Between 2015 and 2019, the City of Scottsdale has implemented one of the most aggressive and innovative pavement preservation projects in the United States whereas they placed approximately 10 Million square yards of micro surfacing. Much of these areas received a double application of Type III micro surfacing followed by Type II micro surfacing. Much of the material placed included the use of fiber reinforcement. Originally awarded in early 2015, this massive Job Order Contract was renewed for four subsequent years resulting in significant benefit to the City's entire road network by increasing the network's average PCI from 70 to 83.

The project was designed to address the pavement needs of entire neighborhood areas (Project PID numbers) in the residential areas. Other specific areas included busy thoroughfares and massive parking lots. Some locations required a double application depending on the distresses identified. All work was performed per the City of Scottsdale's project specifications and local MAG specifications. All materials placed were required to have a project specific mix design, and all micro surfacing equipment was calibrated in the presence of City representatives.

It is anticipated that the City saved 35-40% by using micro surfacing vs. conventional mill and fill approach.

Substantial reduction in energy usage by using emulsion products in lieu of hot mix solutions

Project conserved thousands of tons of precious aggregate resources in the Phoenix valley

Project was completed in half the time required for conventional milling and paving solutions

Extended the life of the existing pavement for another 8-10 years.

The City used an innovative fiber reinforcement at a scale not seen anywhere else in the country

Network improvement from 70 to 83 PCI

BACKSTORY:

One of the more significant challenges involved planning around the City's frequent events throughout the city limits, as well as meeting the very high standards of the City's residents. All work had to be coordinated closely to accommodate all end users residing and operating throughout the City. In an innovate effort to enhance our communication, VSS implemented an onsite communication professional whose sole responsibility was responding to all inquiries to ensure that any confusion was avoided.

PROBLEM:

The scope of this project required placement of Type 2 and Type 3 Fiber Reinforced Micro Surfacing (Fiber Seal) on residential streets, collector streets, arterial roadways and parking lots. Work was completed in many of Scottsdale's diverse neighborhoods, historic Old Town and Westworld's exhibition facility.

Safety of both the project team and the traveling public were paramount during construction. Where possible, the contractor implemented an innovative street closure system where feasible to limit the public's exposure to potential hazards. Through enhanced communication and well-planned detours, an additional benefit was that many streets were completed more quickly leading to less overall inconvenience to the City's residents and traveling public.

In addition to the tremendous scope of work, innovative communication and street closure techniques, the most outstanding feature of this project would be the innovative use of fiber reinforcement at a scale not seen anywhere else in the United States, whereas The City of Scottsdale has established itself as a leader in innovative pavement preservation techniques.

SOLUTION:

All work was scheduled through the City's Public Works Department, and the contractor met the City's requirements to complete the work, including nighttime and weekends when needed.

The City's use of emulsions and thin lifts saved considerable energy costs and conserved thousands of tons of precious aggregate resources. Knowing the sensitivity of the local environmental conditions, the contractor utilized best management practices with regards to spill prevention as well as dust and noise mitigation.

PHOTOS:

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