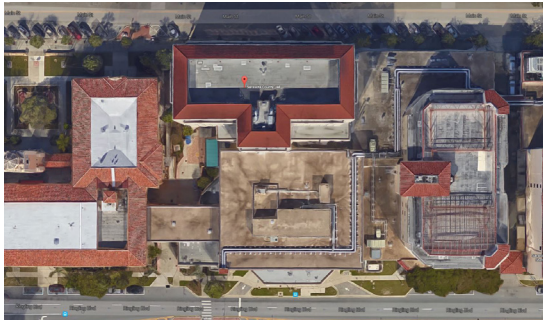




CASE STUDY



Sarasota County Jail Water Conservation Retrofit Project



Sarasota County Jail, Sarasota, Florida

In March of 2015, Intelligent Conservation Systems, Inc.(ICS). was awarded a bid to design and install an electronic plumbing control system in the East Wing of the Sarasota County Jail. The existing system was out dated, had numerous leaks and there was no control over the amount of water usage.

Before the plumbing retrofit, the Sarasota County Jail East Unit was using on average over 1.7 Million gallons a month at an average cost of over \$31,000 of tax payer’s money. After ICS completed the installation of the I-Con Systems electronic plumbing controls, Sarasota County is seeing a decrease of almost of One Million gallons a month (981,000 to be exact) with a savings of over \$180,000 annually in water cost alone.

With the system that ICS installed, the county now has total control of the water in the East Unit. The correctional officers can remotely control all the water from a computer installed in their central command. The system also doesn’t allow inmates to constantly flood their cells by rapidly flushing, a regular issue seen in facilities around the country. “Since the system was installed we have experienced a big reduction in maintenance issues. The system has been performing great and saving the county a lot of money” says William Martin, Facilities Manager. “Doing this project helped the County with absorbing the high water/sewer rates rolled in by the City over the last six years”

Water Savings Results

Facility’s Water Usage	Before	After
Monthly Water Usage Per Gallon	1,712,413 Gallons	730,800 Gallons
Monthly Water Usage Cost	\$31,802	\$16,336

Maintenance Savings Results

- 95% reduction in Work Orders for toilets clogged.
- 100% reduction in repair stock diaphragms and vacuum breakers, parts no longer stocked and warehouse has been able to reduce.
- Reduced domestic water usage which in turn provides a reduction in runtime for the two 10HP domestic booster pumps for the East Jail. In addition, the reduced runtime extends the life of a pump & motor assembly which today cost \$9,029.69.
- Additional benefit – over the course of a year or two the need to shut-off all water service for a piping repair or other and the water is not able to be held in the piping system but is drained. After all is repaired and water service is restored, in the past the County had to bring in 2 or 3 plumbers on overtime and go to each flush valve and prime the lines to the valves. This process in the past has taken 3 to 4 hours to complete and caused Corrections additional tasks in the locking down of all inmates. With the I-CON System none of this is required, the piping system is pressurized and all returns to normal in minutes on its own.

Increased Security & Reduction in Plumbing Abuse

- Sheriff’s Office / Corrections Division now has a tool for shutting off the water to an entire cell-block or just one toilet and performing a search. The additional oversight affords the Correction Officer the ability to lock out a fixture if he or she observes on the computer monitor repeated attempts at multiple flushes, flags them as something is going on.
- 100% reduction in flooding a cell-block and floors below due to a blanket, clothing or trash flushed repeatedly into the toilet. Inmates are no longer using the toilet for a trash bin. One observation from this is the County had to install sewer grinders (commutator) in-line with the main waste line coming from each Jails inmate line at a cost of over \$150,000.00 for the East Jail alone. With all evidence of trash no longer being flushed down by the inmates it is quite possible the in-line grinder would not have been required would we of had the I-CON System installed.
- 99.5% reduction for a faucet not working or other and 98.5% reduction for toilets not flushing.

* Qualitative data provided by Bill Martin, Manager II, Facilities Maintenance for Sarasota County.