

## Water Conservation



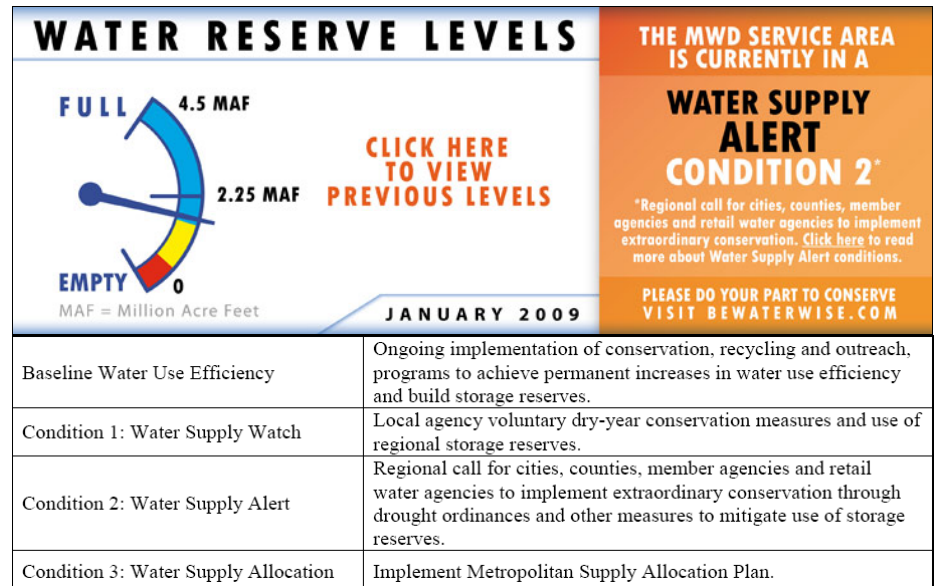
**Prepared For:**  
The Los Angeles  
Community College District



Waterless Urinal

### INTRODUCTION

Los Angeles County, with approximately 10 million residents, is the most populous county in the United States. Los Angeles receives most of its water supply from the Metropolitan Water District (MWD). At the beginning of 2009, MWD's water reserves were at Condition 2 levels which triggered a Water Supply Alert.



As described in a February 10, 2009 Los Angeles Times article, L.A. is in an ongoing, severe drought; something that has not been seen since the 1970's. Mayor Antonio Villaraigosa has called for an increase in citywide water restrictions and a tiered rate system to address those who do not conserve. The MWD has reported that it may be forced to cut water deliveries by 15-25%.

Accommodating the water needs of 10 million people in a severe drought requires decisive action to reduce water consumption. All potential water-saving strategies should be considered for LACCD projects.

### Plumbing Fixtures

Prior to 1970, there was little concern for water conservation. In 1970, a typical water closet in the U.S. consumed between 5.5 and 8 gallons per flush (gpf). One-piece toilets consumed typically consumed as much as 12 gpf. Not only was this an incredible overuse of potable water, but it also contributed to vast quantities of wastewater that required treatment. In recent years, federal standards have mandated plumbing fixtures that reduce the amount of water consumed. The current federal standard is the Energy Policy Act (EPAct) of 1992.



0.5 gpm Lavatory



Dual-Flush Valve

Today, many manufacturers produce plumbing fixtures that greatly exceed the minimum EPA 1992 requirements. For all LACCD projects, these high efficiency fixtures shall be used.

Fixture Type	EPA 1992	LACCD Standard
Water Closet (female)	1.6 gpf	0.8 / 1.6 gpf dual flush
Water Closet (male)	1.6 gpf	1.28 gpf
Urinal	1.0 gpf	0.0 gpf
Lavatory	2.5 gpm	0.5 gpm

The LACCD estimates that each waterless urinal alone saves 40,000 gallons of water per year per urinal. In addition to the fixtures listed in the table above, the LACCD Sustainable Design Standards contain further requirements for other fixture types.

### Greywater Recovery

Greywater recovery systems collect wastewater from lavatories, sinks, showers, washing machines, etc for reuse in non-potable applications, such as irrigation and flushing toilets. Buildings generating greywater for recovery must be double-piped to separate the greywater from blackwater.

If greywater is to be used for toilet flushing, the building water supply must also be double-piped to supply non-potable and potable water to the applicable uses.

LADWP does not currently provide purple piping to LACCD campuses, but it may be available in the future. Alternately, several LACCD campuses may decide to implement campus-wide greywater systems on their own. Therefore, buildings on the LACCD campus should be double-piped to accommodate future reclaimed water availability. Refer to the LACCD Green Paper on Greywater Recovery for more information.

### Rainwater Harvesting

Although Los Angeles does not receive a lot of rain, rainwater harvesting may be attractive for some LACCD projects. Refer to the LACCD Green Paper on Rainwater Harvesting for more information.

### ADDITIONAL RESOURCES

- ▶ [www.bewaterwise.com](http://www.bewaterwise.com)
- ▶ [www.mwdh2o.com](http://www.mwdh2o.com)

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