

# Aesthetic Pavement Treatments-

## CONTEXT SENSITIVE PAVEMENTS FOR PARTNER AGENCIES



Durable pavements do not have to be aesthetically unappealing. By using alternate materials it is possible to create a pavement that meets design engineering properties and is also aesthetically appealing, even in high profile locations such as Pennsylvania Avenue in front of The White House.

A landscape design was developed by Michael Van Valkenburgh Associates to transform the avenue in front of the White House into a pedestrian plaza that harmonizes with its surroundings. Eastern Federal Lands Highway Division (EFLHD) was charged with finding a paving material that would satisfy the criteria of being aesthetically pleasing and having acceptable engineering properties for anticipated traffic loading.

One means of satisfying the dual requirements of aesthetics and durability involved working with a transparent, amber colored synthetic binder produced by Neville Chemical Co. that could be placed using conventional Hot Mix Asphalt processes. This synthetic binder flexible pavement has been used by designers in Europe with pigments to produce colored asphalt to delineate intersections, busways, bicycle paths, historic landmarks, and roundabouts. It was decided to explore the use of the synthetic binder to create a flexible pavement without pigment and select

aggregates to achieve the color and texture requirements.



To develop a product that would satisfy all the criteria for long term durability and aesthetics, EFLHD investigated various aggregate sources and job mix formulas combinations with the various sources. Aggregate size was varied from 19mm to 9.5 mm in an effort to match the surface granular surface originally proposed by the architect. Various types of pavements such as Superpave and Stone Matrix Asphalt (SMA) were designed and reviewed for aesthetics.

For Pennsylvania Avenue, a 9.5 mm Superpave mix design containing salmon colored granite and pink quartzite aggregates was selected. To confirm mix durability, an extensive study by FHWA's Turner Fairbank Highway Research Center was conducted looking at rut resistance, weathering susceptibility, and binder properties. Mix volumetrics, plant production quality control, logistics, paving techniques, and aesthetics were confirmed for the 9.5 mm Superpave mix during a field test on a road in Rock Creek Park.

Paving in front of the White House on Pennsylvania Avenue was completed in October 2004. Pennsylvania Avenue was reopened to the public by The First Lady Mrs. Bush on November 9, 2004.

EFL continues to explore the use of synthetic binder emulsion based systems, and other approaches to further the options available to our Partner Agencies for Context Sensitive Pavements.

For further information on Aesthetic Pavement  
Treatments – Contact Michael Dallaire at  
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