

National Park Service DEWA Watergate Wetlands Restoration Project: Restoration for Today and the Future

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As a result of climate change effects causing changes more rapidly, wetland managers have to embrace a new approach when designing wetland restorations by no longer designing just to predisturbance conditions, but designing restorations that will also facilitate adaptation and long term resiliency. The National Park Service proposed to restore wetlands associated with Van Campens Brook at the Watergate Recreation Site by removing artificial dams and ponds, thereby reestablishing its floodplain connection. Restoration efforts were conducted as compensatory mitigation for unavoidable impacts on wetlands associated with a transmission line project. WSP USA, Inc. provided full design, permitting and construction services to achieve a high-functioning wetland and riparian floodplain system with more natural fluvial dynamics.

The Watergate site is a critical host to multiple special status species documented within the New Jersey Categorial 1 waterway of Van Campens Brook, in which its watershed and resource value is solely contained within NPS property. To develop the overall restoration approach, multiple design studies were conducted, including Hydrologic and Hydraulic modeling, climate resiliency adaptation, geomorphology and reference site surveys, topographic survey, soil investigations and beneficial reuse classification, cultural resource investigations, T&E surveys (flora and fauna) and mitigation plans, and invasive treatment management. Key to the design and sustainability of the site was the evaluation of impacts to designed habitats as a result of climate change. Utilizing over 20 climate models to develop a regionalized temporal model, daily precipitation, evapotranspiration and storm frequency rainfall depths were projected to 2100. The impact of these projected future climate conditions were used to evaluate the adaptability of the design. Adjustments were then incorporated into the restoration design to allow for the natural lateral migration of wetland habitats predicted within Van Campens Brook floodplain.

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