

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Tablet Technology: an automated & paperless office

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Session Overview

- ▶ City of Santa Rosa & Water-Use Efficiency
- ▶ Programs & Accomplishments
- ▶ Paperless Technology
- ▶ Q&A

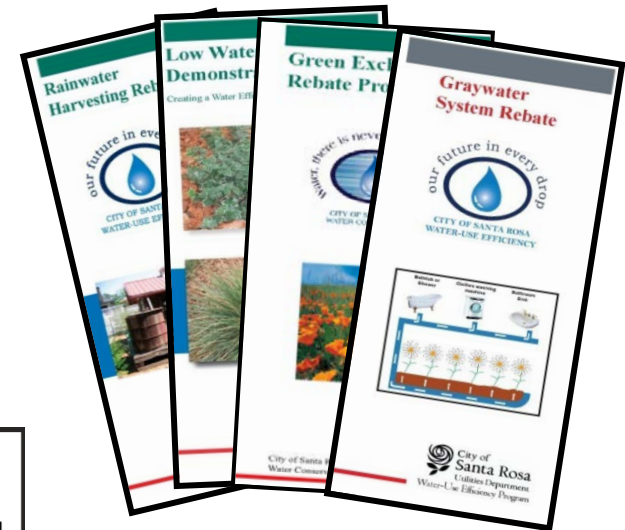
Overview: City of Santa Rosa

- ▶ Population = 169,000
- ▶ Provide service to:
 - 44,000 Residential
 - 3,000 MFR
 - 3,000 CII
 - 1,700 Dedicated irrigation
 - 39 Recycled water
- ▶ Deliver 20,000 acre-feet of water per year
- ▶ Treat 6 Billion gal/year



Water Use Efficiency Programs

- ▶ Rebates & Incentives
- ▶ Residential Check-ups
 - Indoor & Outdoor
 - Free Hardware
- ▶ Outreach & Education
 - Public Events
 - Free Workshops
 - Free Literature
 - Website & Current Technology
- ▶ Tools
 - ROI Calculator
 - Turf-Time



Accomplishments

- ▶ 4,500+ acre feet of water savings
 - 1.5 billion gallons per year
- ▶ 50,000 toilets upgrades
- ▶ Nearly 2 million square feet of lawn removed
- ▶ 1,200 field audits/surveys per year



Why go paperless?



“It's not a faith in technology. It's faith in people.”

Steve Jobs

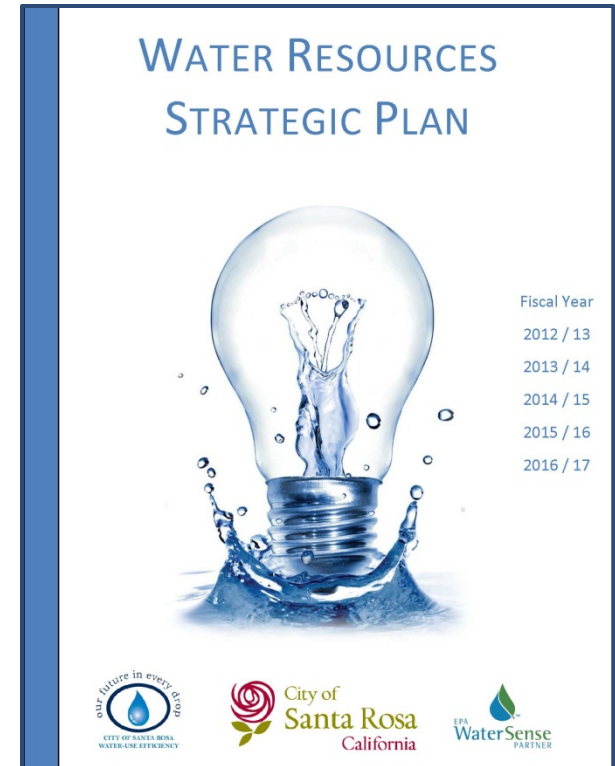
Anticipated Benefits

- ▶ Save staff time
- ▶ Improve customer service
- ▶ Provide consistent, professional information
- ▶ Conserve resources
- ▶ Automate data entry
- ▶ Save money!



Created in Response to

- ▶ Strategic Plan
 - Improve operational efficiency
- ▶ Created in response to SB 407
 - Indoor water fixture efficiency



SB 407 Workgroup

- ▶ Diverse stakeholder group
 - Define how customers become compliant
 - Determine how to track compliance



The Rating System



Forms-Indoor



Indoor Data Form						
Top		Previous Location		Next Location		
Location 5:	<input type="radio"/> Master <input type="radio"/> Hall # 1 <input type="radio"/> Upstairs <input type="radio"/> Kids <input type="radio"/> Bar <input type="radio"/> SDU <input checked="" type="radio"/> Other <input type="radio"/> Guest <input type="radio"/> Hall # 2 <input type="radio"/> Downstairs <input type="radio"/> Garage <input type="radio"/> Laundry <input type="radio"/> Pool					
Fixtures:	1		2			
Toilets (gpf)	<input type="radio"/> 0.8 <input type="radio"/> 1.28 <input type="radio"/> 3.5 <input type="radio"/> 7 + Leak <input type="radio"/> Yes <input checked="" type="radio"/> No		<input type="radio"/> 0.8 <input type="radio"/> 1.28 <input type="radio"/> 3.5 <input type="radio"/> 7 + <input type="radio"/> 1.0 <input type="radio"/> 1.6 <input type="radio"/> 5.0 <input checked="" type="radio"/> N/A <input type="radio"/> 1.0 <input type="radio"/> 1.6 <input type="radio"/> 5.0 <input checked="" type="radio"/> N/A			
Showerheads (gpm)	<input type="radio"/> 1.0 <input type="radio"/> 2.0 <input type="radio"/> 3.0 <input type="radio"/> 6.0+ Leak <input type="radio"/> Yes <input checked="" type="radio"/> No		<input type="radio"/> 1.0 <input type="radio"/> 2.0 <input type="radio"/> 3.0 <input type="radio"/> 6.0+ <input type="radio"/> 1.5 <input type="radio"/> 2.5 <input type="radio"/> 4.5 <input checked="" type="radio"/> N/A <input type="radio"/> 1.5 <input type="radio"/> 2.5 <input type="radio"/> 4.5 <input checked="" type="radio"/> N/A			
Faucets (gpm)	<input type="radio"/> 0.5 <input type="radio"/> 1.5 <input type="radio"/> 3.0 <input type="radio"/> 5.0+ Leak <input type="radio"/> Yes <input checked="" type="radio"/> No		<input type="radio"/> 0.5 <input type="radio"/> 1.5 <input type="radio"/> 3.0 <input type="radio"/> 5.0+ <input type="radio"/> 1.0 <input type="radio"/> 2.2 <input type="radio"/> 4.0 <input checked="" type="radio"/> N/A <input type="radio"/> 1.0 <input type="radio"/> 2.2 <input type="radio"/> 4.0 <input checked="" type="radio"/> N/A			
Notes:						
Top		Previous Location		Next Location		
Location 6:	<input type="radio"/> Master <input type="radio"/> Hall # 1 <input type="radio"/> Upstairs <input type="radio"/> Kids <input type="radio"/> Bar <input type="radio"/> SDU <input checked="" type="radio"/> Other <input type="radio"/> Guest <input type="radio"/> Hall # 2 <input type="radio"/> Downstairs <input type="radio"/> Garage <input type="radio"/> Laundry <input type="radio"/> Pool					
Fixtures:	1		2			
Toilets (gpf)	<input type="radio"/> 0.8 <input type="radio"/> 1.28 <input type="radio"/> 3.5 <input type="radio"/> 7 + Leak <input type="radio"/> Yes <input checked="" type="radio"/> No		<input type="radio"/> 0.8 <input type="radio"/> 1.28 <input type="radio"/> 3.5 <input type="radio"/> 7 + <input type="radio"/> 1.0 <input type="radio"/> 1.6 <input type="radio"/> 5.0 <input checked="" type="radio"/> N/A <input type="radio"/> 1.0 <input type="radio"/> 1.6 <input type="radio"/> 5.0 <input checked="" type="radio"/> N/A			
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Forms-Outdoor



Outdoor Data Form				
City Staff:	<input type="checkbox"/> Randy Barron <input type="checkbox"/> Pam Lorence <input type="checkbox"/> Deb Lane <input type="checkbox"/> Gail Chavez <input type="checkbox"/> Susie Murray <input type="checkbox"/> Interns			
Outdoor Notes				
HW Square Feet	600	Avg Efficiency: 0.5	<input type="checkbox"/> Outdoor Audit	
MW Square Feet	860	Avg Efficiency: 0.7	Hose Bib Pressure: 0	
LW Square Feet	405	Avg Efficiency: 0.9	Meter # 086690 current read (1,000 gallons)	
Irrigation Method	<input type="radio"/> Hand <input checked="" type="radio"/> System <input type="radio"/> None		Outdoor Leak: <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	
Water Conserving	<input type="radio"/> Yes <input checked="" type="radio"/> No		Rain Sensor: <input type="radio"/> Yes <input checked="" type="radio"/> No	
SMART Controller	<input type="radio"/> Yes <input checked="" type="radio"/> No		Mixed Meter: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Current Weekly ETo	0.7		Pool/Hot Tub Cover: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A	
Peak Month Water Use Budget vs. Actual	Target Budget: 1,727	Actual: 16,000	Percent of Budget: 926	
Station / Program / Runtimes				
# of Start Times	A: 2	B: 0	C: 0	D: 0
Total Days Per Week	7	0	0	0
1. Irrigation Type	10			
<input checked="" type="radio"/> HW <input type="radio"/> MW <input type="radio"/> LW <input checked="" type="radio"/> Spray <input type="radio"/> Drip <input type="radio"/> OHE				
<input type="radio"/> Overpray <input type="checkbox"/> Broken/missing head <input type="checkbox"/> Mixed hydrozone <input type="checkbox"/> No filter/PR <input type="checkbox"/> Mixed sprinkler <input type="checkbox"/> Head mulch <input checked="" type="checkbox"/> Heads blocked/tilted <input type="checkbox"/> Low head drainage <input type="checkbox"/> Microspray <input type="checkbox"/> Spray on shrub				
2. Irrigation Type	5			
<input type="radio"/> HW <input checked="" type="radio"/> MW <input type="radio"/> LW <input type="radio"/> Spray <input type="radio"/> Drip <input type="radio"/> OHE				
<input type="radio"/> Overpray <input type="checkbox"/> Broken/missing head <input type="checkbox"/> Mixed hydrozone <input type="checkbox"/> No filter/PR <input type="checkbox"/> Mixed sprinkler <input type="checkbox"/> Head mulch <input type="checkbox"/> Heads blocked/tilted <input checked="" type="checkbox"/> Low head drainage <input type="checkbox"/> Microspray <input checked="" type="checkbox"/> Spray on shrub				
3. Irrigation Type	7			
<input type="radio"/> HW <input type="radio"/> MW <input checked="" type="radio"/> LW <input type="radio"/> Spray <input checked="" type="radio"/> Drip <input type="radio"/> OHE				
<input type="radio"/> Overpray <input type="checkbox"/> Broken/missing head <input checked="" type="checkbox"/> Mixed hydrozone <input checked="" type="checkbox"/> No filter/PR <input type="checkbox"/> Mixed sprinkler <input type="checkbox"/> Head mulch <input type="checkbox"/> Heads blocked/tilted <input type="checkbox"/> Low head drainage <input type="checkbox"/> Microspray <input type="checkbox"/> Spray on shrub				

Data forms

Certificate of Participation and Approval

Page 2 of 2



Agreement:

I, the undersigned, am the legal owner of the property described on page 1 or have obtained written consent from the property owner to participate in the Water-Use Efficiency rebate program. I am voluntarily participating in the City of Santa Rosa's Water-Use efficiency rebate program and have performed the installation of irrigation equipment and landscape materials described above. I independently selected materials, supplies and labor for the purpose of performing the installation. I agree that all work performed complies with applicable state and local laws, ordinances and regulations. As long as I maintain ownership of the property, I agree to retain the new irrigation hardware and/or landscape, or replace them in the future with hardware or landscape materials that conform to equal or better standards of water-use efficiency.

I agree that by virtue of these inspections, the City of Santa Rosa makes no determination with respect to whether materials and equipment are free of defects, the quality of the workmanship the suitability of the premises or the materials or equipment for the installation. I also understand that the installation of irrigation equipment and landscape materials described above may not result in lower water bills. I agree to defend, indemnify and hold harmless the City of Santa Rosa, its directors, officers, agents and employees against any and all loss, liability, expense, claims, suits and damages, including attorney's fees, arising out of or resulting from the installation of irrigation equipment and landscape materials. As a condition of receiving a rebate, I will provide the City of Santa Rosa with a report of the costs incurred, accompanied by the original sales receipts within 120 days of the date of my pre-inspection approval.

- Irrigation Equipment**
- []
 - [x] W
 - [] Re
 - [] Hig
 - [] Spr
 - [] Othe
 - [] Other

***Residential = \$2

City Staff:

FOR CITY USE ONLY
Pre-Approval Inspe
Post Installation Insp

Signature

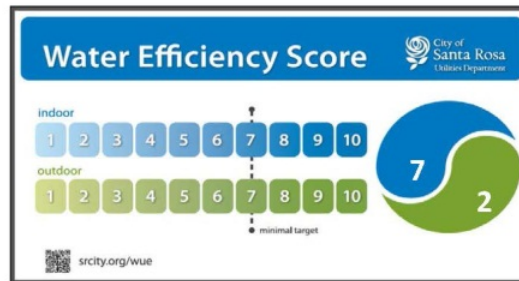
Date



Date: October 1, 2013
To: John Smith
69 Stony Circle
SANTA ROSA CA 95403
From: City of Santa Rosa Water-Use Efficiency (707)543-3985
Subject: Water-Use Efficiency Survey Results

Your home water use survey was conducted by City of Santa Rosa staff to assist you in determining areas where you can make your home more efficient in the use of water. Your home was given a Water Efficiency Score based on the information that we gathered, which is detailed in the attached Indoor and Outdoor Data Forms.

How this score was determined: The score consists of two parts, indoor and outdoor. The **Indoor** portion is based on the efficiency of the permanent fixtures in your home (toilets, faucets and showerheads) and the **Outdoor** portion is based on the square feet of planted area, type of plant material and the efficiency of the irrigation system.



Potential Annual Water Savings:

Indoor: 29,013 gallons
Outdoor: 15,680 gallons

*Indoor savings are based on city average: toilet 1.6 flushes/day, shower 5.3 min/day, faucets-8.1 min/day, washer .37 loads /day
*Outdoor savings are based on 36' ET and square feet of planted area; does not include behavioral practices



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Like us!



Summary Report

During our inspection we found some simple things that you can do to save water and increase your score. Once you have made the recommended changes, contact us to update your score and we will send you a metal sign like the one shown in this report to display at your home. Below is a summary of our recommendations, for more specific information see the attached indoor and outdoor data forms. We have also provided you with helpful links to assist in your upgrade process.

Indoor:

		Websites
Toilets	If you replace your current toilets with a High-Efficiency Toilet 8265 gallons of water could be saved per year. Visit the Water Sense website for more information.*	Watersense Toilets
Leaking toilet	No leaks were found in your toilets. Remember to check them yearly with free dye tablets that you can get at our office.	Toilet Repair Video
Washing machine	By upgrading your existing machine to a high efficient model you can save more than 6752.5 gallons per year. (This savings was not included in the potential savings numbers). Click on the website link to see details on our rebate and a list of qualifying machines.	Clothes Washer Rebate
Faucets and Showerheads	By replacing your current faucet aerators and showerheads with the low flow items provided; you could save thousands of gallons of water per year. Click on the link to see a "how to" demonstration.*	Faucet Aerator Replacement Leaking Faucet Repair
Leak in faucet or shower	No leaks were found in your faucets or showers!	

Outdoor:

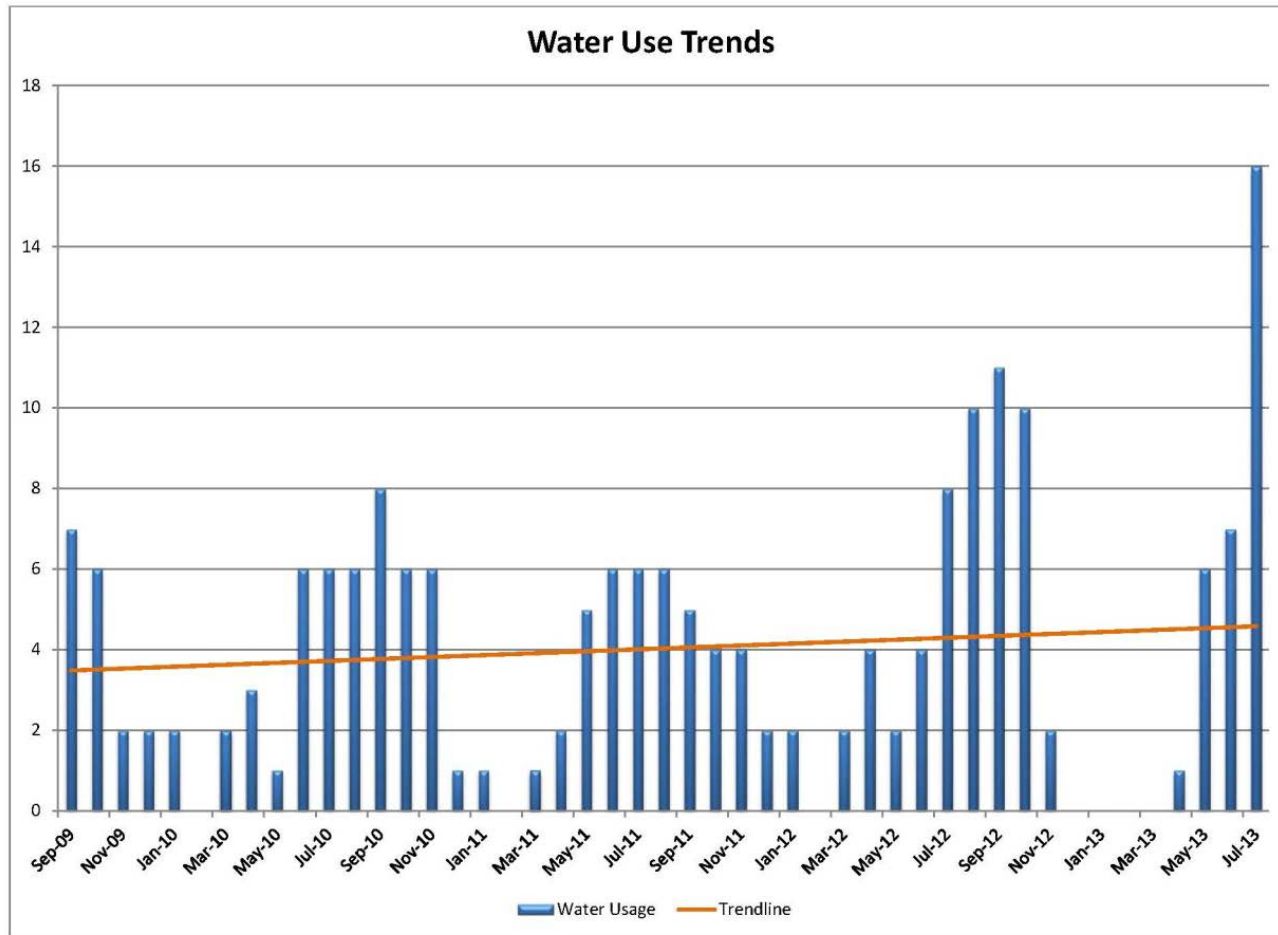
		Websites
Green Exchange Rebate	Consider replacing your lawn with low water use plants through our Green Exchange Rebate program where you could receive up to \$350 in rebate incentives. See our website for details.	Green Exchange Rebate
Decrease watering times	Reduce your irrigation schedule to the target budget of 1727, this will help you will save 17280 gallons of water per year. To achieve this savings see the attached current Turf-Time recommendations, if you need instructions on how to change your controller settings click on the link to our website.	Irrigation Controllers
Turf-Time	Call 543-3466 or visit the Turf-Time website for recommended weekly irrigation schedules based on data from our weather stations. This will help to keep your garden happy and healthy without applying water that is unnecessary.	Turf-Time
Overspray	Excessive overspray is occurring in some areas due to improper nozzle size, placement or adjustment. This is causing excessive water waste and could damage your home, fence or other surfaces. Consider replacing, adjusting or relocating the spray heads.	
Mixed Sprinklers	Spray heads and/or rotors within each irrigation zone are a mix of brands and application types (spray, rotors, drip, etc). This causes uneven amounts of water being applied within each irrigation zone. Replace so that all of the irrigation components within a zone are matched to ensure proper irrigation.	
Broken or missing heads	Rotors or spray heads are not functioning properly. Common examples include missing risers (causes a geyser), head does not rise out of sprinkler case (broken seal or spring), etc. Fix or replace damaged heads immediately (see attached outdoor data form for details).	Irrigation Hardware Rebate
Sprinkler heads blocked	Existing plant material is blocking the spray pattern and contributing to poor uniformity of coverage. Trim the plants around the sprinkler to ensure that the water is reaching the planted areas.	

has finished its irrigation cycle, water drains from the ... at the lower elevations. Replace spray heads/emitters ... or add inline check valves. This can be done through ... rebate program. Visit our website for more information.	Irrigation Hardware Rebate
overhead spray in the shrub areas to the more efficient ... with our Green Exchange Rebate program where you can ... rebate incentives. This is a healthier way to water your ... ter at the roots; and there is less water lost to ... y.	Irrigation Hardware Rebate
er should be on each of your drip valves. The filter will ... om clogging; and the pressure regulator will keep the ... ing. You can qualify to receive a rebate to add these to ... n Exchange Rebate program.	Irrigation Hardware Rebate
ur drip system with point source drip emitters. This is ... and much healthier for your plants, providing them ... qualify for the Green Exchange rebate program to ... ore visit our website.	Irrigation Hardware Rebate
tering requirements (low, moderate & high) being ... ve. Typically this leads to over-watering low water ... ter use plants healthy. Group plants according to ... arate valves for each type. To determine the ... the link to the WUCOLS (water use classification ... call.	WUCOLS
n the soil surface and lowers the summertime ... ds and promotes healthier plants and soil. See ... formation on the different types of mulch	Mulch Guide
plant as choosing the right plants. For a list ... sit the website.	QWEL
o choose plants that are defined as low water ... plants in this brochure need minimal, if any, ... u a lot of water!	Low Water-Use Plants Brochure

Incentives that can help you save even more water.

wers, bathtubs, bathroom sinks and ... help meet your irrigation needs.	Graywater Rebate
andscape to help meet your	Rainwater Harvesting Rebate
r-use reduction achieved	Sustained Reduction Rebate

Charts



Difficulties

- ▶ Time
- ▶ Working with other databases
 - Water Use Efficiency for tracking audits
 - Utility Billing for customer account information
 - Community Development for SB 407
- ▶ Training
 - Resistance to change
- ▶ Built in Excel



Customer Benefits



- ▶ Easier to read and understand
 - How much can be saved with efficient fixtures
- ▶ Much more useful and personalized information given to customer
- ▶ Consistent information is provided to each customer
- ▶ Report emailed to customer with links to resources and how to videos

Benefits to the City



- ▶ Report and audit data is easily accessed by all staff
- ▶ Automated data entry = fewer mistakes
 - Audits and rebates are automatically entered into our tracking database
- ▶ Saves time
- ▶ Saves supplies: paper, folders, brochures etc.

Benefits to the City (cont.)

- ▶ Increased interest in programs
- ▶ More involved customers
 - Staff explains results on site
 - Customer calls when they receive the report with further questions
- ▶ Increased water savings
 - Added attendance in workshops



Benefits to the City

Brochures

Mailings

Printing

Copying

Office Supplies

Saved over \$10,000 the first year!

Questions



Pam Lorence
(707) 543-3966
PLorence@srcity.org