

FEMA RESCUES ROAD

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CAPITOL CEMENT**



July 4th week of 2002 was a disastrous time for the people of the southwestern part of Texas. As you may remember, over 30 inches of rain fell that week, and there was fear everywhere that the 90 year-old Medina Dam would burst.

Fortunately, the dam did not fail; it withstood water flowing more than 10 feet over the spillway, and reaching to within 14" of its crest. The estimated volume exceeded 67,000 cubic feet per second (cfs).

The dam's original engineers designed and built it to withstand this tremendous mass of water.

However, as you might imagine, there WAS a huge volume of water that traversed down the Medina River and unfortunately wiped out many homes and properties.

One of the worst areas hit was the Old River Road area on the north side of Castroville, one of the oldest cities in Texas. Old River Road was literally washed away.

Reconstruction was necessary, and with cooperation from Medina County and the city of Castroville a decision was made to rebuild it with cement.

Ms. Beverly Keller, Precinct 2 Commissioner, and Mr. Bruce Alexander, Public Works Director, agreed this was the proper way to rebuild it.

A contract was awarded to Mr. Chester Maples, MAPLES GENERAL MAINTENANCE & CONSTRUCTION (MGMC) of Castroville to accomplish this task.

The first step was to reshape and establish drainage for the new roadway. The original roadway, built when no one has a memory of , had what appeared originally to be pit-run gravel for the base, though there wasn't much left. The road was salvaged from the ditches, banks and hillsides, and replaced back to its original grade.



After shaping with a CHAMPION Model 738 motor grader, portland cement was applied at the rate of 15 lbs./sq.yd. or about 3.5%.



The cement was then mixed in with the same motor grader, down to a depth of 6-8", using ripping teeth attached to the rear of the machine, then moving and mixing with the blade until a uniform base had been achieved. The newly prepared roadbed was then compacted with a 20-ton TAMPO pneumatic tired roller.



After 2 days curing, the prepared roadbed was sprayed using an ETYNRE Model 2000 Centennial Oil-Spreader with hot CRS-2 emulsion at the rate of 0.35 gallon/sq.yd. for the first layer of rock.



When the oil was laid, a two-course chip-seal was applied with an ETYNRE computerized, Radar – controlled variable 1'x18' Rock Spreader. The first course was 26 lbs./sq.yd. of Grade 3 rock from South Texas Aggregates. On the second day more oil was spread at the rate of 0.30 gallon sq./yd. and Grade 5 rock, at 22 lbs./sq.yd. was placed. Both courses were 'set' with a vibratory steel-wheeled roller.



Mr. Alexander said: "Our city has mixed cement in limestone base material before to repair our roads as part of smaller projects in the past. Because of the good experience we've had using cement, we chose to use it again with the existing roadway to stabilize and strengthen it before paving. The project looks good, and is under evaluation to determine its role in our future recycling projects"



Mr. Maples said: "This method was the easiest way to repair this road. With the moisture problems we had, cement was the solution to all our problems. Ms. Keller suggested this to us, and we're glad she did."

Ms. Keller concluded: "We've been using cement in small problem areas in the past, and have been pleased with the results. I felt this would be a perfect place to try a larger application."

The entire mixing, processing, and surfacing was done in 3 days.

Where did FEMA come in? FEMA, the FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION, funded this road repair after the catastrophe happened in July.

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