

CPR – REBUILT TO LAST



Your Pavement Preservation Resource



Avondale Road Northeast, Redmond, WA

>>> THE NEXT GENERATION CONCRETE SURFACE GRINDING

AVONDALE ROAD NORTHEAST is located in Redmond, Wash., just miles from Seattle. This older two-lane county road connects to Route 520, a 12.82-mile state highway, and serves as a connection between the two cities. The existing road conditions showed poor ride quality and poor noise characteristics with an asphalt shoulder. Located in King County, the 14th most populous county in the United States, a 3,600-square-yard section of Avondale Road Northeast was designated for the Next Generation Concrete Surface (NGCS) application.

The NGCS is a long-lasting, economical, noise reducing surface developed for concrete pavement. These diamond saw-cut surfaces are designed to provide a consistent profile absent of positive or upward texture. Since the NGCS is a “manufactured” surface, it is more consistent and predictable than most traditional surfaces. Developed through a partnership consisting of the IGGA, American Concrete Pavement Association (ACPA), Portland Cement Association and Purdue University, this extensive field testing

and evaluation was conducted by the Minnesota Department of Transportation (Mn/DOT) at the MnROAD pavement research facility.

The project involved surface grinding for smoothness prior to the NGCS application, which was installed with two passes of a Diamond Products PC 5000 concrete pavement grinder. A flush grind followed by a grooved texture pass was utilized and a feather pass was made to blend the shoulder into the newly ground surface. In addition, some concrete panels were replaced and doweled prior to installation.

According to Jeff McCarthy, Resident Engineer for the King County Department of Transportation, there are several rubberized asphalt test sections already in place throughout the County. As an alternate to doing the rubberized asphalt, NGCS was something that had not been done before.

“We wanted to introduce the NGCS to evaluate the pavement characteristics in the Seattle area,”

TEAM MEMBERS

- King County Department of Transportation (Owner)
- Penhall Company (Prime contractor)

said McCarthy. “We have experienced a noise reduction since the NGCS was installed, as well as a number of compliments from local residents.”

Road work was performed during short daylight hours due to noise restrictions in this residential area. The project was completed in seven days with traffic being maintained throughout the process.

With a total project value of \$134,050, this was the first NGCS section placed in the State of Washington. Overall, this project was well received by the local residents, county officials and taxpayers and shows that NGCS can be performed in a residential setting and produce positive results. The project was completed in June 2010.