

# CASE STUDY

## POST INSTALLATION BALANCED FLOW REPORT

### Balancing Flows in Showers & Sinks

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**WESTIN Ft Lauderdale Beach**

11-02-2020



# Project Achievements Overview

- Indoor Water Conservation's Flow Limiting technology was used to Balance Flows in sinks, overhead and handheld showers.
- Unbalanced flows for each fixture type are summarized and detailed in this report.
- IWC calibrated Flow Limiter sizes to the Westin's desired target flow rates considering variations in 1) water pressure and 2) source flows.
- Balanced flows will:
  - Save Water and Energy
  - Reduce water, sewer and energy costs per occupied room
  - Improve Guest Satisfaction



# Cost & Flow Reduction Per Occupied Room

## CALCULATION FOR COST SAVINGS

Savings Per Occupied Room in gallons 11.97

Times: Water, sewer & energy rate per gallon \$ 0.01698

SAVINGS PER OCCUPIED ROOM \$ 0.20

Times: Estimated Occupied Rooms per year 130,874

Annual Cost Savings \$ 26,607

Original estimated savings \$ 24,020

Variance \$ 2,587

	Sink	Overhead	Handheld
PRE - Unbalanced	1.50	2.12	2.29
POST - Balanced	1.08	1.85	1.83
Savings POR	-0.42	-0.27	-0.46
	28%	13%	20%

## USAGE VARIABLES

Guests per room 1.5 1.5 1.5

Minute per Guest 6 10 6

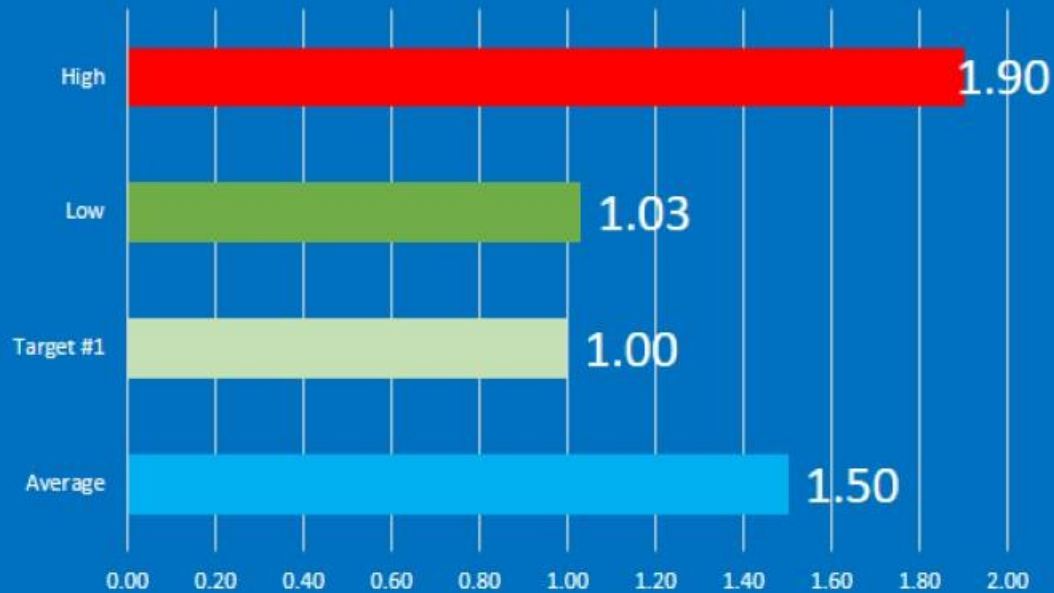
**Savings in Gallons POR (per day) 3.78 4.05 4.14 11.97**

# Sink Flows

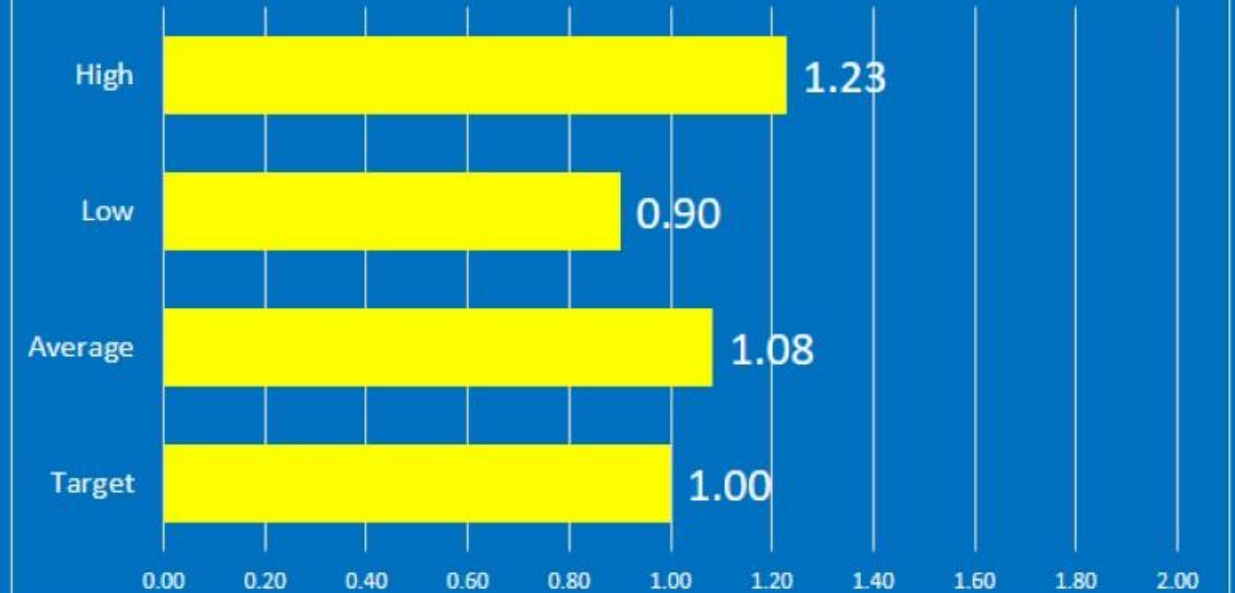
- Highest **PRE** installation flow was 1.90 gpm
- Lowest **PRE** installation flow was 1.03 gpm
- Variance high and low flows was 0.87 gpm
- Average **PRE** installation flow was 1.50 gpm

- Highest **POST** installation flow is 1.23 gpm
- Lowest **POST** installation flow is 0.90 gpm
- Variance between high and low is 0.33 gpm
- Average **POST** installation flow is 1.08 gpm

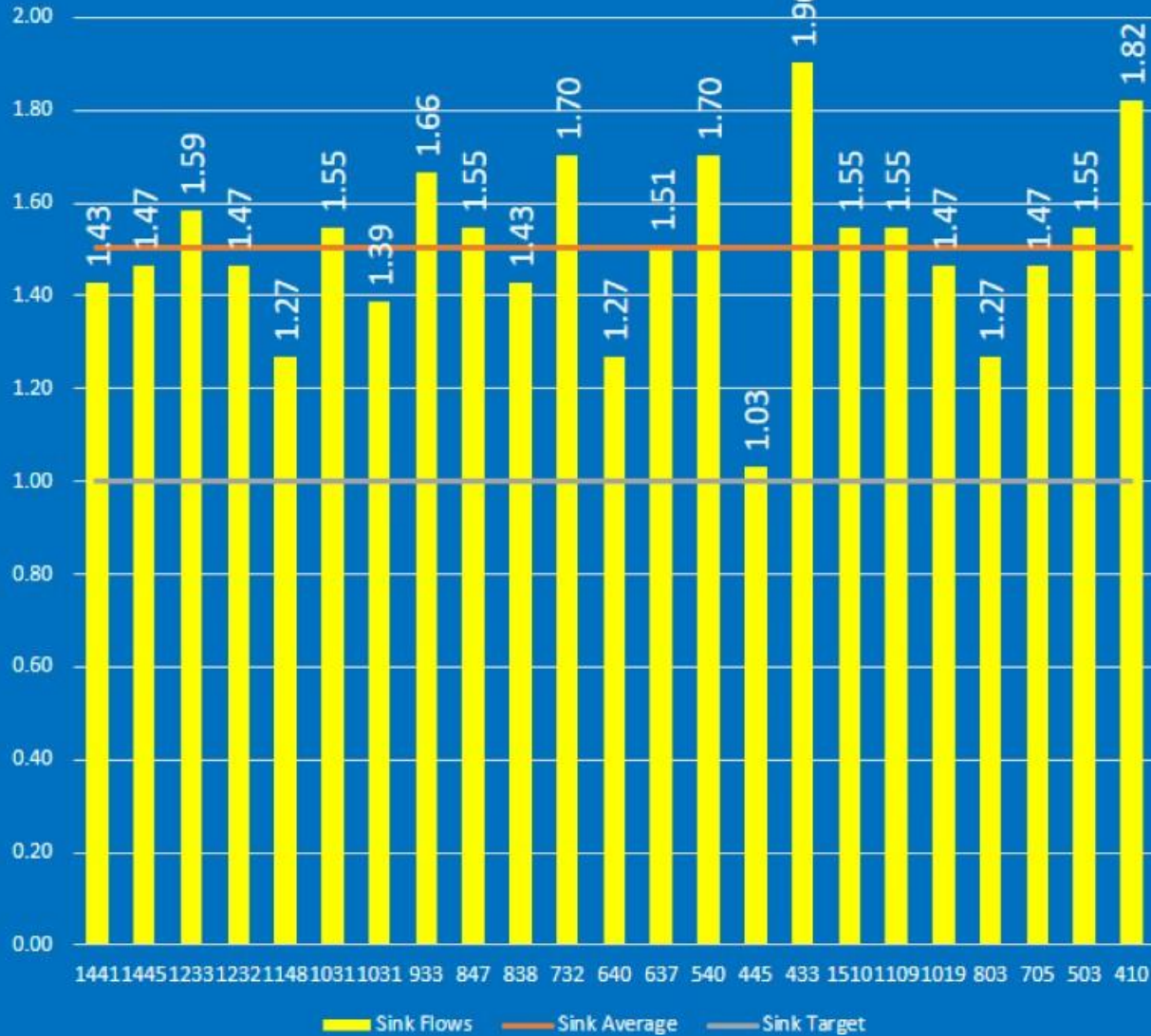
Bath Sinks



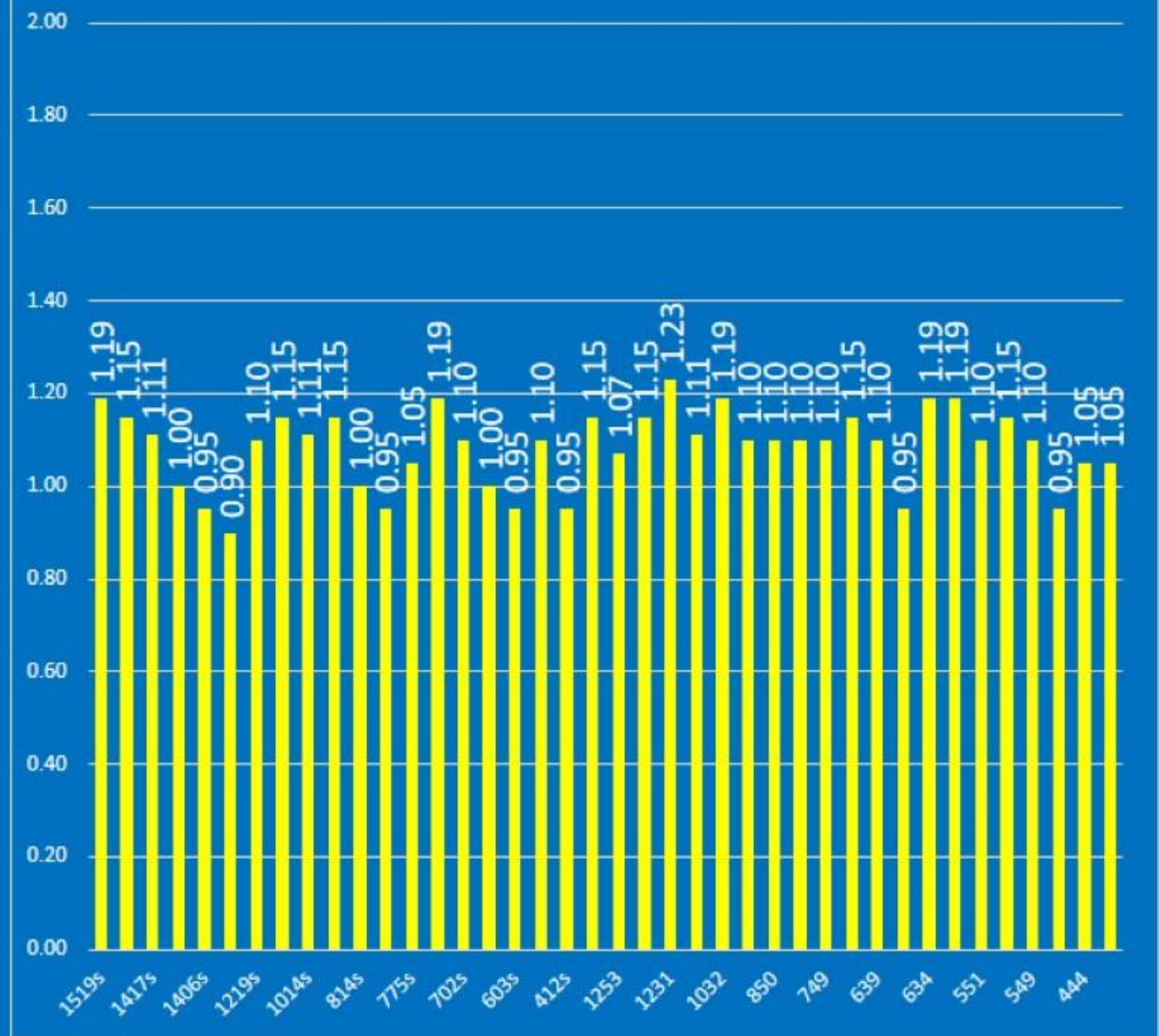
Sink Flows POST



Unbalanced  
Sink Flows Tested  
12-05-2020



Balanced Sink Slows  
POST Installation  
11-29-2020



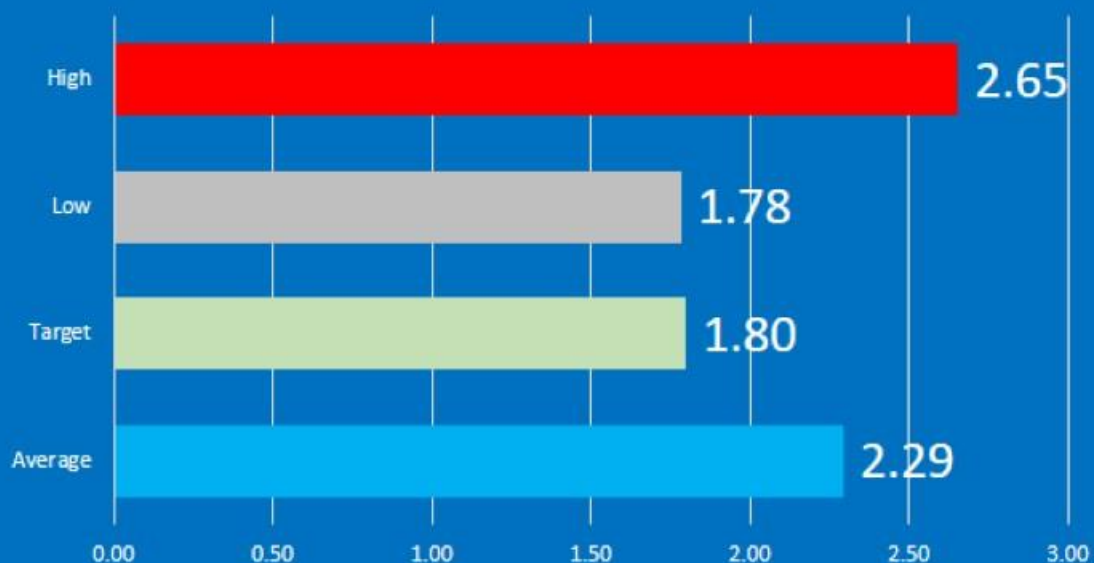




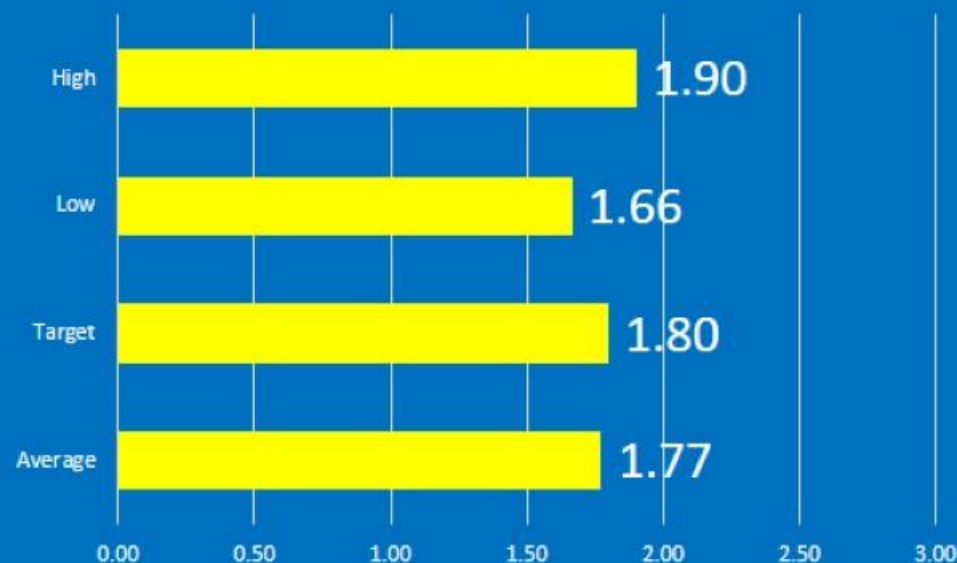
# Handheld Shower Flows

- Highest **PRE** installation flow was 2.65 gpm
- Lowest **PRE** installation flow was 1.78 gpm
- Variance between high and low flows was 0.87 gpm
- Average **PRE** installation flow was 2.29 gpm
- Highest **POST** installation flow is 1.90 gpm
- Lowest **POST** installation flow is 1.66 gpm
- Variance between high and low is 0.24 gpm
- Average **POST** installation flow is 1.77 gpm

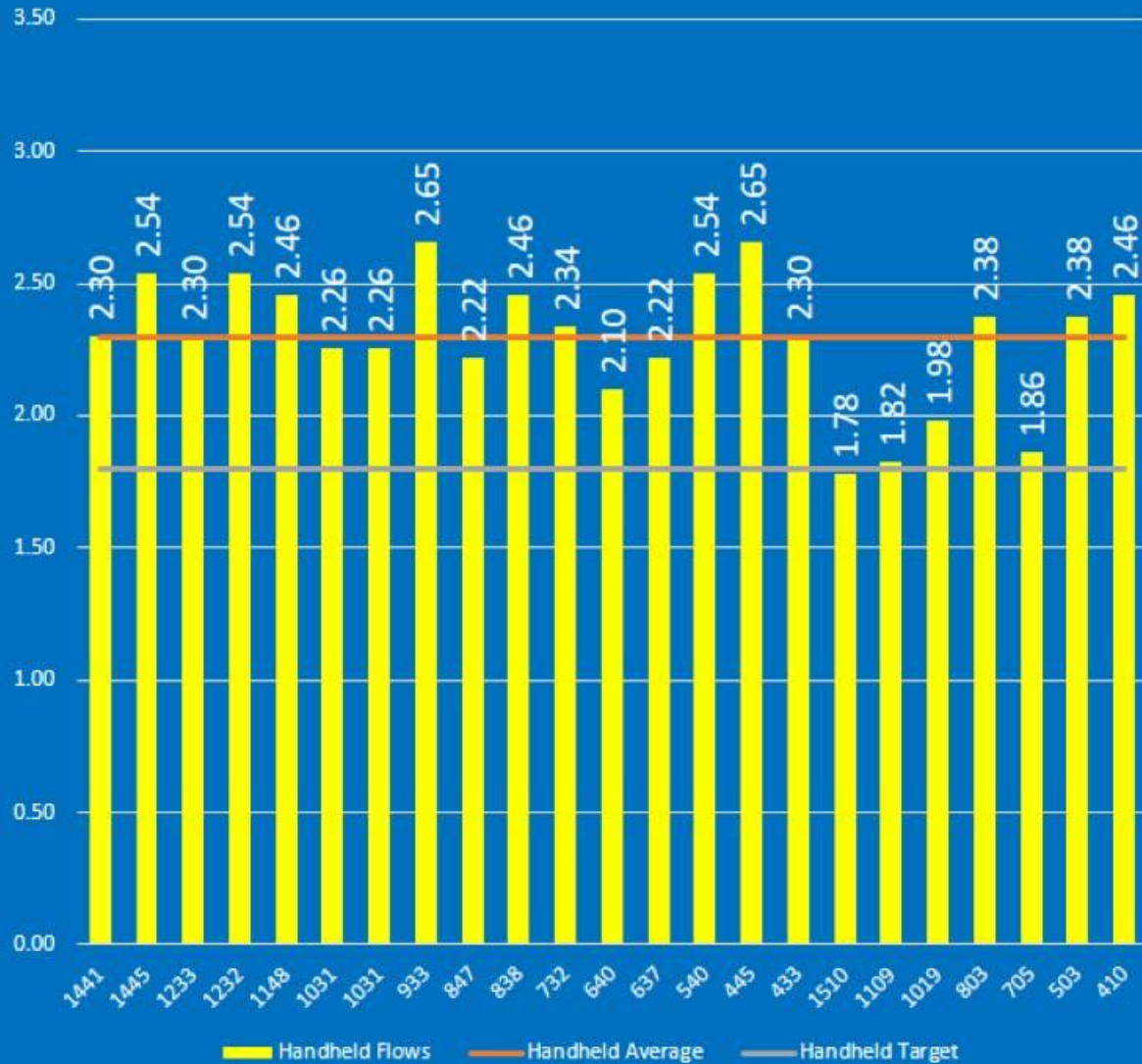
Handheld Flows PRE Summary



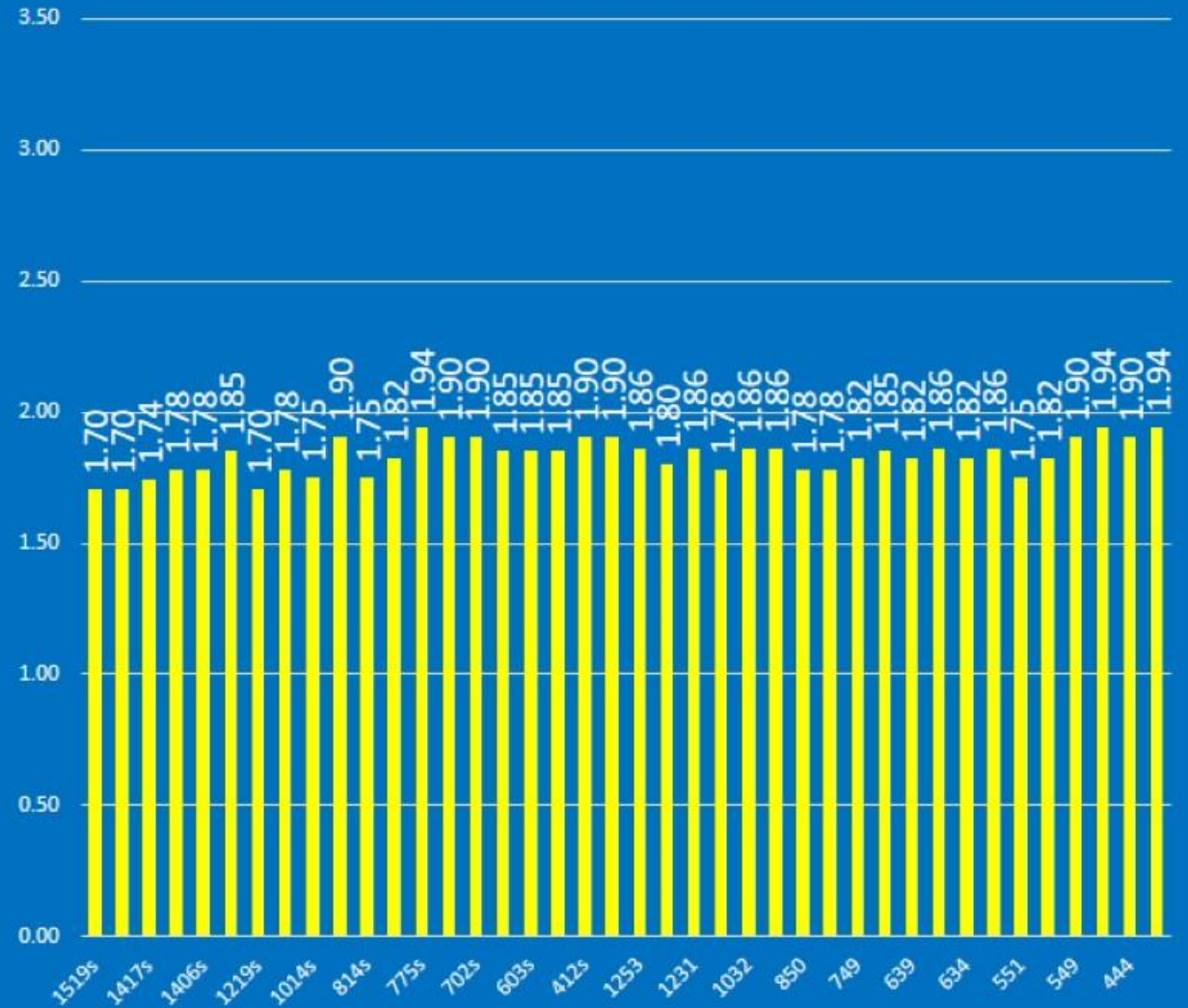
Handheld Flows POST Summary



UNBALANCED Flows  
Handheld Shower Flows Tested  
12-05-2020



BALANCED Handheld Shower Flows  
POST Installation  
11-29-2020



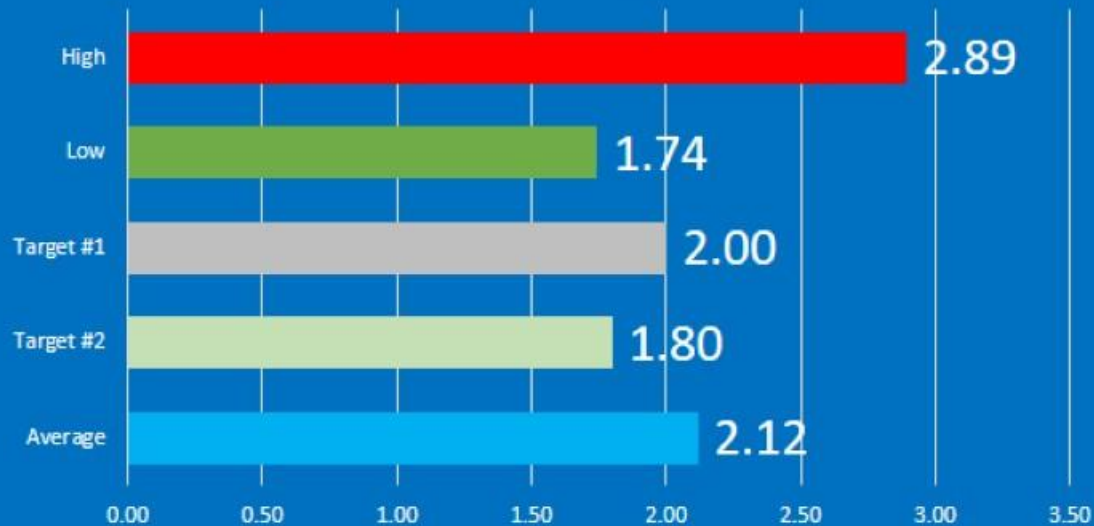


# Overhead Shower Flows

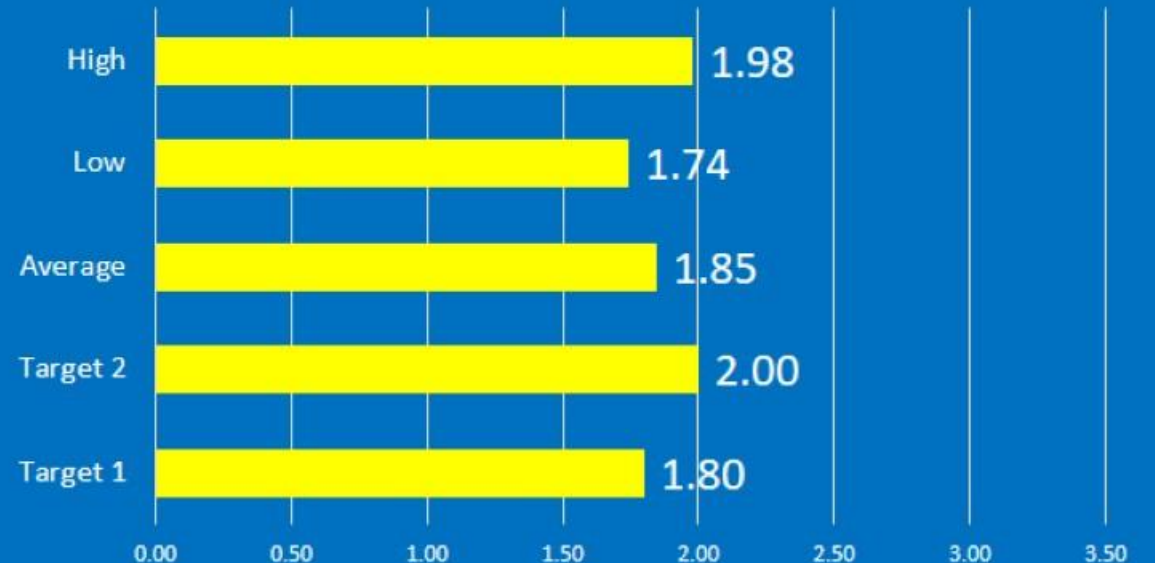
- Highest PRE installation flow was 2.89 gpm
- Lowest PRE installation flow was 1.74 gpm
- Variance between high and low flows was 1.15 gpm
- Average PRE installation flow was 2.12 gpm

- Highest POST installation flow is 1.98 gpm
- Lowest POST installation flow is 1.74 gpm
- Variance between high and low is 0.24 gpm
- Average POST installation flow is 1.85 gpm

Overhead PRE Installation Flows

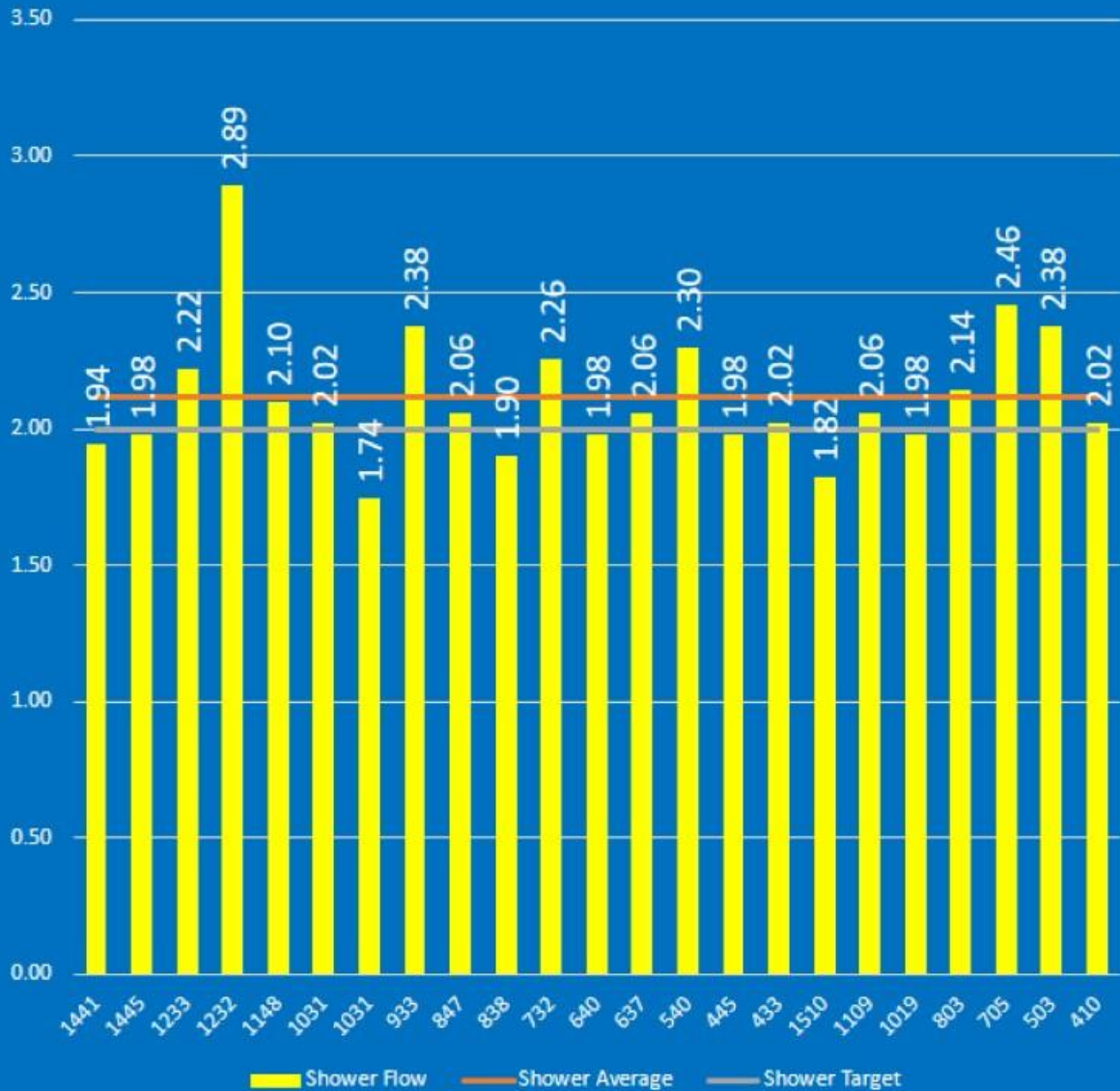


Overhead POST Installation Flows Tested 10-29-2020

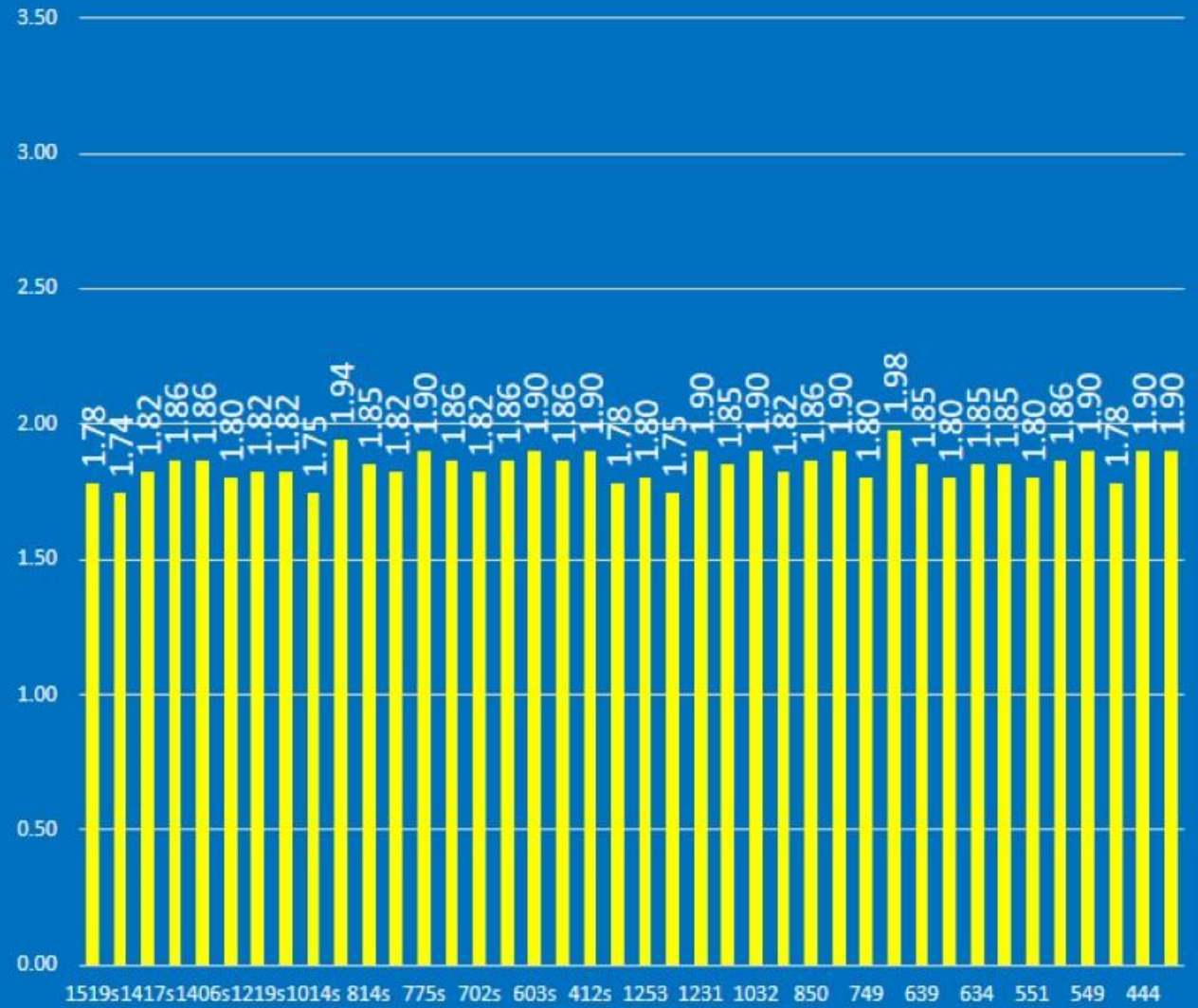




PRE Installation  
Overhead Shower Flows  
12-05-2020



BALANCED Overhead Shower  
Flows Tested 11-29-2020



Take a first step towards savings!

Contact us to schedule an Indoor  
Water Assessment



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[www.indoorwaterconservation.com](http://www.indoorwaterconservation.com)

