

## CASE STUDY

**Google  
Spruce Goose**  
La Playa, CA

**46% IRR**

ON WATER SAVINGS ALONE

**2.9 Million**

GALLONS OF WATER SAVED ANNUALLY

**28 Month**

PAYBACK

**\$40,000**

SAVED IN THE LAST 12 MONTHS

**100%**

RECYCLED WATER USAGE

*"Capture H<sub>2</sub>O is a trusted resource for all our water treatment and management systems. They are constantly bringing new ideas that either solve an existing problem or reduce our water, sewer and energy costs. The technologies and services they provide helped us improve our operations and gave us real-time visibility into our processes. I would highly recommend them."*

**Dan Mitnick**

Lead Site Technical Services, Google





A photograph of the Google Spruce Goose building, a large, dark-colored industrial-style structure with multiple windows. A large, light-colored letter 'G' is visible on the left side of the building.

# How we did it.

## Overview

Google Spruce Goose is an airplane hangar renovated by Google as an open and creative office building for their Los Angeles location. The site has two cooling towers that cool the 450,000 square foot, four-story office building.

## Starting Point

The Capture H<sub>2</sub>O High Cycle program was included in the initial design and development of the central plant. Initially Capture H<sub>2</sub>O was asked to use 20% recycled water from Los Angeles Department of Water and Power (LADWP) and run 6 cycles of concentration. After discussing with the design team, it was agreed that the High Cycle program could run up to 15 cycles of concentration and have the added benefit of no chemicals.

## Our Solution

In 2017, Capture H<sub>2</sub>O installed the patented High Cycle program, utilizing recycled water. Upon installation and for the first year, 50% recycled water was used at 15 cycles of concentration to validate the scale, corrosion and bacteria levels. Post validation, the program was converted to use 100% recycled water and cycles of concentration were raised to 25.

## Results

Ultimately, installing the proprietary pre-treatment system on the makeup line allowed Google to raise the cycles of concentration to an average of 60, which saved the site an estimated 1.13 million gallons of water and \$17,500 in 2020.

The Capture H<sub>2</sub>O High Cycle program also allowed Google to completely displace potable water with recycled water as the makeup water source, decreasing their water rate by over 80%. In 2020, this saved Google an additional 1.77 million gallons of water and \$22,500.

In total, Google was able to save 2.90 million gallons of water and \$40,000 on water costs alone in 2020. Taking into account the upfront equipment costs, the payback for the program was just over 28 months. Lastly, the patented High Cycle program, coupled with Capture H<sub>2</sub>O's extremely high level of service, has enabled Google to maintain world-class scale, corrosion, and bacteria results.

Due to the great work of the Google Spruce Goose team, Google was recognized by LADWP in 2020 as the Recycled Water Customer of the year.

