



SIKA AT WORK

LINCOLN MEMORIAL REFLECTING POOL, WASHINGTON D.C., USA

SIKA WATERTIGHT CONCRETE

BUILDING TRUST



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PROJECT DESCRIPTION

The old reflecting pool, completed in 1924 and demolished in 2009, held 6.75 million gallons of water, much of which evaporated or continually leaked from the pool and which was replenished with more than 30 million gallons of city potable water annually. The old pool was built with an asphalt and tile bottom on poorly supported soil, consisting primarily of marshes. The unstable subgrade had deflected twelve inches over the past 90 years under the pressure exerted by the reflecting pool above. In 1980, a new concrete slab was poured over the existing slab, but the added weight simply worsened the soil settlement causing subsequent leakage.

PROJECT REQUIREMENTS

It was imperative to stabilize the subgrade and to minimize the settlement potential to the new reflecting pool structure. A concrete mix design was required to meet all the project specifications for durability, shrinkage and watertightness. To ensure the watertightness of the entire project, a cost effective and efficient joint sealing system was also needed.

SIKA SOLUTION

To stabilize the pool, 2,133 timber piles were driven into the bedrock to provide more stable support. The concrete specifications called for a highly durable, watertight concrete, with minimal shrinkage. To meet these specifications, general contractor Corman Construction Inc. decided to utilize the Sika® Watertight Concrete System provided by Sika Corporation. Aggregate Industries supplied 15,500 cubic yards of Sika® Watertight Concrete. This high-performance concrete mix also included Sika® Control 40 shrinkage reducing admixture, and polypropylene fibers to minimize shrinkage potential.

The unique integral concrete solution provided by Sika simplified the construction process and improved overall concrete durability and performance.

In conjunction with Sika® Watertight Concrete, easily installed Sika® Hydrotite hydrophilic joint sealing profiles was used at all construction joints to provide a whole system solution for the reconstruction of the Lincoln Memorial reflecting pool.

PROJECT PARTICIPANTS

Owner: National Park Service U.S. Department of the Interior

Engineer: KCE Engineers, CO

General Contractor: Corman Construction, Inc.

Concrete Supplier: Aggregate Industries, Inc.

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