



Monterey Model: Strategies for an Efficient Public-Public Partnership

Case Studies toward Success

George Helms
General Services Superintendent

A Look Inside PMSA

PMSA Principles

Monterey's Process

Case Study 1: Recycling Tax Dollars

Case Study 2: Operation Hot Shower

Case Study 3: Sequestration Pivot

Lessons Learned

CONSIDER THESE FACTS!

Facilities

- 172 Buildings (fully utilized)
- Greater than 2,000,000 ft²

Field Staff

- 14 Maintenance Persons
- 2 Electricians

Maintenance Work Load

- 79 houses per person
 - 561 house per electrician
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PMSA Principles

IMPROVE – SAVE - INNOVATE



IMPROVE

- Quality of Life and Mission



SAVE

- Taxpayer Dollars



INNOVATE

- Listen to the Line

Monterey's Process

Employee Selection,
Ownership Teams & Skill Sets

Best Quality Control?

Stop Paying Twice -
Warrantie\$!!!

PMSA Engineering Support



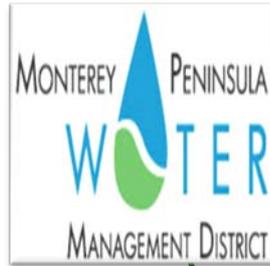
Our Customers Notice

From Hiring To Honoring

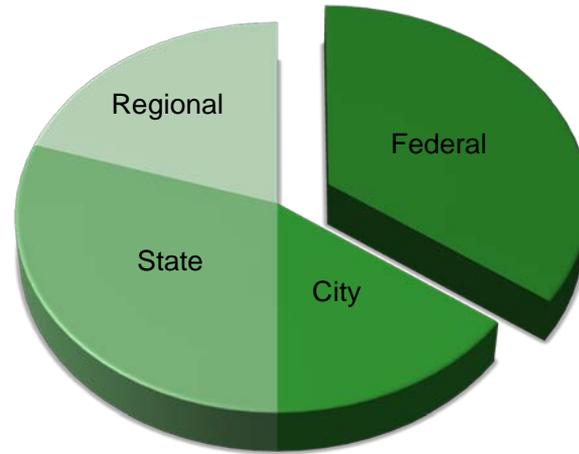


“No Cost” Partners

Creating Greater Sustainable Growth By Finding “No Cost” Partners



Monterey's Energy & Sustainability Strategies





Bring Utility \$\$\$ Back To Installation

Utility Rebates Provide Real \$\$ For The Installation



Operation Hot Shower

- Problem: 6 Barracks lost hot water due to room occupancy increase
- Water Temp: 78 degrees
- Recovery Time: 7 hours



REGIONAL SUPPORT For Historical Buildings

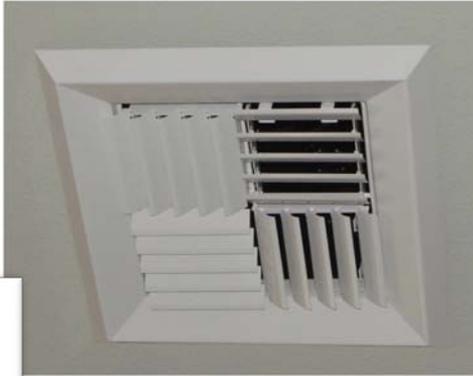
CHALLENGE: Too Hot, Too Cold

GOAL: Improve the learning environment
in two buildings built in 1903!!

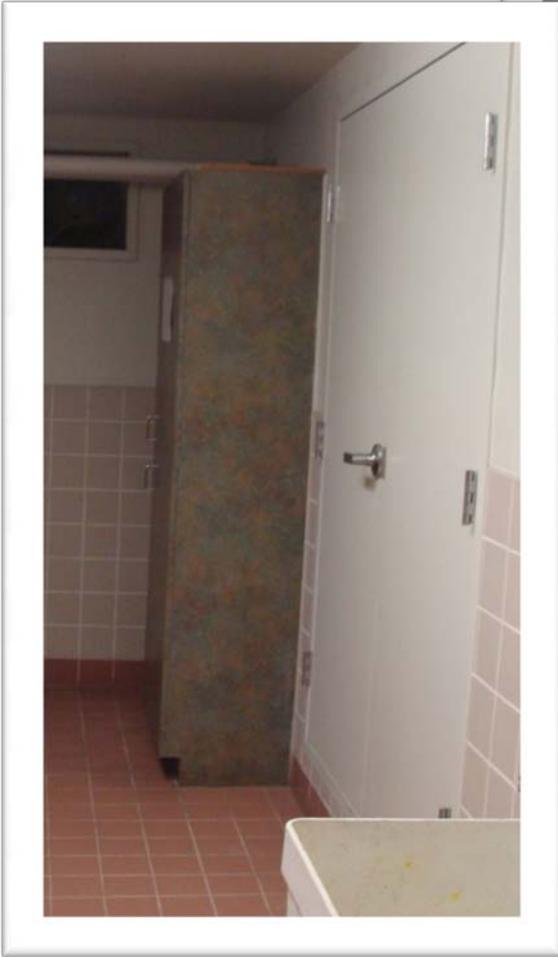
- Old Gas Wall heaters in all classrooms/offices
- Regional Support Using **AMBAG**
- Increased the rebate!!
- **Project Design/Build - BASOPS Engineer**

Old Classroom Heat Systems





New Classroom
Heat Systems



Completing the Circle

“Maintenance with Engineering”

11 Projects For The Price of 10

Energy Savings Projects

- Major Water Savings Project – POM wide
- Replace “3” Barracks Failing HVAC Systems
- Install/Modernize Exterior Barracks Lighting

Successful? Sept 2011: 55 more projects!

Replace Failing HVAC System In Barracks 647, 650 & 651

Yearly Savings \$6,684 / Rebate \$10,604.00

Saves 30% of Heating Natural Gas

User Friendly Thermostats

Heater usage during unoccupied time in the three barracks

	# of Heaters ON	# of Heaters OFF
Before Project	178	2
After Project	4	176

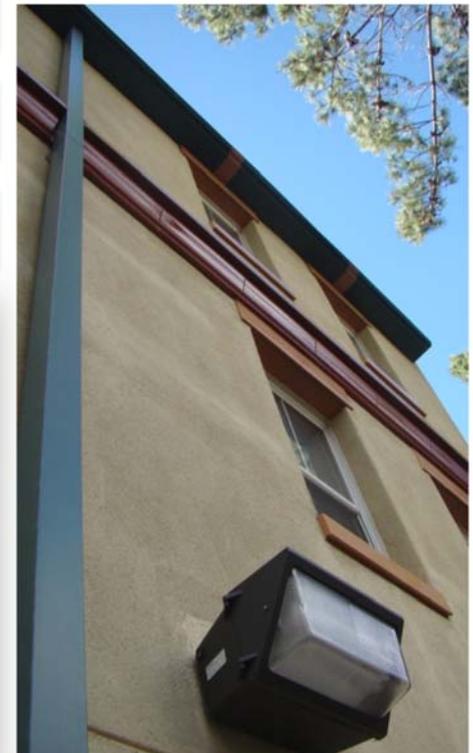
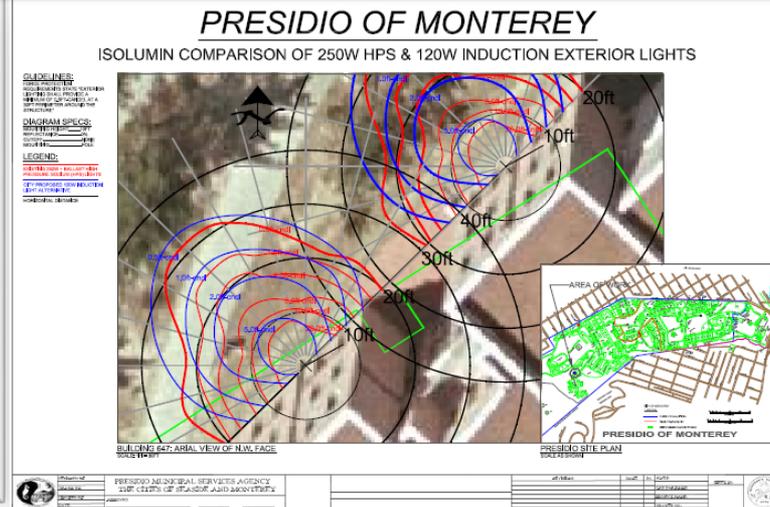
Install/Modernize Exterior Lighting for Barracks

Force Protection or Energy Efficiency?

800% longer bulb life

\$25,122.45 yearly savings

\$9,686 PG&E Rebate





Solar Panels On Fitness Center

Energy Conservation Investment Program (ECIP)

\$3,000,000 Solar Project

\$300,000 in projected rebates





Lessons Learned

Implement Fred Meurer Policy: “Look At Your Buildings As Assets” ...NOT LIABILITIES!!

Search For Cost Saving Partners

Mix your Engineers with Maintenance

Consistent & Open Dialogue with DPW, ENVR and Contracting

Ask: “What Is Happening In the Field”



Energy Savings For Bases In California!

Energy Curtailment: Cut-Back California Program

- Will pay \$11.00 per kW-month at peak times

Response: **“Not my building!”**

Opportunities: Eleven Buildings with Full Capacity Gen Sets

- DLI can receive a yearly check for \$60,000
- 5 Years Revenue to Command: \$300,000
- Bonus.....utility bill drops!

Is This Possible? (What Would DoD Think?)

Self-funding Building - Installation?

Energy Rebates stay at installation

Create Energy Rebate Fund Account

Draw down for additional energy projects

Leverage for other Federal Energy Funds?

What if you added annual utility savings into fund?

How Much For the Rebate Account?

Looking Back Over 6 years

- Only focusing on 14 Energy Projects Rebates
- Only focusing on the Annual Utility Savings

Energy Project Rebates:	\$119,534
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Current Annual Savings from Projects:	\$453,891
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Total Estimated Savings In The Past 6.5 Years:	\$3,392,818
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April 2013



DAILY VALUES

- Improve/Save/Innovate

REINFORCE

- the competitive mindset

SAVING tax dollars –

- our mandates are same

HIRE

- for multiple skills – more efficient

BEST

- quality control – aggressive PM

SEARCH

- for no cost savings partners

REINVEST

- Installation paid utility dollars

RECYCLE

- tax \$\$ - begin self funding



- Thank You



Think Big, Recycle Big



This is a chiller recycled by the City

More HVAC Examples

“Competitive Public Employees?”

Camp Roberts – SATCOM A/C

Contractor Estimate:

- Replace 4 units at \$460,000

City Approach:

- Replace 8 units plus the cooling towers at \$287,000
- 30% Energy Savings



Camp Roberts HVAC Construction

Lessons Learned Employees & Warranties

Employees:

- **Hire Comprehensively** = Approx. 95% Success
- **Rotate crew leaders & areas** = New Ideas
- **Challenge Them** = Create Competitive Mindset
- **Listen to them/involve them** = Trust & Value Them

Warranties:

- **Read** the warranty “EARLY”
- **Make** it Part of Bid Submittal
- **Track AND Enforce!!**



Energy Management System Upgrade

8 Buildings Bundled Into One Project

- **Contractor Estimated:** \$280,000
- **City Completed Work For:** \$120,000
- **Presidio Received:** \$59,000 Rebate
- **Presidio Yearly Savings:** \$98,000
- **ROI:** 1.2 years

Building Energy Management Systems



Building 848

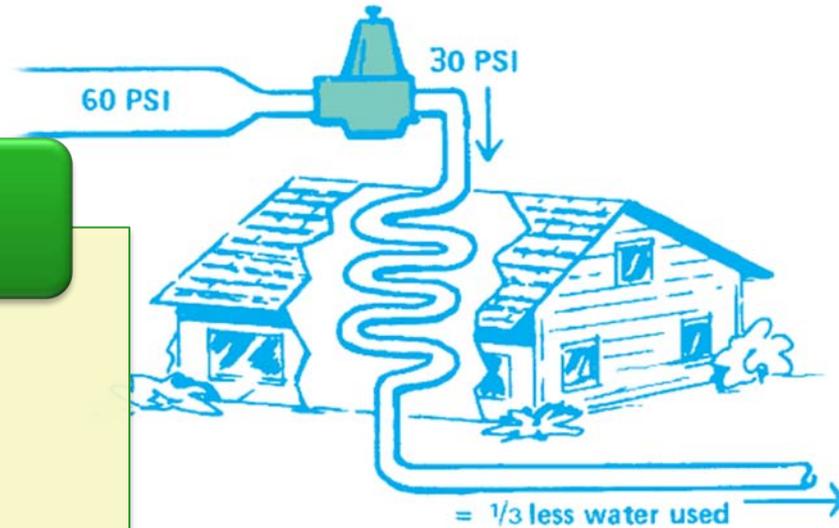


Building 660

Water Reduction

Pressure Reducing Valves?

- Save more than 30% water usage
- 42 buildings did not have PRV's
- Water Credits for new construction
- **Saving 800,000 gallons per year!!**



Energy Reduction HVAC

EXISTING CONDITION

- No Chemical Treatment for 49 Boilers

CITY MODIFICATIONS

- Install Automatic Chemical Feed

RESULT

- Better Efficiency and Less Scale

COST:

- \$21,500

YEARLY SAVINGS:

- **\$177,000 / ROI: 2.5 months**



Typical Boilers





Camp Roberts Lighting Upgrades

AMBAG Changed out all T-12 to T-8 lights

AMBAG Performed Audit and Installation

Army Cost = \$0.00

Annual Energy Savings: \$28,931



Vending Miser

Regional Resource



Vending Machines are power hungry

92 Machines use 3468 kWh year

With vending miser: 1716 kWh year

NO COSTS

AMBAG furnished product and installed

Energy Savings: \$17,664

Vending Misers on Vending Machines



Water Savings Through Retrofit Project

The Majority of the Presidios fixtures will be of peak water savings technology

Funding resulted from other project savings

City provides flexible bidding format using additive alternates



Total Number of Toilets Retrofit	1,115 toilets
Total Number of Urinals Retrofit	94 urinals
Total Water Credits Generated for Future Use	710.80 credit
GALLONS OF WATER SAVED ANNUALLY	2,316,152 gal

Water Savings Through Retrofit Project

2.3 million gallons = 4 Olympic swimming pools



PMISA: *Improve – Save – Innovate*

