

June 9, 2015



WaterReuse – Los Angeles Chapter
Recycled Water Retrofits
Common Onsite Customer
ISSUES & APPROACHES

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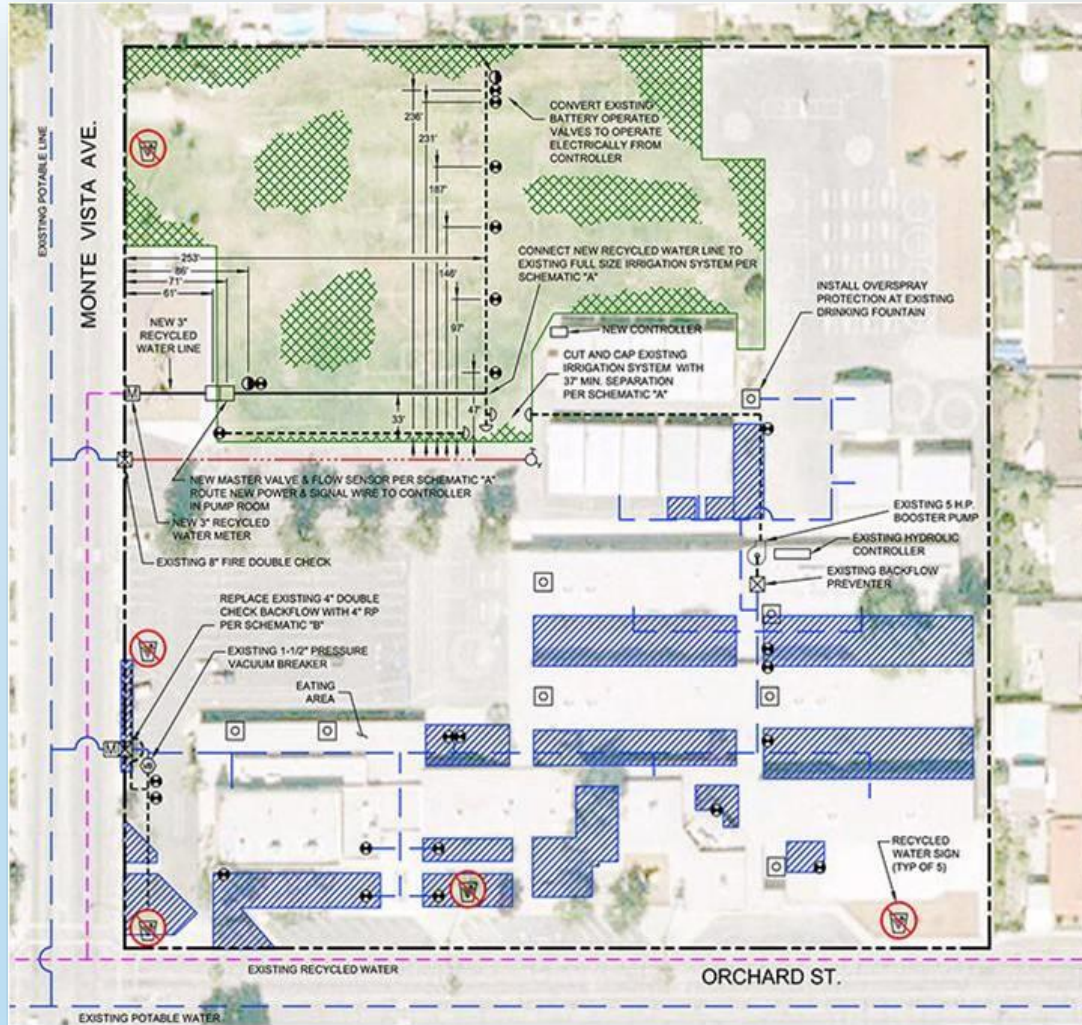
Overview

Every site is different and must comply with both local water purveyor guidelines and permit/code requirements






























- Most Common Retrofit Issues
- Irrigation Specific Issues
- Industrial Use Specific Issues



Recycled Water Retrofit Plan



SYMBOLS AND ABBREVIATIONS

	BACKFLOW PREVENTER (SEE PAGE 6)		NEW RECYCLED WATER LINE
	WATER METER		NEW POTABLE WATER LINE
	CONTROLLER		EXIST. POTABLE WATER LINE
	GATE VALVE		EXIST. RECYCLED WATER LINE
	SPRINKLER		EXIST. IRRIGATION LINE
	HOSE BIBB		EXIST. FIRE LINE
	CAP		PROPERTY LINE
	BALL VALVE		DRINKING WATER
	QUICK COUPLER		RECYCLED WATER IRRIGATED AREA
	IRRIGATION VALVE		POTABLE WATER IRRIGATED AREA
	WELL		DRINKING WATER
	DRINKING FOUNTAIN		
	FIRE HYDRANT		
	FIRE HYDRANT		
	"NO HOT DRINK" SIGN		
	FIRE & GAS CONNECTION		
	BOOSTER PUMP	DF	DROWNING WATER
	VACUUM BREAKER (SITE PLAN)	FI	FIRE HYDRANT
	VACUUM BREAKER (SCHEMATIC)	EXIT	EXITING
	BACKFLOW PREVENTER (SCHEMATIC)	IRRI	IRRIGATION
	VACUUM BREAKER (SCHEMATIC)	PW	POTABLE WATER
		RW	RECYCLED WATER
		RPFA	REDUCED PRESSURE BACKFLOW ASSEMBLY
		PS	FIRE SERVICE

Materials List:
50 new irrigation heads
2 new recycled water quick couplers
Approximately 80 LF of 3-inch PVC piping
7 new control valves
New controller
New control wires to valves
New master valve
New flow sensor

Most Common Retrofit Issues

- Project Proponent
- Permitting
- Shutdown Test
- Available Infrastructure
- Operations & Maintenance
- Recycled Water Knowledge
- Cost

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ON-SITE RETROFIT PILOT PROGRAM INCENTIVES FOR RECYCLED WATER USE

Metropolitan's On-site Retrofit Pilot Program provides financial incentives directly to public or private property owners to convert potable water irrigation or industrial water systems to recycled water service. Incentives of up to \$195 per acre-foot for five years of estimated water use are available, with a cap at the actual retrofit costs. Items eligible for incentives include project design; permitting; construction costs associated with the retrofit of potable to recycled water systems; connection fees and required recycled water signage.

Eligibility

The Program is open to public or private property owners with access to recycled water within Metropolitan's six county, 5,200-square mile service area. Systems already under construction are NOT eligible.

Program Compliance Timeline

Once the application is approved, construction must begin within three months, recycled water service must be operational within six months and invoices must be submitted within nine months from the date of approval. Reserved funds may be withdrawn for projects that do not meet all deadlines. If a project is disqualified, applicants may re-apply as long as the project is not under construction.

Getting Started

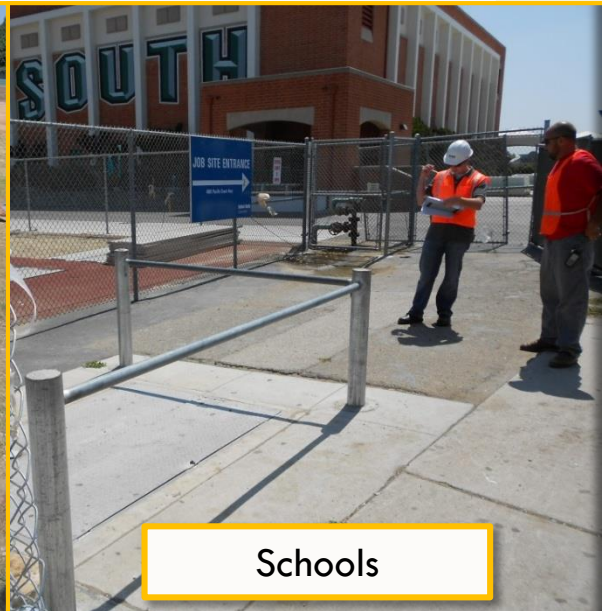
- The Program works on a first-come, first-served basis. Applications are available online at bewaterwise.com. Applications will be accepted from July 1, 2014, to June 30, 2016 or until funding for this program is exhausted, whichever is earlier.

More Information

[Click here](#) for Pilot Program fact sheet.
[Click here](#) for frequently asked questions and answers.
[Click here](#) for program terms and conditions.



Irrigation Specific Issues



Irrigation Specific Issues – cont.



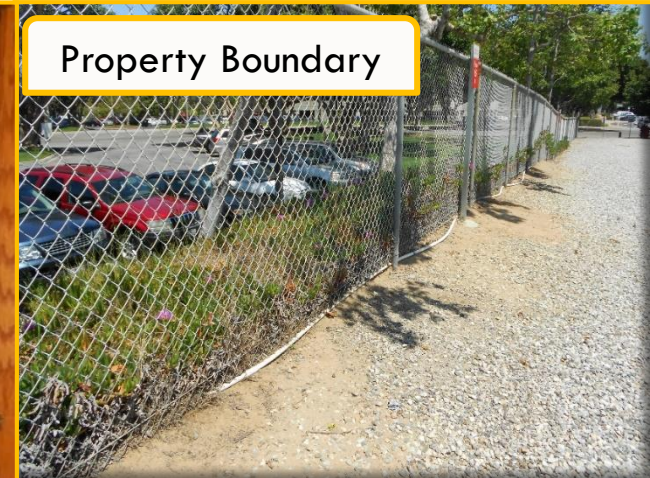
Garden Areas



Domestic Meters



Fire Service



Property Boundary



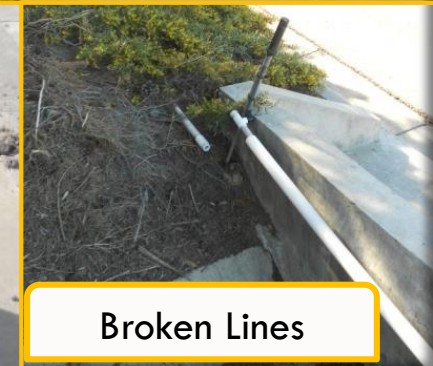
Monitoring Wells



Crossing Boundaries



Abandoned Facilities



Broken Lines

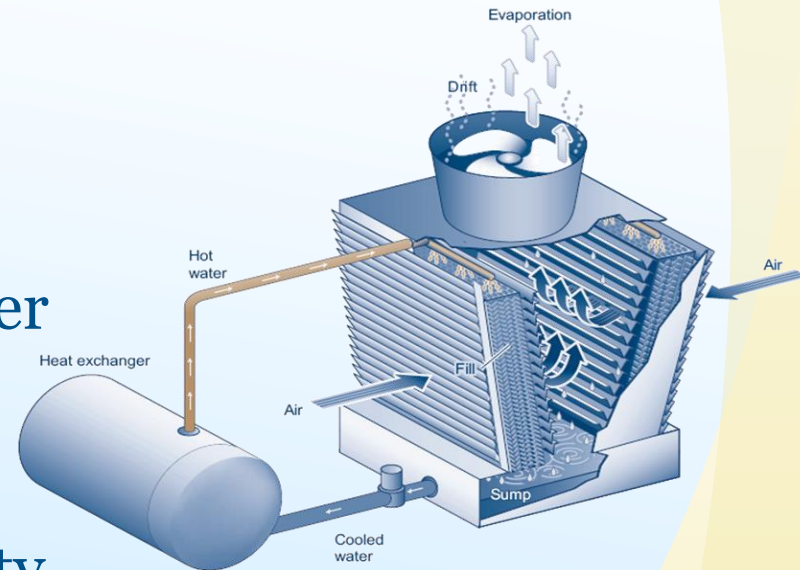
Common Industrial Uses

- Cooling Towers ← **GREATEST POTENTIAL**
- Boilers
 - Low vs High Pressure
- Textile Industries
 - Dye Facilities
 - Laundry Facilities
- Other Industrial Applications
 - ✓ Auto washing
 - ✓ Concrete batch
 - ✓ Manufacturing



Cooling Tower Customer -Issues and Concerns

- Efficiency of operation, Reliability
- Ammonia impact on heat exchanger
- Chemical treatment / Retrofit cost
- Sewer discharge volume and quality
- Worker safety, Legionella
- Additional regulatory oversight



Boiler Customer

-Issues and Concerns

- Primary concern is scale buildup and corrosion
- High vs Low –pressure conversions
 - *Higher the pressure the higher the quality required*
- Treatment requirements and cost
- Retrofit cost / identification / etc.
- Additional regulatory oversight
- Reliability



Commercial Laundry/Textile Customer -Issues and Concerns

- Public Perception
- Consistency of Water Quality
- Impacts on existing activities
- Additional regulatory oversight
- Reliability
- Retrofit costs
- Worker safety
- Whiteness



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Questions?
Thank you

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