

Woodside, LLC monitors & manages its spatial portfolio while reducing utility costs—via the web



Woodside Court, LLC (Woodside) is a property management firm that owns and operates a small commercial office building located in Columbia, Maryland. The 20,000 square foot Class A facility was constructed in

2000 on a 1.5 acre site near the center of town. Operational since 2001, the facility is managed by a commercial property management firm.

THE CHALLENGE

An all-electric building, the facility was experiencing annual electric bills of approximately \$93,000, over \$4.50 psf. In the region, this is a higher than an average electrical cost; however, Woodside did not have the monitoring tools necessary to discern what systems were consuming power where or when within the building. Further, as time went on and renovations took place, there was no system for staying abreast of what it is that Woodside owns or its condition, or what needed to be set aside in anticipation of capital expenditures.

THE SOLUTION

Woodside decided to implement a computerized facility management system and selected the **SpatialFacilities** suite of facility management products in 2009 to assist in reducing operational cost of the building, while providing continuous commissioning functionality as recommended by the U.S. Green Building Council (USGBC.)



The SpatialFacilities suite includes *Portfolio*, *Operations*, and *Security Management* in one system, utilizing Esri's workstation and server technologies as the underlying spatial reference. Spatial Systems Associates, Inc. (SSA), an Esri partner since 1995, developed the SpatialFacilities suite, and has provided complete implementation, training and ongoing support services to Woodside since 2009. Energy costs alone have been reduced by more

than \$40,000 annually for the Woodside building, or \$2.00 psf/year, **without retrofit** through the use of SSA's tools. The cost of implementation of the SpatialOperations module (SSA's operation management tool) that provided the information necessary to adjust operational conditions to reduce energy consumption, was approximately \$1.00 psf, meaning that the Return on Investment (ROI) resulting from this implementation was only about six months! With recommended retrofits to both lighting and HVAC systems, Woodside anticipates a further reduction of approximately \$1.00 psf/year as a result of savings opportunities identified utilizing the SpatialFacilities tools. Because the reduction in energy cost goes directly to the bottom line profitability of Woodside, this ongoing reduced operational cost has increased the value of the Woodside facility by approximately \$500,000 based on a capitalization (CAP) rate of eight, common for this class of facility in the Columbia region.

Portfolio

SpatialPortfolio provides the ability to store and conveniently access—via a web-based interface—all information about the building. The **INVENTORY** functionality allows data for the site (location; property boundaries; site characteristics, including plantings, paving/sidewalks, and utilities); building outline, characteristics of the building envelope (windows, exterior walls, roof, etc.); the interior wall layout; location of equipment and operations systems (HVAC, lighting, plumbing, fire protection, security, electrical distribution, phone and computer networks); furniture; and office equipment to be maintained and assessed from a valuation perspective on a continual basis.

The **CONDITION ASSESSMENT** data, built into the Esri geodatabase design of SpatialPortfolio, includes information on the acquisition date, original life expectancy, observed remaining life expectancy, required/recommended maintenance, and cost to be maintained to a level of detail determined by the owner/manager of Woodside. The current depreciated value of the entire facility (including or excluding tenant-owned property) can be determined at any time using this information, and values can be automatically reduced based on the remaining life expectancy versus the original cost. SpatialPortfolio can also provide information on-demand for the **CAPITAL RESERVE** requirements of the Woodside facility for the next year, or for an annual schedule determined by the owner.

Operations

SSA's **SpatialOperations** product is the Operations monitoring product used by Woodside. The first module that was implemented for Woodside, SpatialOperations is designed to monitor Temperature, Humidity, Carbon Dioxide, Energy, and Water use within a facility. SpatialOperations has allowed Woodside facil-

“The use of the SpatialFacilities suite of tools from Spatial Systems Associates has allowed Woodside Court, LLC to better manage our facility, maintain documentation needed by the operations personnel, save significant operational dollars—thus improving our bottom line and increasing the resale value of the facility, and ensure the security of the facility on an 24/7/365 basis. It was well worth the small investment.”

—Dwight Mikulis, Member, Woodside Court, LLC



ity staff to reduce energy consumption while monitoring operational conditions and assuring tenant satisfaction. At Woodside, leases are structured to include an allowance for energy use. Energy use in excess of that allowance is paid for by the tenant. SpatialOperations has the ability to track energy use to a level of detail that allows Woodside to individually invoice tenants for their energy utilization. Reduction in energy use therefore benefits both Woodside and the tenant. Data from sensors throughout the building is polled approximately every five minutes and stored in an Oracle-based database. SpatialOperations provides an interface that allows operations personnel to query the data on demand for the current day, or for any day or series of days since the system became operational in 2009. Trends can be easily spotted and issues with equipment or systems identified. Temperature monitors have a user-defined operational acceptability range associated with them, and any time a reading falls outside that range an alert is forwarded to Woodside operations personnel. This provides enhanced tenant satisfaction and a security to Woodside staff that the building is operationally working within design specifications.

In addition to operational monitoring, SpatialOperations provides management personnel with access to as-built drawings, operational manuals, and current contracts for services (i.e. mowing, fertilizing, snow removal, window cleaning, HVAC maintenance contracts, fire protection/inspection contracts, elevator maintenance, and pest control contracts.) Because SpatialOperations is a web-based system, operations and maintenance personnel have online access to these documents on demand wherever they may be needed (i.e. on the roof when

the HVAC RTU is being serviced). Further, SpatialOperations can be interfaced with any work order management system or spare parts inventory system Woodside selects to use.

Security

SpatialSecurity is SSA’s module that manages the variety of subsystems deployed at Woodside for security purposes. Woodside utilizes in-ground sensors to detect vibration, perimeter video surveillance, and access control, utilizing offsite monitoring. Tenants have their own access control and video surveillance systems, along with alarm systems that are incorporated into SpatialSecurity. Door keying is coordinated facility-wide utilizing SpatialSecurity, and each furniture component and file cabinet with a lock can be incorporated into the SpatialSecurity database.



Fire protection subsystems, including sprinkler head location and piping routes, annunciator locations, smoke detectors, strobe locations, fire extinguisher location, fire walls, and fire doors are all incorporated into the Woodside SpatialSecurity database.

The value of having one, unified, web-accessible system for Portfolio, Operations, and Security data for Woodside’s building means that operations personnel only have to learn one system; and only one set of data needs to be maintained when, due to renovations, changes are made to any component of the infrastructure. Continuous commissioning and automated alerts to events, whether high/low temperatures in a particular room, unexpected energy or water consumption, or security violations ensures that Woodside can manage their facility without worry. Operational data is stored on a central server, allowing Woodside management to review and assess operational costs at any time—from any place with internet access, confirm the legitimacy of utility bills, and generate tenant invoices when necessary.

