

**PROJECT CASE STUDY**

**WATER EFFICIENCY PROJECT**

Hotel Zetta

100 Guest rooms

At the Request of: PEB

55 5th St,

90% Projected Occupancy

San Francisco, CA 94103



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

Reduce Utility Costs (water, sewer & energy)	\$	2,739	per year
Investment	\$	4,448	ROI 19.5 months

Reduce Water Consumption	67,949	gallons per year
Reduce Energy Consumption	339	therms per year

Summary

IWC's Water Use Assessment identified inefficiencies working with Management regarding water and energy usage.

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

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

# PROJECT ACHIEVEMENTS



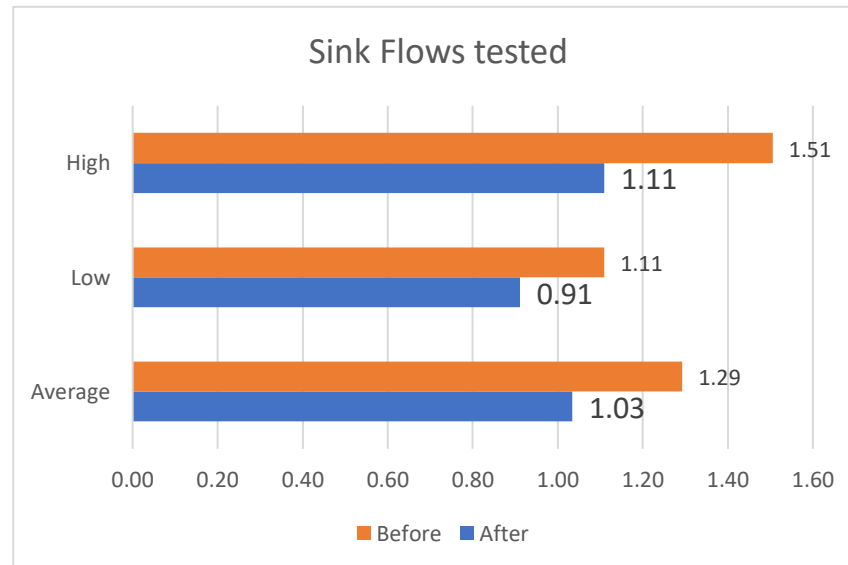
## PROBLEM - SOLVED

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

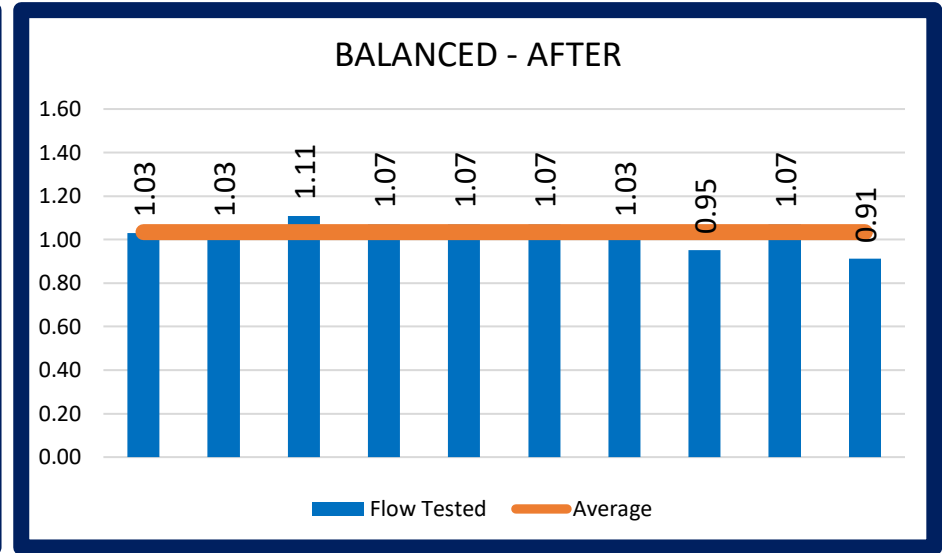
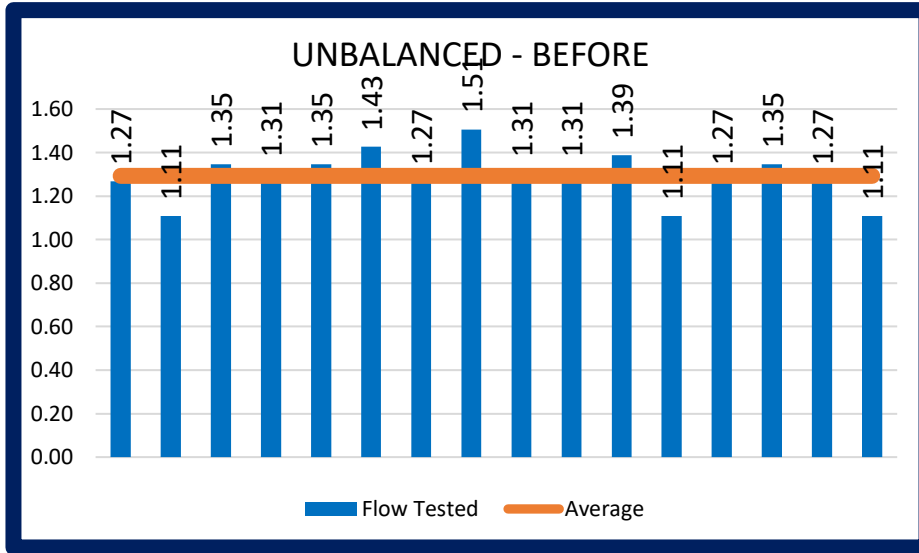
		COST
Excess Water Use	76,212 gallons per year	\$ 2,442 Water & Sewer
Excess Energy Use	339 therms per year	\$ 562 Energy
<b>Excess Water, Sewer &amp; Energy Costs</b>		<b>\$ 3,003 Annually</b>

## SOLUTION

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



# BATH SINK FLOW COMPARISON DETAIL



Comparitive Chart - gallons per minute

Shower	Before	After	Delta
High	1.51	1.11	0.40
Low	1.11	0.91	0.20
Ave	1.29	1.03	0.26
Spread	0.40	0.20	0.20

Reduced high flows, saving water & energy

Reduced low flows, saving water & energy

Lowered average flow rate, reducing water, sewer and energy costs

Closed the spread between high and low flows, improving guest satisfaction

# COST & FLOW REDUCTION



<b>Savings per Occupied room in gallons per day</b>	<b>2.07 gallons per day/room</b>
Times: Water, sewer & energy rate per gallon	\$ 0.0403 combined utility rate per gallon
<b>SAVINGS PER OCCUPIED ROOM PER DAY</b>	<b>\$ 0.08</b>
Times: Estimated Occupied rooms per year	<u>32,850</u> (based on data provided by Management)
<b>ANNUAL UTILITY COST SAVINGS</b>	<b>\$ 2,739</b> (estimated)

<b>FLOWS TESTED</b>	<b>Sink</b>	<b>Overhead</b>	<b>Handheld</b>	<b>Kitchenette</b>	
BEFORE - Unbalanced flows average	1.29	0.00	0.00	0.00	gpm
AFTER - Balanced flows average	<u>1.03</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	gpm
Savings per fixture	0.26	0.00	0.00	0.00	gpm
	20%				
<b>USAGE VARIABLES</b>					
Guests per room	2.00	0.00	0.00	0.00	
Usage per Guest (minutes)	<u>4.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
Total usage per room/day	8.00	0.00	0.00	0.00	minutes
Savings per fixture	<u>0.26</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	gallons
<b>Savings POR per day - gallons</b>	<b>2.07</b>	0.00	0.00	0.00	<b>2.07</b>
Savings % per fixture	100%	0%	0%	#DIV/0!	100%