



# San Diego International Airport Northside Capture Reuse Cistern

San Diego, California, USA



Completion Date  
**2020**

Contractor  
**SUNDT CONSTRUCTION INC.**

Products  
**ADMIX C-500 NF**

Project Type  
**INDUSTRIAL WATER  
CONTAINMENT - AIRPORT**

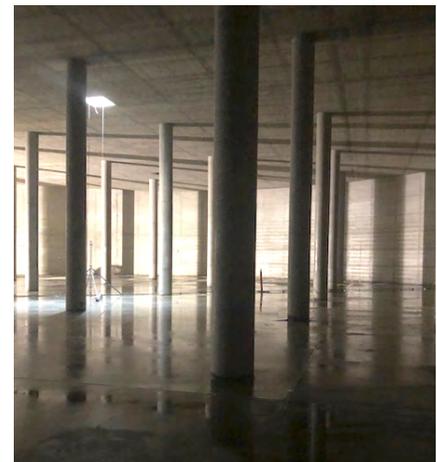
Expansion and improvements at the San Diego International Airport included construction of a large cistern for rain water run off from the runways, aprons and other hardscape works at the airport. This retention cistern will help lower the airport's environmental impact by buffering large spikes in run off into local waterways and is part of the airport authority's ongoing efforts to reduce its environmental footprint.



The cistern construction consisted of installation of a secant pile wall forming the exterior of the cistern followed by excavation of the space within the piles. A Xypex **Admix C-500 NF** treated 32" thick slab, thickened to 38" at the outer 8', was poured to create a waterproof floor of the cistern. An inner liner with a minimum 5" thickness was shotcrete placed against the inner face of the secant pile walls creating a flat surface. A 32" structural wall of Xypex Admix treated concrete was poured against the shotcrete liner to complete the wall assembly creating fully waterproofed walls for the cistern. Finally, a Xypex concrete treated lid with a thickness of 30" thinning to 24" at the outer edges was placed to finish the cistern.

The use of 8000 - 9000 cubic yards of Xypex Admix treated concrete in this 13,000 cubic yard project created a fully waterproof structure. Water table conditions are such that the bottom of this 30' deep cistern is under a water pressure of 16' of head. Images captured during the construction phase (see next page) showed water leaking through the inevitable cracks in the concrete liner with

Xypex crystal development evident as the cracks self-healed. The photo of the finished cistern shows the fully healed and non-leaking walls of the cistern.



Xypex is proud to have been chosen as the stand alone waterproofing system for this important piece of environmental infrastructure for the San Diego County Regional Airport Authority.



*Concrete liner wall section after pumps decommissioned and watertable had recharged – water leaking through cracks.*



*Same point on wall 7 weeks later – cracks fully healed with no water leakage against constant hydrostatic pressure.*