

Comments

by Bob Wilde



A “cool” parking lot

California’s first pervious concrete parking lot is also a “cool” one. The recently completed 16,400-ft² (1500 m²) parking area (Fig. 1) in Bannister Park, Fair Oaks, Calif., introduced Californians to porous, or pervious, concrete paving. The paved lot offered both energy savings and environmental benefits.

The Sacramento Cool Communities Program encouraged the use of concrete pavement. Concrete pavement surfaces are 20 to 40 F (11 to 22 C) cooler than asphalt, according to the



Fig. 1: A pervious concrete parking lot at Bannister Park, in Fair Oaks, Calif., allows rainwater to pass through the concrete surface. Note that joints match up with those in the sidewalk (photo courtesy of the California Cement Promotion Council)



Fig. 2: The crew used a steel roller with a flange welded to it to create joints in the wet concrete. The roller-compacted surface required no further finishing, leaving a pebbled, open surface (photo courtesy of the California Cement Promotion Council)

Sacramento Program. The Cool Communities Program grew out of a U.S. Department of Energy program aimed at reducing energy usage in hot climate-zone cities.

More importantly, the pervious concrete paving lot provided first-flush pollution prevention and storm water management at the park. Rainwater flows into the pervious paving, rather than running off, and percolates slowly into the earth. At Bannister Park, construction costs were reduced significantly since no tie-in to the municipal storm drainage system was needed nor a

retention pond required.

The concrete for the parking lot was a high cement-content mixture with 3/8-in. (10 mm) pea gravel, no

fine aggregate, and a low water-cement ratio. The concrete had a low, almost zero slump. Delivered in ready-mix trucks, the concrete was placed in conventional forms. Concrete was roller-compacted, and joints were cut using a steel roller with a flange welded to it (Fig. 2). No further finishing was employed, leaving a pebbled, open surface.

Park officials are also considering pervious concrete for a basketball court at Bannister Park, where the concrete would be ground to give a smooth, yet porous, surface.

Pervious concrete pavement has previously been used in Florida, Georgia, Oregon, and Washington to meet regulations for storm water runoff control. ACI recently formed a technical committee on the subject. Dan Brown of the Georgia Concrete and Products Association chairs new ACI Committee 522, Pervious Concrete.