

## Courthouse Square's red flags

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When cracks appeared at the tops of columns during construction of Courthouse Square in 2000, the defects were taken seriously by Melvin Mark Development Co., a Portland firm hired as a project manager.

The cracks were in critical locations beneath the bus mall at Courthouse Square. Melvin Mark wanted to be "absolutely certain the structural integrity of the bus mall has not been, and will not be, compromised," the company stated in a Feb. 18, 2000, letter to the project's architect.

Melvin Mark recommended getting a second engineering opinion about the cracks. Marion County and transit district officials agreed, according to a February letter from Melvin Mark to Arbuckle Costic Architects.

That second opinion was never received. In fact, it was never even sought.

Instead, Mike Hayford, the structural engineer who designed Courthouse Square, was summoned by county and transit officials. He proclaimed in a July 11, 2000, letter that the cracks were "cosmetic in nature and need only be patched and or epoxy-injected."

Ten years after Hayford's assurances, city building and safety officials ordered the evacuation of the Courthouse Square office building and the closure of the adjoining bus mall. Engineers now say the cracks were a symptom of structural problems that a shot of epoxy didn't cure.

How could this happen? How could Courthouse Square, a modern structure built by professionals, simply begin to collapse?

Bad engineering is the main culprit, but a three-month



Courthouse Square

### Up next

A 23-member citizens advisory group, the Courthouse Square Solutions Task Force, is exploring options for Courthouse Square. So far, it has made no recommendations after nine meetings.

The task force is on hiatus until autumn, when Marion County and the transit district is expected to hire an "owners" representative; an expert who can provide advice on what to do next.

Repairs will be the first option to be considered by the task force, the transit district and the county. It's too early to tell if Courthouse Square will be spared from demolition.

### Six red flags

Courthouse Square opened on time and on budget in 2000, but it was riddled with structural defects that have worsened over the years.

Marion County and the transit district, owners of the Courthouse Square, brought in an expert this year to investigate what went wrong. In May, Golder Associates, an engineering consulting group, released its 108-page report that details the events in Courthouse Square's development.

Here are some the forensic engineering firms findings:

Statesman Journal investigation shows there was also a breakdown in the project's organization and safeguards intended to prevent poor workmanship. Inexperience on the part of public officials and some contractors, a cursory check of building plans by the city, and a lack of due diligence have stung taxpayers with an unusable government building and bus mall.

Public and private sector officials involved in the \$34 million project say they performed their duties as assigned. They maintain the problems at Courthouse Square were outside the scope of their responsibilities or were caused by someone else.

The one person everyone agrees is at fault: Hayford, the structural engineer.

Hayford can't accept or deny blame. He died nine years ago.

### How the Courthouse Square project began

The beginnings of Courthouse Square go back to 1995 when R.G. Andersen-Wyckoff — a former Salem mayor who was general manager of the transit district at the time — unveiled a plan. Early conceptual plans for Courthouse Square were more elaborate than what was eventually built, including features such as a 25,000-square-foot miniature mall, a day-care center, and a rooftop garden and playground.

Courthouse Square's supporters were optimistic that the new transit mall, which would replace a narrow bus mall on High Street NE, would be a boon for the downtown area. They envisioned an inviting place like Pioneer Courthouse Square in Portland, putting more people within walking distance of shops and offices. Jointly owned by Marion County and the transit district, Courthouse Square would centralize the public agencies' operations and increase their efficiencies.

In spring 1996, Dan Berrey, a commercial real estate agent for Prudential in Salem, submitted the winning bid to develop Courthouse Square. SABA Investments of British Columbia, Canada, also bid on the project. Berrey's team, which included Arbuckle Costic Architects and Pence/Kelly Construction Inc., was chosen, at least in part, because it consisted of local companies.

An old report found in transit district files states: "The committee felt that having a local availability, avoiding costly travel to or from Canada, and keeping our money local was important."

Problems quickly arose and the project stalled. Berrey reached an impasse with officials over his pay and parted ways, although not empty handed. He received \$360,000 settlement in a mediation with the county and transit.

Flawed structural designs, described as inadequate and lacking in detail; in the report, caused the worst of the project's problems. No one peer-reviewed the engineer's structural designs before building started.

Problems with the building's design were compounded by revisions made during its construction. Many of the changes appear to constitute completing the design during construction; according to Golder's report.

Key personnel changes at Century West Engineering, the firm responsible for the structural engineering, might have warranted a second look at the company's ability to service the project and review of its design. In January 1999, Courthouse Square's engineer-of-record left Century West. Six months later, Century West no longer had a full-time structural engineering department.

Concrete at Courthouse Square has failed strength tests, although Golder's experts couldn't determine the exact causes. An earlier round of laboratory tests found too much water was added to the mix. construction; according to Golder's report.

County and transit district officials assigned to the project lacked the technical expertise to know if the design and construction was good or bad. Instead, they focused on financial and organizational tasks.

Courthouse Square's architect and primary contractor had limited previous experience with a project of the size and scope of Courthouse Square; the Golder report stated. Forensic engineers found evidence of poor construction practices, which they attributed to inexperience on the part of builders.

Melvin Mark Development, a prominent company with the credentials to manage a big construction project, was hired in summer 1997.

The reorganized team had the expertise of Melvin Mark; Arbuckle Costic Architects, an award-winning architect; and Pence/Kelly Construction Inc., an experienced contractor. Two project coordinators, one appointed by the county and one appointed by the transit district, also oversaw the development.

With a new team in place, the project buzzed along. The five-story office building and 22-bay bus mall, located at 555 Court St. NE, opened on time and within its revised budget in September 2000.

Courthouse Square's problems started to become obvious a couple years later. Initially, the cracks in its concrete, unusual deflections in its floor slabs and other defects weren't thought to be an indication of a serious safety hazard.

Last summer, however, engineers did an extensive investigation and decided both the bus mall and office building were dangerous.

How did the team of construction contractors, design experts, seasoned real estate development professionals and government officials who took part in creating Courthouse Square manage to miss the blunders made by one structural engineer?

Part of the reason: Hayford's plans sailed through a superficial review at the city.

At the time of Courthouse Square's construction, building plans submitted to Salem building and safety officials weren't subjected to peer-review by a structural engineer. A licensed engineer's stamp on the plans was all that was required.

"Our plans examiners did not look beyond the stamp. They took that as a credible, structurally sound set of plans," said Sean O'Day, the city's deputy city manager in an interview with the Statesman Journal in August of last year. The city policy changed about six years ago, O'Day said, and a peer-review of structural plans now is required for commercial buildings.

The Statesman Journal recently submitted written questions to the city about its plan review process but as of late Friday hadn't received a response. The city is among the defendants accused of negligence in a civil suit filed by the owners of The Beanery, one of two private businesses that leased space at Courthouse Square and was forced to move. The suit seeks more than \$80,000.

Once construction started, city inspectors checked to see if Courthouse Square was being constructed according to the plans. It would have been outside the expertise of city inspectors to know if something was inherently wrong with the plans, said engineers with Golder Associates, who this year completed a forensic report on Courthouse Square.

However, the structural engineer should have known better: Hayford was no rookie, having been an engineer his entire professional life. He died at age 55 from natural causes.

Former Marion County commissioner Randy Franke, who was on the board at the time, lays a large share of blame on the city. County officials operated under the assumption that the city had independently verified the structural engineer's plans, he said.

"We had an expectation, that coming from the city of Salem, they had indeed been reviewed," Franke said. The county had plenty of staff monitoring Courthouse Square for financial and

management issues, but no one was looking for engineering problems, he said.

### **Construction plagued by team's inexperience**

Golder's experts also said the project's design team and contractors were relatively inexperienced when it came to post-tension construction, the method used to build the slabs at Courthouse Square. That led to an "underestimation" of the flaws in Courthouse Square's design and a failure to spot early indicators of problems, they said.

In post-tension construction, steel cables, known as tendons, are draped in the slab when it's being formed. When the concrete reaches sufficient strength, the cables are pulled, and that helps flatten the slab.

Pence/Kelly Construction Inc., the general contractor, was known for concrete work, but its experience with post-tension construction "was not extensive," according to Golder's report.

Bob Hill, a former employee of Pence/Kelly, said the Golder report got it wrong when it suggested the general contractor lacked essential skills.

"Within the state of Oregon, at that time, we had as much experience as most of the people out there," Hill said. Hill is currently chief executive officer of LCG Pence Construction LLC — a company whose attorneys maintain is a separate entity from Pence/Kelly, which no longer operates, and is therefore not responsible for Courthouse Square.

Hill also denied that Pence/Kelly blindly followed a set of bad plans. On several occasions during construction, Pence/Kelly did catch mistakes in the structural engineer's design and corrections were made, Hill said.

Golder's forensic report also noted that Arbuckle Costic, architect for the project, had no previous experience with post-tension construction. The Golder consultants, however, determined that the architectural design was feasible.

### **A failure to check qualifications**

Hayford, who worked for Century West Engineering Corp., was touted as an expert in post-tension design. Officials at the Courthouse Square project apparently did little to verify the engineer's track record.

"No one ever stopped to say, 'Well, who is it exactly are we working with; what are their real qualifications'," said Mark Liebman, a project manager with Golder at a May meeting of the citizen task force examining Courthouse Square.

Hayford was the engineer of record for a seven-story parking garage built for Salem Hospital in 1998, another project that resulted in a lawsuit about structural defects. Hayford is not named in either the Courthouse Square or Salem Hospital litigation, although his employer at the time, Century West, is named in both cases.

Members of the late engineer's family, who spoke with the Statesman Journal in November 2010, said they suspected health problems might have caused the quality of his work to deteriorate. Pence/Kelly also built the parking garage project, but Salem Hospital didn't sue the contractor.

John Whittington, the former transit district official who served as a project coordinator at Courthouse Square, said officials were confident they had picked qualified professionals.

"The team felt very strongly about Pence/Kelly's expertise in the area of concrete

construction," Whittington said. The construction method used to build the slabs at Courthouse Square was presented to county and transit officials as leading-edge and highly efficient, he said.

Melvin Mark Development's role as project manager "felt like an extra insurance policy," Whittington said.

Portland-based Melvin Mark "pretty much inherited everybody" who was part of the team of designers and contractors assembled by Berrey, said Dan Petrusich, president of Melvin Mark Development.

Going into the project, he said, nothing seemed amiss with anyone's qualifications.

"I have never been on a project where a registered, professional structural engineer made the kind of mistakes that were made here," Petrusich said.

Melvin Mark's primary role was to bring the project in on-time and on-budget.

Its contract for the Courthouse Square project spells out the limits of its responsibilities: Melvin Mark "is not an architect, engineer, contractor, or other design or construction professional" and "is not responsible for the means or methods of construction or the design or safety of the project."

Melvin Mark wasn't among the group of Courthouse Square contractors and designers sued by Marion County and the transit district. The company was paid about \$710,000 for "construction management services" and "preconstruction services," county officials said.

### **20/20 hindsight and the question of repairs**

As the series of mistakes that led to the Courthouse Square debacle become clearer, the building and bus mall's owners have learned some lessons. They acknowledge that red flags were missed and important details ignored.

"It's our fault because we didn't have the people there with the knowledge and the technical capacity to access those kind of things," said John Lattimer, Marion county's chief administrative officer, who wasn't involved with the development phase of Courthouse Square. The lack of follow-up when issues were raised during Courthouse Square construction "is a real problem," he said.

During Courthouse Square planning stages in the mid-1990s, the project was tarnished by allegations of mismanagement and some taxpayers wanted it cancelled. The discontent shaped how officials approached management duties when construction began.

"My job was not a technical job," said Billy Wasson, a retired Marion County official who served as project coordinator for Courthouse Square. "My job was to be an owners' representative and essentially, to be blunt about it, to handle the politics of the project and get it out of the dark political status it was in."

The latest engineering study agrees that Wasson's responsibilities focused on administrative duties.

Others involved point the blame elsewhere.

Marion County Commissioner Patti Milne, who first took office in January 1999, said decisions on contracts and the final go-ahead on Courthouse Square were made prior to her taking a

seat on the commission.

"I don't believe I was responsible for what happened because there could have been decisions made I was not aware of," Milne said. A decade ago, as a candidate, she opposed building Courthouse Square primarily because of its cost.

In the 2010 election, Milne's challenger made the failures at Courthouse Square a campaign issue. Marion County voters still chose the incumbent by a wide margin.

At this point, Courthouse Square is a broken building and bus mall. Whether it's worth repairing is an unresolved question.

Forensic engineers have determined the bus mall could collapse under its own weight, even without heavy buses rolling across its surface. The fifth-floor slab in the office building poses a similar hazard.

On top of the design problems, Courthouse Square's concrete is weak. Three rounds of laboratory tests have been performed and the concrete has failed strength tests each time.

Marion County and the transit district have sued Courthouse Square's designers and contractors. Settlement amounts have been driven, in large part, by insurance policies that crimp the potential recovery in a lawsuit.

Arbuckle Costic Architects had a "wasting" or "burning" policy that meant every dollar spent on its defense and settlement costs would mean a dollar less to recover. Litigation against Century West Engineering is unresolved, but it too has the same type of "wasting" policy. Pence/Kelly's insurance policy limited recovery to \$1 million.

And the 10-year deadline for Courthouse Square's owners to file construction-related lawsuits expired last year.

At the same time, consultants hired by the county and the transit district have suggested a fix that would include repairing the building and demolishing and replacing the bus mall.

Cost of the fix: \$49 million.

Money recovered in lawsuits: \$1.8 million.

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