

City of Des Moines Hosts Asphalt Inlay Open House

On July 27, 2020, the City of Des Moines, in conjunction with Grimes Asphalt and Paving hosted an open house on Rittenhouse Street featuring the use of the asphalt inlay to rehabilitate a failing PCC pavement. Over 40 Iowa DOT, city, county, consultant, contractor, and supplier representatives attended the open house on a pleasant summer day. The existing 7-inch PCC pavement was constructed in 1996 on natural subgrade and had experienced significant deterioration at both the longitudinal and transverse joints. The City had looked at numerous options to rehabilitate the roadway but settled on the asphalt inlay as the most cost effective, long term solution. The City had looked at everything from PCC patching to complete reconstruction. Matt Becker, project engineer, stated that “the PCC patching method would have required that 50% of the roadway would need to be removed and replaced, which was cost prohibitive. Complete reconstruction of the roadway, in addition to the high cost, would have created significant access issues for the multiple commercial property owners along Rittenhouse Street in this commercial area south of the Des Moines International Airport.” Utilizing an asphalt overlay was also evaluated, but due to the poor condition of the existing street, it was felt that the overlay would not have the life expectancy that was desired. The asphalt inlay was chosen as the rehabilitation strategy that would provide a long life at a reasonable cost.



The project began with a full depth saw cut along both curb lines approximately 18 inches from back of curb. The existing PCC was then removed along with 6 inches of the subgrade. Sub-drain was then installed on both sides of the street to protect the subgrade during wet weather periods. The subgrade was proof rolled and 6 inches of modified subbase was placed. The 7-inch HMA paving was placed in three lifts; 4 inch base course, 1.5 inch intermediate, and 1.5 inch surface course.

The surface course was placed with two pavers operating in tandem to prevent a cold joint. A PG58-28S binder was used for all of the lifts. An additive called NewRoad™ was added to the base mixture. Mike Yonker with Grimes Asphalt and Paving stated: “NewRoad™ additive is a hybrid blend of structural polymers that

improves the strength, rut resistance, and moisture resistance of asphalt mixes while maintaining the cracking performance by creating a better bond between the aggregate and asphalt. It is introduced at the plant by the contractor along with RAP and other recycled materials. The dosage can be adjusted for the desired performance. The recommended dosage is 2 pounds of NewRoad™ additive per 1 ton of mix. The dosage can be increased for projects that require greater strength, such as pavements with high traffic loading or poor base materials, such as the 3 pounds per ton selected for this project by the City of Des Moines.”



[Click here](#) to view the Rittenhouse Street Open House gallery.