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## THE MESS RUNS DEEP

*THE DRAINAGE SYSTEM INSTALLED AS PART OF A \$52 MILLION I-84 WIDENING PROJECT IS SO DEFECTIVE THAT PORTIONS OF THE HIGHWAY WILL HAVE TO BE EXCAVATED TO FIX IT, STATE DOCUMENTS REVEAL*

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A \$52 million reconstruction project on I-84 is lined with hundreds of defective drains, some of which will require excavation of newly paved road to repair, according to state documents reviewed by The Courant.

Some of the drains lead nowhere; others are filled with debris; still others appear to have been connected with substandard, cracked and leaking pipe, according to a state review and outside sources familiar with the project.

The FBI and other federal authorities are investigating the problems, which could cost millions of dollars to repair and add months to the already-delayed project.

State transportation engineers attribute the faulty drain system to a "complete breakdown" of the construction and inspection process associated with extensive improvements to a highly traveled stretch of I-84 near Waterbury.

"The numerous types of deficiencies, the particular as well as the general defects and omissions in the work, were and are stunning," Arthur W. Gruhn, chief engineer at the state Department of Transportation's bureau of engineering and highway operations, wrote two weeks ago in an extraordinarily blunt department memo.

Last week, Gruhn said the reasons behind the shoddy work and the failure of the inspection process are a mystery.

"We may never know what was in somebody's mind as they were doing this," Gruhn said. "It just is so far beyond the norm that appropriate action had to be taken."

That action was to fire the company that held the \$6 million contract to inspect work on the project, The Maguire Group Inc. of New Britain, on Sept. 16. L.G. DeFelice Inc. of North Haven, which had the \$52 million contract to rebuild the highway, already had gone out of business, abruptly ceasing operations for financial reasons after the 2005 construction season.

The construction lapses involve drains, known as catch basins, and related underground piping that should have been built to remove water from the rebuilt roadway. The project is on a 3 1/2-mile stretch of I-84 between I-691 in Cheshire and Exit 25-A in Waterbury. Maguire was hired to approve those drains. Based on apparently faulty approvals issued by Maguire, the state paid DeFelice \$1.8 million for drainage work.

About 300 catch basins were designed into the project. About 280 had been reinspected as of last week, Gruhn said. Of those, about 270 need further work. Preliminary indications are that perhaps as many as 100 will require significant reconstruction, Gruhn said, including an undetermined number that now lie beneath permanently paved, completed sections of the roadway.

"About a third of them, roughly, require some kind of additional work," Gruhn said. "Some of that may be relatively simple once we get in there. But until we actually get in, remove the top of the basin and determine how the basin was constructed, it's very difficult to know exactly what the extent of those repairs will be.

"Others we know are structurally deficient. Or, they are not structurally deficient right now, but over time can become structurally deficient. So those obviously have to be fixed."

DeFelice was hired by the state in August 2002 to widen and reconfigure interchanges along the stretch of I-84. The project was supposed to be completed a year ago and is likely to be further delayed.

When state transportation officials became suspicious of the drainage work last spring, they hired yet another consulting engineer to review Maguire's work. The second engineer, the national consultant STV Inc., has so far uncovered an array of deficiencies.

"The defects were numerous, multiple and severe," Gruhn wrote in his memo. Among other things, he reported:

Catch basins, consisting of grated drains over water collection tanks, that were built in the wrong locations. In some cases, DeFelice apparently tried to compensate by constructing tanks at an angle. That creates the potential for underground erosion, which could lead to a collapse of surface pavement. Gruhn characterized the cockeyed drains as "for want of a better term, something that is kind of like a Leaning Tower of Pisa."

Catch basins that were not connected to the highway's subterranean plumbing network. Gruhn said it's also possible that some portions of the drainage network beneath the roadway are not properly connected, creating the potential for erosion.

Blocks in the walls of the water tanks that were not mortared together, creating another risk of collapse. Gravel from the median barrier was found to be washing into some of the catch basin tanks through gaps in the masonry work.

Catch basins that were stuffed with debris, such as a wooden pallet, large chunks of concrete and other rubble. Workers trying to correct the problem had to carry saws into a few basins to cut out timber beams that apparently had been improperly disposed of and were clogging underground pipes that should have drained water away from the highway.

Knowledgeable sources outside the state transportation department said preliminary reinspections suggest that drainage problems could be more extensive than those described in Gruhn's memo. The sources said there is preliminary photographic evidence that cracked, leaking, previously used piping may have been built into the highway. The sources said highway builders may have tried to join the substandard piping with incompatible couplings.

Drainage is important for two principal reasons, Gruhn said. Should water not be properly drained from the highway surface, it could create a driving hazard for motorists. In the long term, improper drainage could create road damage through erosion and other forces, causing an accompanying increase in maintenance costs.

Even if all the flaws in the drainage system are repaired successfully, the state could face higher maintenance costs as a result. Wherever finished pavement must be ripped up, seams will have to be incorporated into the replacement pavement. Such seams accelerate deterioration and maintenance requirements, Gruhn said.

Gruhn said he is not yet able to estimate the cost of correcting drainage flaws. But he said it could exceed the liability insurance coverage provided by the contractors.

"There appears to have been a complete breakdown of the inspection process on this project that was neither prevented nor discovered by Maguire supervisors and managers during the course of the work," Gruhn said in his report. "As a result of these errors and omissions, the department is facing the potential for additional costs that the state may not be able to recover from the contractor or the project sureties."

Those uncovered costs could reach into the millions of dollars, Gruhn said.

So far, no one is accepting responsibility for the problems. Gruhn said he has found nothing to suggest that state transportation employees share any responsibility.

"At this point we have nothing to indicate that," Gruhn said. "In fact, knowing some of the people involved from our staff, I would be very surprised."

Because of the volume of work overseen by the state transportation department, Gruhn said, it is forced to rely heavily on private engineers for inspections.

"We use consultants and have historically," Gruhn said. "The state just can't afford to have enough employees ... just sitting around until you need them. So you have to rely on

outside forces to provide for the peaks and valleys. And historically that is what the department has done, and very successfully."

When a consultant is hired, the transportation department tries to have an employee involved in the work, Gruhn said. Because it is not possible to have the employee on site eight hours a day, he said, the department tries to do spot checks.

"This one got by," he said. "A lot of the stuff is underground, so it is very difficult to see. If you are not there when the work is actually physically being done, you are not going to see it."

Although Maguire is heavily implicated by STV's reinspection and Gruhn's memo, the firm is not conceding it was responsible. But the company's lawyer said Maguire intends to do whatever is necessary to assist the state in correcting any problems associated with the project.

"Obviously we are in the process of reviewing the findings of the Department of Transportation," attorney Richard R. Brown said. "We absolutely want to cooperate in terms of correcting the situation at no expense to the state of Connecticut."

Brown said he did not know the value of Maguire's errors and omissions liability policy. Maguire's contract with the state required that it carry at least \$2 million in coverage.

Officials from DeFelice could not be reached. Stephen Hallberg, a former DeFelice vice president who ran the defunct company's cost department, said he was not involved in construction operations and was not aware of drainage problems.

"As far as I know, the work was installed correctly and it was inspected," Hallberg said.

If there were problems, Hallberg disputed Gruhn's view that corrective costs could exceed the value of DeFelice's performance bond. DeFelice was required by the state to post a bond equivalent to the value of its \$52 million contract.

Although transportation records show that DeFelice was responsible for the drainage problems, Maguire is singled out for most of the criticism in Gruhn's memo, apparently because the document was prepared as part of the process leading up to the dismissal of the engineering firm. DeFelice's financial problems eliminated the need to cancel its contract.

"Whether or not the neglect was deliberate or the obliviousness was feigned is a matter for later consideration or examination for other parties," Gruhn said, suggesting the project will be thoroughly investigated by other agencies. "For the department's present purpose it is sufficient that the apparent neglect and obliviousness shows Maguire's inspection services in connection with DeFelice's drainage work to have been essentially either nonexistent or worthless or worse ... "

The I-84 project is not Maguire's first clash with the state transportation department. In 1992, former Commissioner Emil H. Frankel suspended Maguire from doing business with his agency for two years because of the firm's "serious disregard for standards of professional ethics."

Frankel's decision followed a number of run-ins the firm had with federal prosecutors in the 1990s, including two notable cases in Connecticut.

In 1991, a former Maguire executive admitted paying a \$30,000 "commission" to a bagman for former Waterbury Mayor Joseph Santopietro in return for a \$1 million city contract. The commission was disguised as a lease on a dilapidated, uninhabitable city building. Four years later, the firm admitted paying \$24,000 to former Meriden City Manager Michael H. Aldi in return for city contracts.

During the same period, Maguire executives were forced to appear as prosecution witnesses in corruption cases against public officials in Boston and in Pawcatuck, R.I.

In 1994, the company forced out a former executive it said was responsible for corrupt acts, reorganized itself and instituted a rigorous ethics program as part of a campaign to win back public business that had previously been a mainstay of its income.

In the case of I-84, Gruhn and other transportation officials have said it now appears that Maguire executives were unaware of the caliber of work their employees were performing.

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