



BNR and UV Improvement



ABOUT THIS PROJECT:

Market Segment: Wastewater Collection & Treatment	Owner: City of Wichita	Products Used: Xypex Admix C-500 NF Xypex Concentrate
Concrete Producer: Pearson Ready-Mix	Engineer: CDM Smith (Wichita)	General Contractor: Dondlinger and Sons Construction
Location: Wichita, Kansas, USA		

The City of Wichita is undertaking upgrades to its wastewater treatment facility to improve biological nutrient removal (BNR) capacity and expand ultraviolet disinfection infrastructure. The project includes construction of new wastewater process basins and supporting treatment structures.

Because these structures are exposed to continuous moisture and aggressive wastewater environments, including chemicals and biological by-products common in treatment processes, durable concrete with enhanced resistance to water penetration is required. Xypex crystalline waterproofing technology was specified to improve concrete durability and reduce permeability in the treatment structures.

Xypex Admix C-500 NF crystalline waterproofing admixture has been incorporated into the cast-in-place concrete used for the wastewater process basins and associated structural elements, supplied by Pearson Ready-Mix and placed in phased pours during construction. Added during batching, Xypex Admix reacts with water and the by-products of cement hydration within the concrete. With water acting as the catalyst, the proprietary chemicals form a non-soluble crystalline structure within the interconnected capillary pores and microcracks of the concrete.

This crystalline formation blocks pathways for water penetration and reduces permeability throughout the concrete matrix. In addition to the integral admixture, approximately 650 square feet of Xypex Concentrate has been specified for surface-applied treatment of designated walls and detailing areas.

The Xypex crystalline system provides permanent resistance to water penetration and supports long-term durability of the wastewater treatment structures serving the City of Wichita.

