

# Auditing School Facilities for High-Value Water Conservation Opportunities





# Experience with CII and LL Audits

- WaterWise has surveyed over 1,200 Commercial, Industrial, Institutional (CII) and Large Landscape (LL) sites throughout California.
- Total savings based on our recommendations so far are over 1.5 million HCF/CCF (1.1 billion gallons).
- WaterWise has surveyed over 150 schools throughout California.
- Total annual savings based on our recommendations so far are over 150,219 HCF/CCF (112 million gallons) with a money savings of \$1.1 million.

## TYPES OF CII FACILITIES SURVEYED INCLUDE:

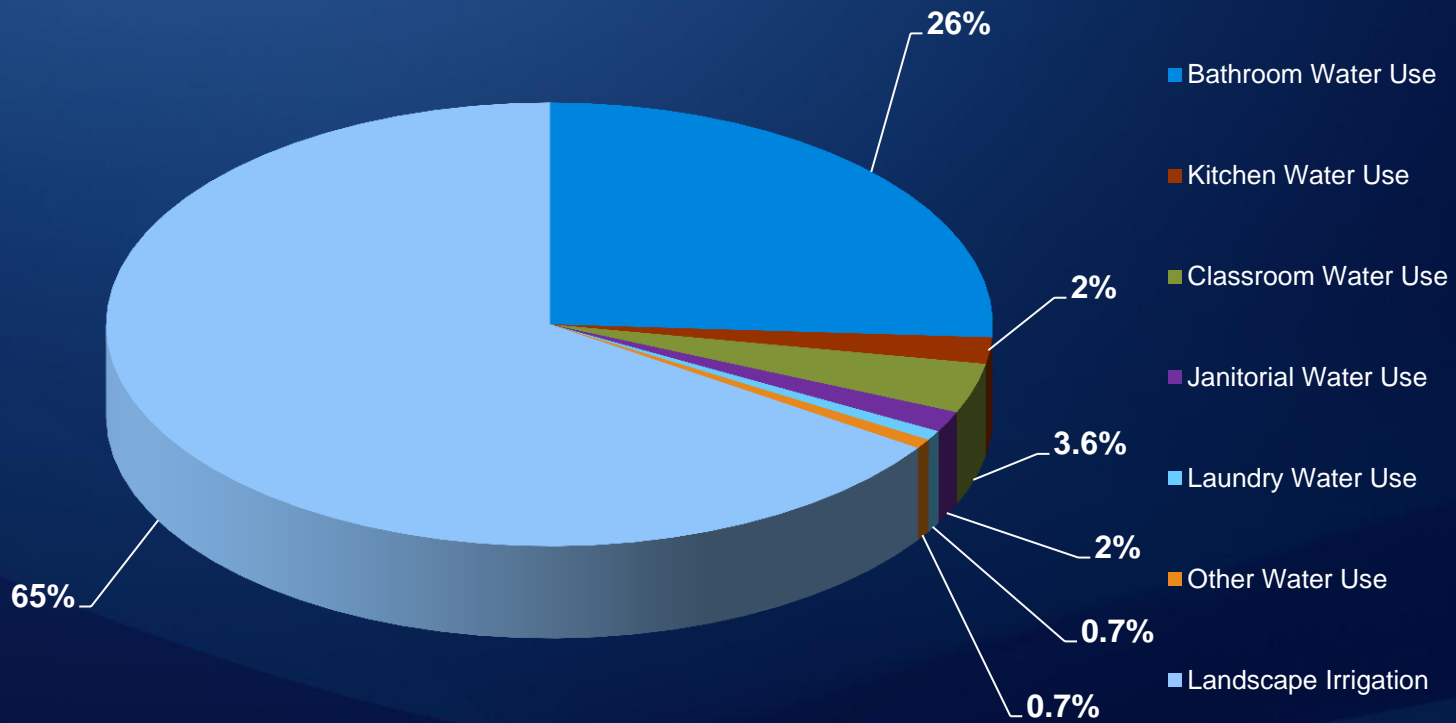
- School Districts
  - Municipalities
  - Jails
  - Silicon Wafer Manufacturers
  - Commercial Office Space
  - Hospitals
  - Car Washes
  - Retirement Care Centers
  - Hotels
  - Multi-family Residents
  - Restaurants
  - Breweries
  - Ice Rinks
  - College Campuses
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# Elementary Schools



- Elementary schools make up the majority of schools that were surveyed throughout our CII and LL programs.
- 95 schools surveyed.
- Landscape irrigation and bathroom use were the top two water uses at elementary schools.
- The total potential annual water savings from elementary schools is approximately 93,815 CCF/HCF (70 million gal) with a money savings of \$373,932.

# Water Use at Elementary Schools



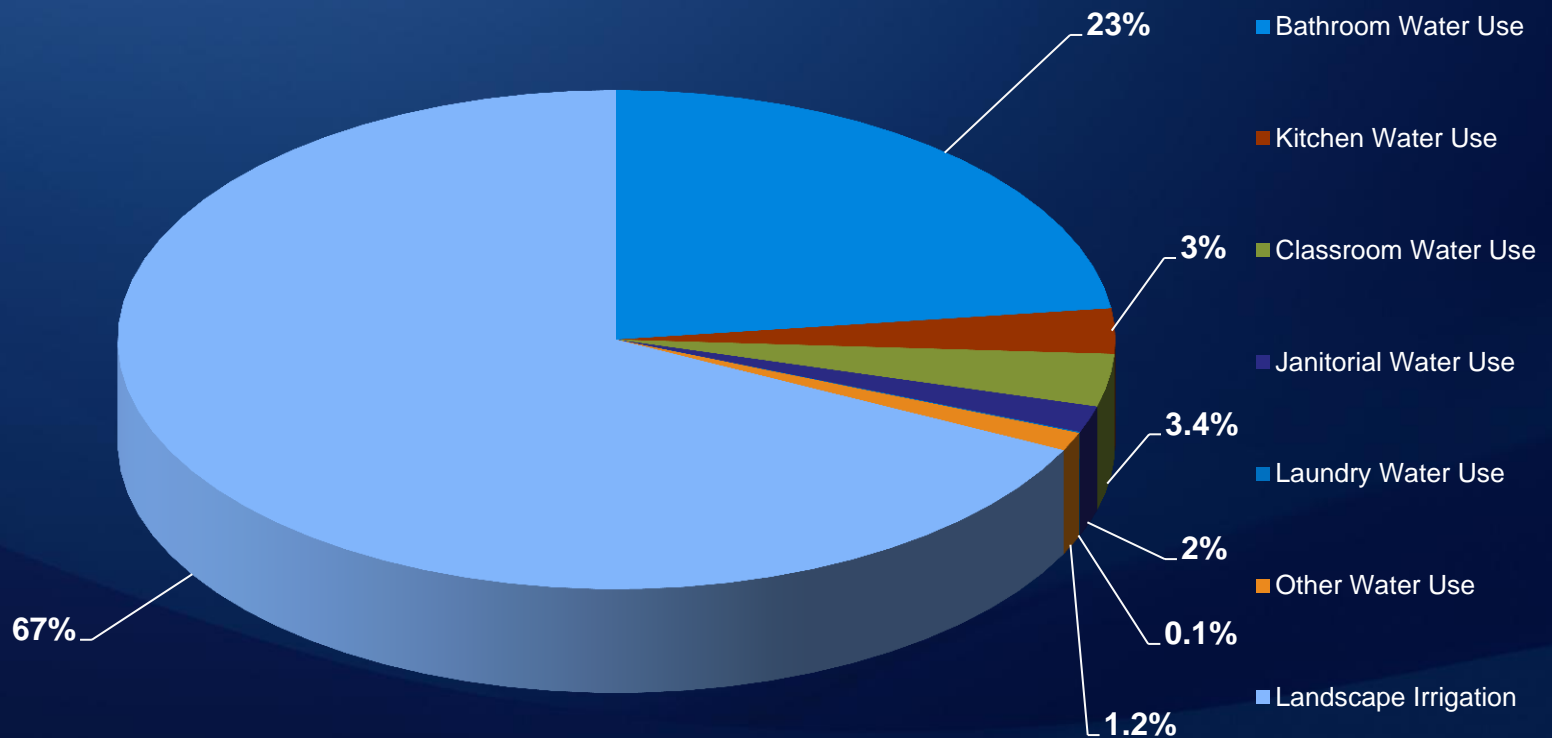


# Middle Schools

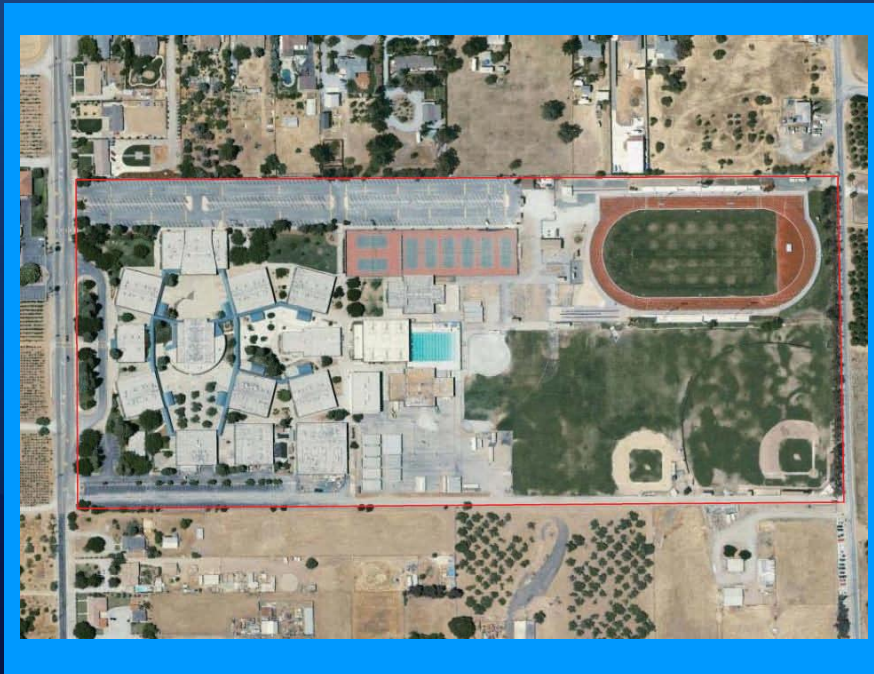


- Based on our audit data, middle schools have the highest average water use with an annual average water use of 9,072 CCF/HCF (6.7 million gal) per school.
- 23 schools surveyed.
- Total potential annual water savings reported from the 23 schools is approximately 41,284 CCF/HCF (30.8 million gal) with a total annual money savings of \$233,223.

# Water Use at Middle Schools

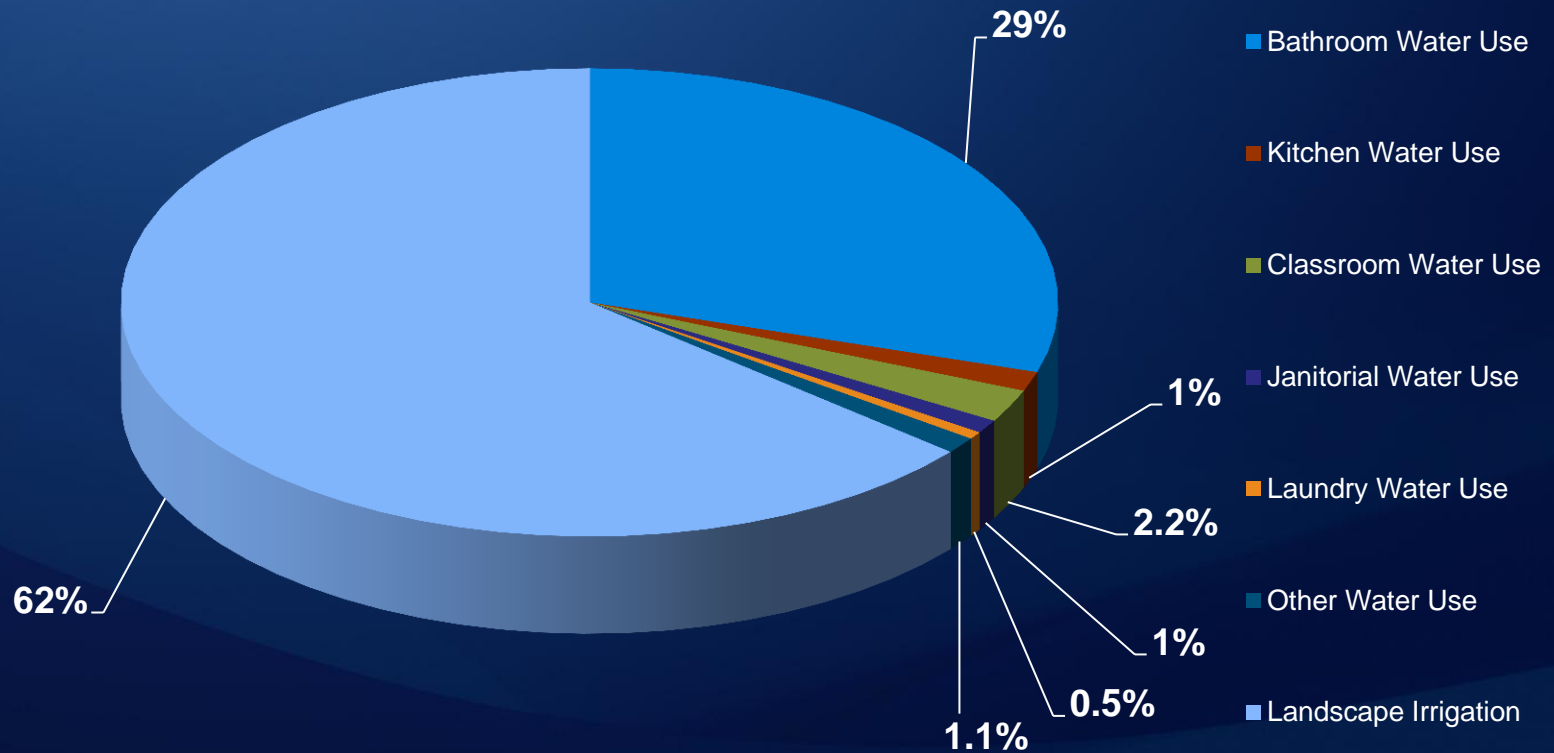


# High Schools



- Based on our audit data, middle schools have the second highest average water use with an annual average water use of 7,222 CCF/HCF (5.4 million gal) per school.
- 11 schools surveyed.
- Total potential annual water savings reported from the 11 schools is approximately 15,121 CCF/HCF (11.3 million gal) with a total annual money savings of \$559,466.

# Water Use at High Schools





# Indoor Water Use Recommendations

WATER EFFICIENCY MEASURES RECOMMENDED	HET TOILETS	DUAL FLUSH HANDLE KITS	HE URINALS	BATHROOM FAUCET AERATORS	SHOWERHEADS	CLASSROOM FAUCET AERATORS	KITCHEN FAUCET AERATORS	PRE-RINSE SPRAY VALVES
Elementary Schools	284	432	391	1,141	3	1,686	138	12
Middle Schools	61	127	110	284	36	656	44	5
High Schools	52	173	83	225	227	133	23	3
<b>Totals</b>	<b>397</b>	<b>732</b>	<b>584</b>	<b>1,650</b>	<b>266</b>	<b>2,475</b>	<b>205</b>	<b>20</b>

- Total estimated annual water savings from indoor recommendations is approximately 119,969 CCF/HCF (89.7 million gal).
- The total estimated annual money savings from outdoor recommendations is approximately \$1,088,720.
- Savings numbers were calculated from a sample of 96 schools.

# Outdoor Water Use Recommendations

WATER EFFICIENCY MEASURES RECOMMENDED	INSTALL ROTARY NOZZLES	INSTALL WBIC	INSTALL RAIN SENSORS	FIX IRRIGATION SYSTEM PROBLEMS	REPLACE TURF WITH DROWN TOLERANT PLANTS (SF)
Elementary Schools	2,723	64	57	1,735	3
Middle Schools	1,215	18	18	26	36
High Schools	432	17	11	293	227
<b>Totals</b>	<b>4,370</b>	<b>99</b>	<b>86</b>	<b>2,054</b>	<b>266</b>

- Total estimated annual water savings from outdoor recommendations is approximately 30,250 CCF/HCF (22.6 million gal).
- The total estimated annual money savings from outdoor recommendations is approximately \$77,901.
- Savings numbers were calculated from a sample of 35 schools.

# References

## Past and Present CII and LL Clients

California Water  
Service

Santa Clara  
Valley Water  
District

San Diego  
County Water  
Authority

Los Angeles  
County  
Waterworks  
Districts

Municipal Water  
District of Orange  
County

Metropolitan  
Water District of  
Southern  
California

California  
American Water  
Service Company

# Questions

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