Waterless Urinal Analysis
ANNUAL WATER SAVINGS
Typical Types of Schools

type of school	# of students (as designed)	male students only	average flushes per day *	number of urinals req. by code	if compared to 1.0 gallon per flush urinals	gallons saved per urinal, compared to 1.0 gallon urinals	if compared to 1.5 galon per flush urinals	gallons saved per urinal, compared to 1.5 gallon urinals
9-12	1,800	900	2,700	12	486,000	40,500	729,000	60,750
K-8	1,100	550	1,650	7	297,000	40,500	445,500	60,750
K-5	750	375	1,125	5	202,500	40,500	303,750	60,750
K-5	800	400	1,200	5	216,000	40,500	324,000	60,750
K-5	675	337.5	1,013	5	182,340	40,520	273,510	60,780
K-8	914	457	1,371	6	246,780	40,500	370,170	60,750
Total Projected Annual Water Savings (in gallons)					1,630,620		2,445,930	

* based on 3 uses per person per day & a school calendar of 180 days

Non-Metro Example School District: Renovations - replacing existing flush valve urinals								
Class Ranges: PreK -- 12	6,263	3,132	9,395		1,691,010		2,536,515	
based on assumed ADM (Total # of students district-wide)								

The Uniform Plumbing Code required the following maximum water usage for flush urinals:
Prior to 1994:   3 to 5 gallons per flush   After 1994 & prior to 1997: 1.5 gallons per flush   After 1997: 1.0 gallons per flush

The formula used for these calculations:
# of male students X 3 flushes per day (on average) per student X flush valve water volume of urinals compared X 180 day school schedule = water savings in gallons

NOTE: This does not factor in staff, faculty, or visitor usage nor water loss from leaks or stuck valves.

1 acre foot of water = 325,851 gallons or 43,560 cubic feet of water
1 cubic foot of water = 7.48 gallons
On average, 1 acre foot of water is sufficient to meet the demands of 4 people for a year. This calculates to be 81,462.75 gallons / person / year.

Therefore, the water saved by one typical high school and five typical feeder elementary schools is enough to meet the demand of approximately 20 to 30 people for a year.

The water saved in a non-metro school district with an ADM (Total # of students district-wide) of 6,263 would be enough to meet the demands of approximately 21 to 31 people for one full year.

Applying a water rate of $0.005176 / gallon, each waterless urinal will save a school district $209.628 / urinal / year.
These water savings will result in a pay-back period of approximately two years.