

CASE STUDY

ATLANTA BUREAU OF PRISONS WATER CONSERVATION RETROFIT

Atlanta's United States Penitentiary, is located in Benteen Park, Atlanta Georgia. Construction of the prison was authorized in 1899 and the prison was completed in January 1902. It encompassed 300 acres originally to accommodate 1200 prisoners.

Today it's population is 1909 inmates in the penitentiary and 554 in the camp.

The main prison building was designed by the St. Louis, Missouri architect firm of Eames and Young, which also designed the main building at the United States Penitentiary, Leavenworth.



THE CLIENT CHALLENGE

Federal agencies must reduce energy use in their facilities by 30% from their 2005 baseline by 2015. The facility houses over 1,900 inmates in both medium and minimum security facilities.

THE WATER SOLUTION

The Energy Conservation Measures involved water conservation retrofits throughout the site. The majority of the work included full replacement of existing porcelain water closets and lavatories in secure areas with stainless steel fixtures and electronic controls. In addition, retrofitted with stainless steel enclosures. Standard retrofits and replacement of water closets, lavatories, and showers were also included. Other retrofits included, food service equipment and cooling tower water metering.

The installation included the use of 1.6 gallon per flush (gpf) water closets, 1.0 gpf urinals, 0.5 and 1.5 gallon per minute (gpm) lavatory and kitchen faucets.

THE RESULTS

The overall results are impressive. Utility savings were generated in three different areas: water, sewer, and natural gas usage. Most of the savings resulted from water and sewer reductions. The natural gas was saved by the reduction in hot water consumption. Since less hot water is being used, less energy is required at the hot water heater.

ECM's:

Plumbing Fixture Retrofits, Commercial Laundries, Electronic Usage Controls and Cooling Towers.

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