



Project Profile:

City of Decatur, IL

Various Urban Roadways
Summer 2005

Challenge

Urban streets, built 60 to 80 years ago, were constructed on substandard bases. These developed exaggerated crowns creating safety and drainage problems. Curbs and gutters were completely covered by numerous applications of oil and chip plus patch work. The streets needed to be reconstructed to regain a realistic profile, but the Decatur Public Works Department had budget constraints and a maximum 5 day per section completion schedule.

Solution

Dunn used its state-of-the-art RS-500B Reclaimer/Stabilizer, equipped with on-board programmable micro-processor to control water distribution and make curing time predictable.

Construction Phasing

Extensive testing for recyclable materials and street coring was done to determine the composition of the pavement.

Phase 1: Pulverize the existing surface and base to incorporate the materials and utilize what was possible for base, once all utility structures were lowered.

Phase 2: Use a condensed schedule with multiple crews completing multiple processes simultaneously.

Phase 3: Use a mill to remove a portion of the excessive material bringing the street down to a proper slope and grade.

Phase 4: Stabilize the base. The stabilizing agent was determined and incorporated at a rate of 7 percent by weight.

Phase 5: After only one day of curing, they were then able to place a 76.2mm/3 inch material of Class 1 hot mix asphalt on the new stable and profiled street.

Results

- Project completed in five phases
- Minimal disruption to local traffic
- Met tight budget constraints
- Met 4-day schedule requirement

Project Notes

The road had a 330.2 to 706.4mm/13 to 16 inch grade change from curb face to the center line when the standard should have been about 88.9mm/3.5 inches.

Productivity and maneuverability of the RS-500 made this project possible.

Dunn's ability to increase power and provide multiple applications allowed for aggressive completion schedule.