



# O'Hare International Airport

**Application:** Detention basin and scour protection

**Owner:** City of Chicago, Illinois

**Funded By:** FAA

**General Contractor:** Walsh Construction

**Location:** Chicago, Illinois

**Square Feet:** 222,905

An international airport such as O'Hare in Chicago, Illinois has a LOT of storm water runoff to deal with from the massive runways that traverse one of the world's busiest airports. Temporarily storing this enormous amount of storm water runoff contaminated with the de-icing agent glycol has proven to be a challenge. For over a decade O'Hare has utilized articulating concrete block/mats (ACBM) to help stabilize the bed and the banks of the sizeable detention ponds that are scattered throughout the airfield. Two issues have challenged engineers: 1) scour on the bed and, 2) erosion on the bank. The scour protection products from the 10-12 ft diameter pipes and box culverts entering the detention pond include cast-in-place concrete energy dissipaters and the largest commercially available dry cast ACBM, UltraFlex XL9085. This block is 9 inches thick, and weighs in at over 235 pounds per block and 85 pounds

per square foot. Rock riprap had previously been utilized on the banks of the detention ponds for erosion protection. However, once the powerful pumps started up to begin draining the storm water to the waste water treatment plant, the draw down effect was so overpowering, the rock riprap would roll down the slope creating an expensive maintenance issue for the City of Chicago. The erosive forces were less severe on the slope so a lighter, less expensive block, UltraFlex M6055 measuring 6 inches thick and weighing approximately 55 lbs per square foot was installed. The closed cell version of the block was chosen by the city to minimize vegetative growth and to deter water fowl from entering the airfield. Over 225,000 square feet of UltraFlex was installed by Walsh Construction out of Chicago.



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