduction of the required safety."

In a Globe story on Saturday, Big Dig officials said small voids in a 10-inch concrete beam might affect the bridge's durability but do not make the structure unsafe.

Menn declined to specify his safety concerns, citing technical issues he would not elaborate on.

Despite their differing descriptions, Menn agreed with Big Dig officials that "it is a small problem. The repair is not expensive." The affected area represents a tiny percentage of the bridge's surface area, Central Artery officials said.

Menn estimated the repair would cost no more than \$100,000.

He arrived in Boston this week to discuss the problem with Big Dig officials. He met with the media on the bridge yesterday afternoon, shortly after taking his first look at a 10-inch slot cut into the concrete beam to help engineers investigate the problem.

Visible were some of the small areas where concrete did not completely envelop the 13/8-inch reinforcing steel rods, as it is designed to do to achieve maximum strength.

Menn said safety is compromised because the bridge was intended to hold about 80 percent more weight and stress than it is expected to encounter in normal use. Because of the concrete problem, it would not meet that standard, he said, though proper repair would resolve the problem.

"The safety factor is reduced," Menn said late yesterday. "For me, that's much more important than durability problems. Durability you can always repair."

Menn first told Big Dig officials about the possible problem two years ago, following a visit he had made when concrete was being poured. Menn pressed the issue, but Central Artery/Ted Williams Tunnel project officials said they were unable until recently to confirm the problem.

Following a day-and-a-half of meetings with Big Dig engineers, Menn yesterday proposed building a beam, or girder, beneath the one with the problem, at the south end of the span.

"Then you would have a new one and an existing one," Menn said.

That suggestion is one of two solutions being considered, said Vijay Chandra, a consultant to Bechtel/Parsons Brinckerhoff, the Big Dig's private project managers.

The other solution would involve ripping up a 10-by-30-foot area, re-setting the reinforcing rods, and pouring new concrete.

But Menn said the girder should not be disturbed.

Project director Michael P. Lewis said he will decide what to do after more study.

Lewis said yesterday that the voids in the concrete range from "hairline" width up to about one-eighth of an inch. "We didn't find any larger than that," he said.

The cable-stayed bridge should last more than 100 years if there are no other flaws and it is maintained properly, Menn said.

Meanwhile, there are problems on the opposite end of the Big Dig in the Fort Point Channel.

Although the difficult two-year process of setting six battleship-sized concrete tunnel sections went smoothly, engineers are having difficulty draining water at each end of the tubes, on both sides of the channel.

The work has already been delayed nearly a month and will probably postpone by a month the opening of the Ted Williams Tunnel to all traffic, which is planned for August 2002.

Twice in the last two weeks, huge pumps have been used to drain areas where tunnel connections must be constructed. Both times, water from the channel has poured back into the basin area on the South Boston side.

Divers are injecting cement and a foam-like material to plug holes, one of which is about 6 inches wide.

The basin has to be dry enough to allow construction of hundreds of feet of tunnel, connecting with the next new section of Interstate 90.

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