Resource Management with Scale and Scope

ARMY NAVY COUNTRY CLUB

Army Navy Country Club's LEED Silver certified clubhouse

Photos courtesy of Army Navy Country Club

By Jim Fisher, PhD

The Army Navy Country Club (ANCC), located just outside of Washington, D.C., in Virginia, is a club rich in military history and tradition. The club was established in 1924 to give military officers and their families a suitable option for recreation, entertainment and leisure activity in what, even then, was a crowded and expensive social scene in the greater Washington area. The membership rolls have included past luminaries such as Admiral Chester W. Nimitz, USN, General Omar Bradley, and Presidents Dwight Eisenhower, John Kennedy, Lyndon Johnson, Richard Nixon and Bill Clinton.

The club received Platinum Clubs® of America designation in 2014 and continues to cherish its military heritage. It has grown into one of the largest in the world, serving roughly 7,300 active-duty and retired military officers, and, increasingly, civilian members. Including total household size there are upwards of 23,000 people served by the ANCC. It spans about 500 acres, divided between its Arlington and Fairfax sites, which are approximately 14 miles apart. There are 54 holes of golf, 32 tennis courts and six pools as well as an impressive range of facilities for dining, socializing and private parties and events. Fitness facilities and a wide range of junior programs round out this full-service club's offerings.

The club's operating budget is more than $27 million. Human resource requirements are similarly substantial, with the club employing more than 500 employees. As one can imagine, the energy and resources required to serve its membership are enormous.

PLANNING FOR EFFICIENCY

Like many other clubs, ANCC has grown organically and incrementally. Thus the assortment of buildings, facilities, systems and capital stock accumulated disjointedly over the decades. The time had come for a unified vision for club facilities.

The central piece of an extensive redevelopment project at the club was the construction of an entirely new clubhouse at the Arlington location. The former clubhouse had been an old Knights of Columbus Hall—repurposed by the club many years ago—that was not ideally located and, clearly showing its age, required frequent repairs and improvements.

Additionally as the club grew and expanded, it added many stand-alone buildings such as a tennis shop, a golf shop, a restaurant and snack bar. Each had its own plant, its own air-conditioning, its own boiler, etc. Each, of course, was inefficient, but collectively the inefficiencies were a big drag on the budget.

The new clubhouse did not dramatically increase the total club usable space, but it did consolidate these separate facilities so that now the tennis and golf shops, the banquet facilities and the snack shop are under one roof. However, its LEED Silver Certification—the first and only mid-Atlantic private clubhouse currently holding that designation—especially distinguishes the new 110,000-square-foot clubhouse.

Instead of providing a description and explanation of all the smart and efficient elements that are built into ANCC's clubhouse and that have won it wide acclaim—readers can view their scorecard at usgbc.org/projects/army-navy-country-

club-arlington—this article emphasizes the philosophy that stands behind the club's integrated and far-reaching approach to resource management.

EFFICIENCY STRATEGIES

The club's mechanical plant has state-of-the art technology: high efficiency boilers, variable speed pumps, frictionless water chillers and temperature set-back controls. But what is especially impressive is the systematic intelligence built into this operation. As people talk, laugh and socialize in the comfortable, fresh environment of the club, there is also an unseen, constant stream of electronic conversations, shuttling information back-and-forth between servers, switches, sensors and suppliers. These intricate conversations are guiding adjustments between cost and benefit that collectively move the club and its operations toward that most lofty of systems engineering goals—optimization and capturing the biggest bang for the buck.

In the case of ANCC, this means things like "peak energy saving." This approach orchestrates electric supply and demand, pulling electricity from the grid when rates are most favorable. In a similar manner, sensors monitor conditions outside the clubhouse by measuring temperature and humidity, allowing the precise adjustment of chillers and air-handlers, and drawing on outside air when conditions are suitable. Other examples include: solar measurements that adjust lighting, low-flow appliances and fixtures that minimize water usage, and motion detectors that provide constant feedback for the open control loop system, which regulates equipment.

Of course, not everything is on autopilot. Club General Manager/COO Patrick King, CCM, CCE, observes that human resources are key to making the system hum. His point man in this respect is Dave Dawson, who oversees a highly trained staff of engineers and technicians. This team applies their collective knowledge and training—which is considerable—to maximizing the $4 million investment in this mechanical plant. "There is a whole [new] level of support that is needed to support these sophisticated machines and to keep them running," explains Dawson. The staff composition is significantly different now than it was just a few years ago—more specialists with deeper expertise, reflecting a systems orientation and a familiarity with the expanding role of information technology.

EFFICIENCY INITIATIVES

Sustainability initiatives at ANCC extend well beyond the clubhouse. The breakthroughs in efficiency and effectiveness reach across an impressive range of applications that likewise vary in scale and scope. Here are two examples:

ANCC has a storm water drainage system that is similarly state-of-the-art. This is in part a necessity, as local water and environmental authorities closely monitor run-off water. But the club's collection and filtration system is fully compliant, so the club is also able to reuse storm water for golf course irrigation and other on-site purposes.

ANCC's eco-friendly HydroCourts

The club has an award-winning world-class tennis program. Recent club development projects have included the tennis facilities and, in recognition of this, recently received *Tennis Industry* magazine's designation as Private Green Facility of the Year. Joe Wang, who directs the program, is especially proud of its green initiatives. These included a conversion of their existing Har Tru courts into HydroCourts. These new clay courts offer a self-regulating irrigation system that waters the court from underneath the playing surface. Not only is water consumption substantially reduced by drawing water only when it's needed, but the courts offer peak playing conditions without any downtime. Installation of LED lighting in the six-court indoor tennis center has also brought better light for playing and cost savings of 40 – 50 percent in electricity for the indoor tennis building—roughly $3,000 - $4,000 per month, or just over $35,000 in the first year.

CATCHING SIGHT OF THE FUTURE

The ANCC clubhouse with its myriad sensors, smart appliances and integrated systems provides a view on something that is often "hidden," but hidden in plain sight as technology moves alongside us daily. The clubhouse, with its LEED Silver Certification, reflects the presence of smart systems, but this intelligence can be subtle and escape easy detection. This orchestration combines the active intervention of machines and controls with the passive capture of natural resources. It is not so much a mastery of the environment as it a thoughtful alignment with it.

This invisible and automatic flow of digital data provides a technological process for sustainability and eco-friendly cost savings as well as opportunities to improve the member experience. Sometimes referred to as the Internet of Things, this trend is thought by some to be a transformation on the order of the Industrial Revolution. Clubs like the Army Navy Country Club, the Union Club of Philadelphia (see the Spring 2016 issue of *Club Trends*, "The Internet of Club Members" case study on beacon technology) and many others are riding this wave into the future. This future is sometimes the cause for uncertainty and trepidation, but these early reports suggest it can be one of balance, sustainability and progress.