PROJECT CASE STUDY — WATER EFFICIENCY PROJECT

Courtyard LAX
6161 W Century Blvd
Los Angeles, Ca 90045

190 Guest rooms
70% Projected Occupancy

At the Request of: Eric Ryan

How this property used Indoor Water Conservation's (IWC) Balanced Flow technology to:

Reduce Utility Costs (water, sewer & energy)			$ 11,105	per year
Investment	$ 8,057	ROI	8.7	months

Reduce Water Consumption	547,182	gallons per year
Reduce Energy Consumption	2,435	therms per year

Summary

IWC's Water Use Assessment identified inefficienies working with Management re: usage

IWC's Technicians measured variations in water pressure
flow volumes and fixtures flows through the property to calibrate Flow Controller sizes.

IWC managed the Rebate process to obtain SoCal Watersmart's device rebate.

IWC conducted a Post Installation audit to verify effectiveness of the solution.

PROJECT ACHIEVEMENTS

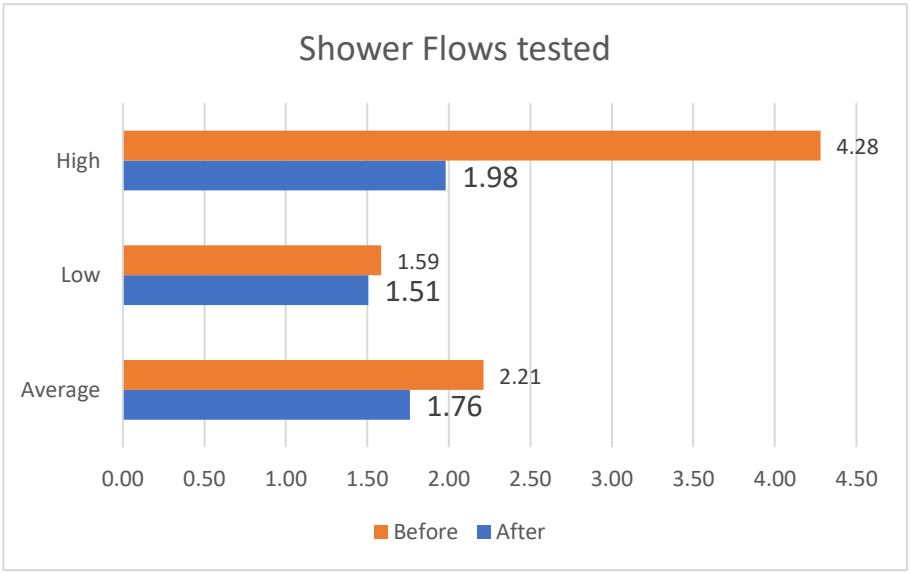
PROBLEM - SOLVED

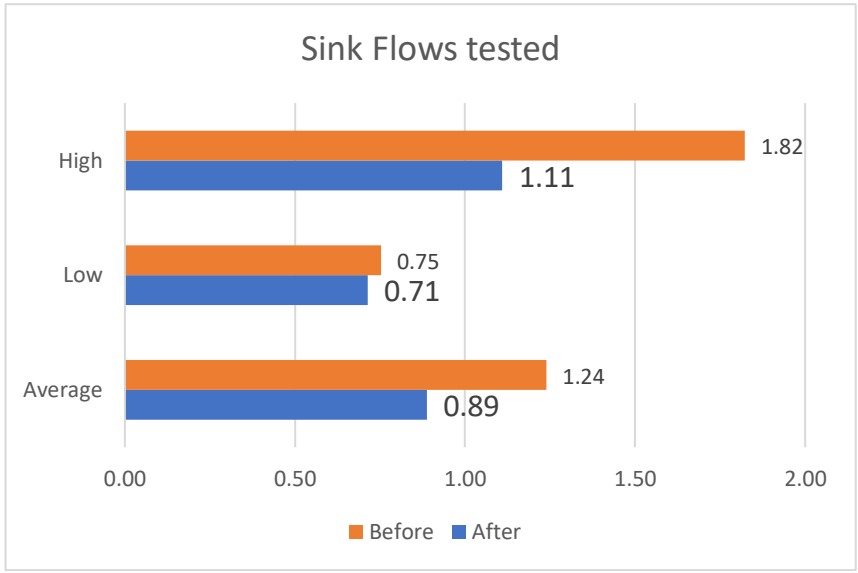
Unbalanced Shower and Sink flows were causing **inefficient water and energy use**

			COST	
Excess Water Use	463,646	gallons per year	$ 7,553	Water & Sewer
Excess Energy Use	2,063	therms per year	$ 1,857	Energy
		Excess Water, Sewer & Energy Costs	**$ 9,409**	**Annually**

SOLUTION

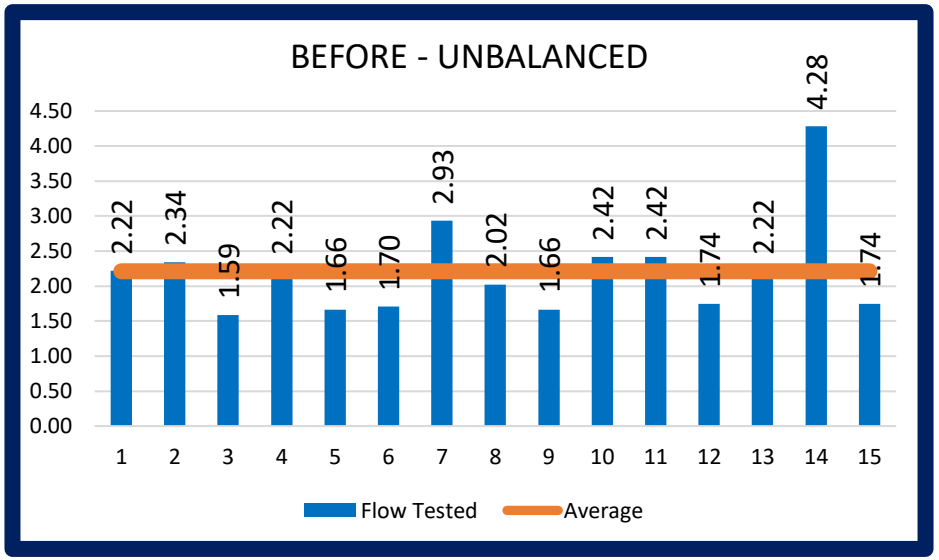
IWC Balanced flows in sinks and showers, delivering the same efficienct flow in every room on every floor.

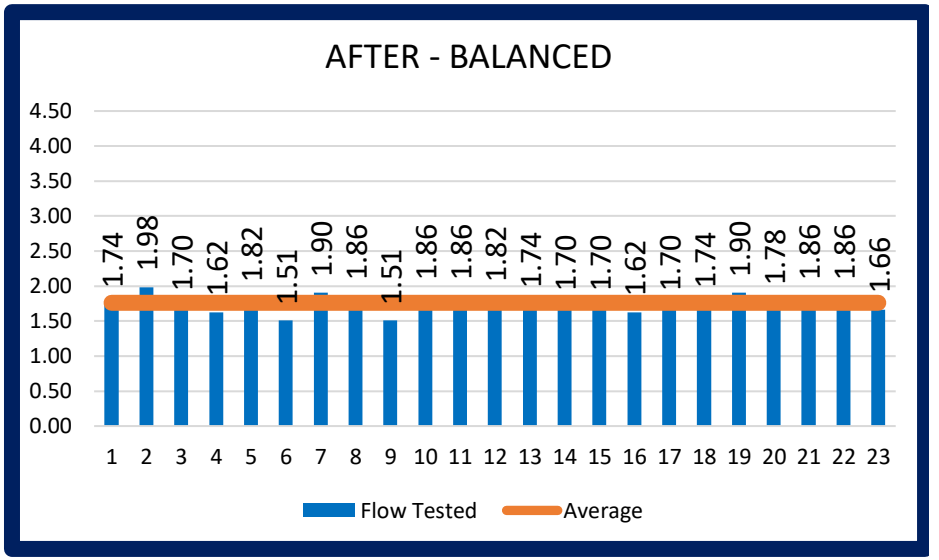




OVERHEAD SHOWER FLOW COMPARISON

Flows are reported in gallons per minute

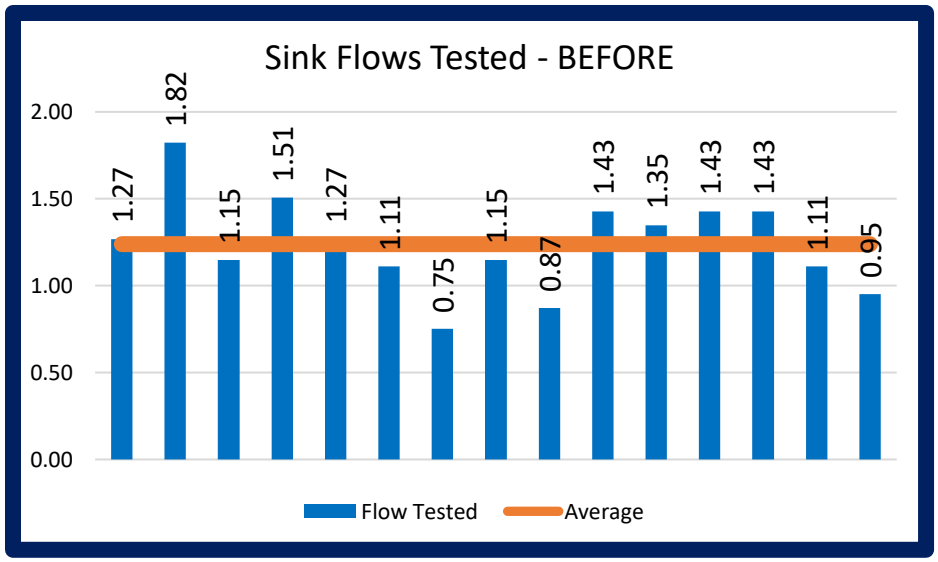


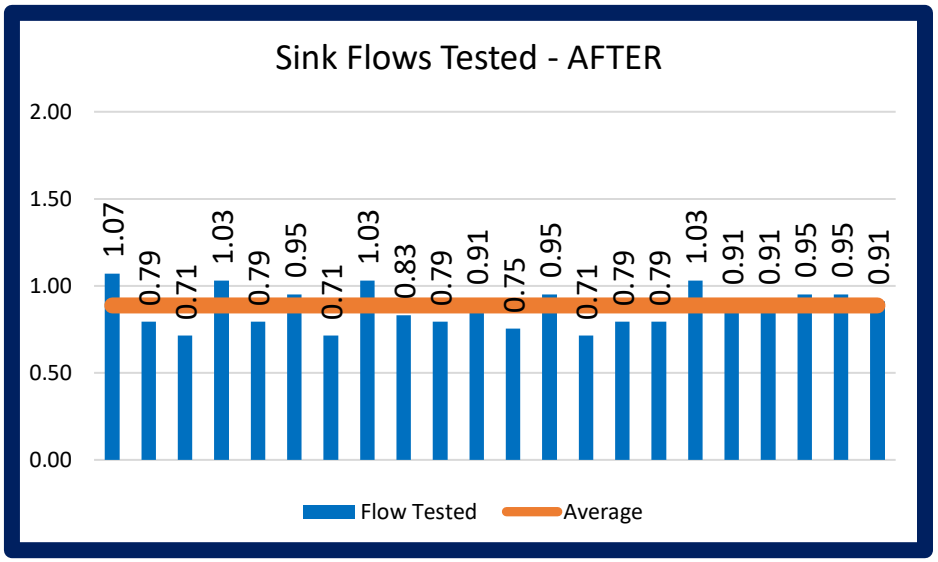


Comparitive Chart - gallons per minute

Shower	Before	After	Delta	
High	4.28	1.98	2.30	Lowered high flow, reducing waste and costs
Low	1.59	1.51	0.08	Low flow slightly lower
Ave	2.21	1.76	0.45	Reduced Average flow, reducing water and costs
Spread	2.69	0.48	2.22	Closed the flow gap, providing more consistent flows

BATH SINK FLOW COMPARISON DETAIL





Comparitive Chart - gallons per minute

Sink	Before	After	Delta	
High	1.82	1.11	0.71	Lowered high flow, reducing waste and costs
Low	0.75	0.71	0.04	Low flow slightly lower
Ave	1.24	0.89	0.35	Reduced Average flow, reducing water and costs
Spread	1.07	0.40	0.67	Closed the flow gap, providing more consistent flows

COST & FLOW REDUCTION

	BEFORE	AFTER	SAVINGS	
Water Cost	$ 22,454	$ 17,487	$ 4,968	22%
Sewer Cost	$ 17,836	$ 13,890	$ 3,946	22%
Energy Cost	$ 9,905	$ 7,714	$ 2,191	22%
Total Costs	$ 50,196	$ 39,091	$ 11,105	22%

FLOWS TESTED	Sink	Overhead	Handheld	Kitchenette	
BEFORE - Unbalanced flows average	1.24	2.21	0.00	0.00	gpm
AFTER - Balanced flows average	0.89	1.76	0.00	0.00	gpm
Savings per fixture	0.35	0.45	0.00	0.00	gpm
	28%	20%			
USAGE VARIABLES					
Guests per room	1.50	1.50	0.00	0.00	
Usage per Guest (minutes)	6.00	12.00	0.00	0.00	
Total usage per room/day	9.00	18.00	0.00	0.00	minutes
Savings per fixture	0.35	0.45	0.00	0.00	gallons
Savings POR per day - gallons	3.17	8.11	0.00	0.00	**11.27**
Savings % per fixture	28%	72%			100%

gallons per day POR