Atlantic City Municipal Utilities Authority

Pleasantville WTP In-Ground 2 MG Basin 'B' Floating Cover Replacement

Location

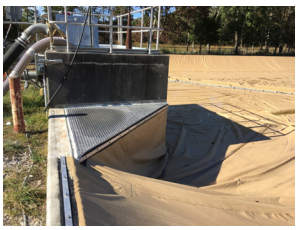
Atlantic City, New Jersey

Client

Atlantic City Municipal Utilities Authority

Client Type

Public



The Opportunity

PS&S was retained by the Atlantic City Municipal Utilities Authority (ACMUA) to prepare plans and specifications for the replacement of an existing floating cover with a new flexible floating cover on an in-ground two million gallon concrete basin. The basin measured 276 feet long, 120 feet wide and about 14 feet deep and holds treated potable water for the City of Atlantic City. The project is situated at the ACMUA's Pleasantville Water Treatment Plant located in the City of Pleasantville, New Jersey.

The Challenge

Previous failures to the existing polypropylene cover had occurred at both the inlet and outlet boxes and at the four corners of the basin. This damage was believed to have been caused due to the type of material that had been previously used and by the cover's rise and fall with the water level in the basin. The Authority desired that the replacement cover would be designed in a manner such that the replacement cover will not be subjected to similar damage. Therefore, the design included an investigation into the types of covers that would be best suited to prevent similar failures in the future.

The PS&S Solution

Research into the types of material lead PS&S to recommend to the Authority a 45-mil thick, 3-plies, chlorosulfonated polyethylene (CSPE) flexible floating cover. The CSPE material (once manufactured by DuPont and known as Hypalon) is now manufactured by Burke Industries. CSPE is a premier reinforced geomembrane with excellent longevity. This material has been successfully used for close to 50 years. CSPE uses an adhesive method of assembly, which was determined to be the best assembly method to use around the problematic inlet and outlet box structures and at the four corners of the basin. CSPE is also easier to repair in high stress areas because it is made of rubber. As a further precaution, the design included angle bracing to attach the new cover to eliminate the sharp angles on both sides of the inlet and outlet boxes.