



Building for the future

Forward-thinking
companies
capitalize
on emerging
opportunities

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Enhancing food safety, implementing sustainability, streamlining and consolidating operations, as well as meeting growing product demand are among the reasons behind a wide range of industry construction projects recently completed, currently underway or planned for the future. According to several leading companies working on construction and renovation projects in the meat and poultry industry, companies are investing in efficiencies and improving operations to address the growing demands of environmentally focused, value-conscious customers and the consumers they supply.

Primus Builders, Woodstock, Ga., has witnessed a paradigm shift in two major areas of the meat industry, says Tony Pitrone, vice president of business development. First is an industry-wide acceptance of the American Meat Institute's 2002 food plant and equipment sanitary design principles

for all new and renovation projects. "A piecemeal or wish-list approach to sanitary designs and clean construction techniques is simply unacceptable to processors today," he says.

Secondly, increasing interest in

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sustainable designs from companies of all sizes is on the rise. Ownership wants to do more with less, even in the absence of a solid ROI or a business case, Pitrone says. But adopting sustainable designs is not yet industry-encompassing.

Leadership in Energy and Environmental Design (LEED is a registered trademark of the U.S. Green Building Council) certification is the recognized standard for measuring building sustainability. The LEED Green Building Rating System offers four certification levels for new construction – Certified, Silver, Gold and Platinum – that correspond to the number of credits accrued in five green-design categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality.

"The food plant that achieves a certified or higher rating is a reality today, but is still quite rare," Pitrone says. "We are fortunate our clients with greenfields intend to pursue LEED certification. Thus, engineers, vendors and contractors have all been given an opportunity to pioneer ways of ensuring that LEED certification is cost-effective and achievable for all."



After Wayne Farms LLC, Oakwood, Ga., completed significant processing expansions at its Decatur, Ala. campus it targeted the plant's complicated distribution network. (Photo courtesy of Primus Builders)

Industry is also focusing on food safety throughout the process, says Russ Cudmore, vice president of Primus Builders' process services. "They are looking at the means and methods for employee safety and process efficiency, including replacing old line equipment with new machinery that can do more with less," he adds. "They are utilizing all available space in their facilities due to closing and shifting operations from older, less-efficient facilities."

Most of Primus' clients are modifying existing plants with new or added equipment lines, plus adding smaller expansions to accommodate those lines with added raw-material and finished-product storage, Cudmore says. "We are finding when they add or modify a line, they also want to update the physical environment, such as walls, floors, ceilings, HVAC [including pressurization of spaces and air filtration], refrigeration, electrical lighting and control systems," he adds.

Primus recently modified an older poultry processing room at one plant and an adjacent dry-storage space for a new enlarged processing room. "We removed a load-bearing wall and installed a clear-span steel frame to open the entire area for the new process space," he adds. "The project includ-

ed new stainless-steel wall and ceiling panels, epoxy flooring and a new refrigeration system."

After Wayne Farms LLC, Oakwood, Ga., completed significant processing expansions at its Decatur, Ala. campus, it targeted the plant's complicated distribution network, says Paul Grenier, vice president of business development with Primus. "Wayne Farms' director of engineering, Chander Narula, set out to consolidate shipping operations to reduce time and transportation costs," he adds. "Narula developed a concept that maximized the site by adding a new distribution center that would be directly attached between two adjacent processing plants. We developed the 135,000-sq.-ft. cold storage project to achieve the goals of elimination of outside storage and labor to load and ship outbound finished goods."

By removing the shipping activities of these products to outside storage, Wayne Farms could completely control product movement directly from the processing lines and maintain product quality. Additional design goals achieved were the significant incorporation of automation and "green" features, such as energy-efficient lighting, motor drives and a highly-efficient thermal envelope.

"We carried this conservatism through to the construction phase by sourcing materials from as near to the site as was practical," he adds. "We also established an on-site recycling program so we could minimize debris moved into the local landfill."

Farm focused

From a food-plant designer and contractor's perspective, farm-based projects have not typically comprised a large percentage of the overall industry's meat and poultry construction projects, Pitrone says. "However, due to environmental and regulatory concerns, as well as globalized competition, it is possible our industry may be re-inventing itself from the ground up – creating substantial opportunities for the future," he adds.

Technology has provided the ability for vertically integrated food companies to use private-sector investment to decrease their environmental footprint, allowing them to improve their operational efficiencies through increased scale of operations and the substantial generation of renewable energy.

Such is the case with one Primus project. Its client, Bion Environmental Technologies Inc. through its subsidiary Bion Services Group, provides waste

remediation and renewable energy production to existing livestock operations. Bion has pioneered and implemented a breakthrough waste-treatment technology that dramatically reduces the on-farm environmental profile for livestock agriculture, treating for both air emissions and nutrients in the water.

Bion's initial project is at an existing dairy in Pennsylvania where this application of clean technology represents a milestone in the livestock industry. Under Pennsylvania's nutrient trading program, credits will be earned for nitrogen and phosphorus reductions at the dairy farm, which will be sold to offset the charges of municipal wastewater treatment plants in the region. It is the first project approved by the Pennsylvania Infrastructure Investment Authority (PENNVEST) that supports waste treatment infrastructure as a CAFO (Confined Animal Feeding Operation).

By substantially reducing an operation's environmental profile and therefore its physical footprint, Bion's technology can enable vertical integration of large-scale feedlots to geographic locations once deemed impossible. Projects like this prove even large-scale livestock operations can be ideally located close to large consumer markets. Not only will the resulting improved economics help ensure long-term, stable regional economic benefits, but the project's environmental profile qualifies them as "green."

The future may yield farm-based projects truly meeting the definition of a "closed loop" by integrating cattle finishing, ethanol production powered by cellulose-based renewable energy recovered from the herd's waste stream, slaughter and further processing all on one unified campus.

Primus expects 2009 to remain flat in construction activities; companies are holding tight to see what happens with the economy and with banks' lending practices, Cudmore says. "Several clients are ready to move forward in the fourth quarter with projects that have been planned since the start of



Photo courtesy of Facility Group

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this year," he adds. "We fully expect 2010 to be robust, as many of our clients are already committed to projects, such as adding packaging and manufacturing flexibility to better react to ever-changing markets and consumer demands."

Ironically, the opportunities Primus is seeing, which are consolidation-related, have nothing to do with the original merged entities, Pitrone says. "During the consolidation wave of years past, it made sense to shutter plants entirely and merge production or storage to locations that supported their new merged business models," he adds. "Today, the better-constructed and largest of these idled plants are looking very attractive as value acquisitions for many of our clients."

The learning curve is really over for the leading designers and contractors, and implementation of these principles has become habit, Pitrone continues. "Processors are the major beneficiaries because with every successful conversion of dated spaces into state-of-the-art manufacturing facilities, the designs become more efficient and the implementation costs lessen," he adds.

As Primus works with clients to close facilities and move some of the

newer equipment to their newer, more efficient facilities, the older plants being sold off are being considered for purchase by smaller or different types of processors, Cudmore says. "We are being asked by our clients and potential buyers to provide reports and costs on what needs to be done to modify the facility for the specific operation," he adds. "This can help our client sell and the potential buyer know up-front what the costs will be before they buy."

'On the shelf'

There has been a significant construction slow-down from mid-2008 until now, says David Dixon, executive vice president for Smyrna, Ga.-based Facility Group. "Plans for large facilities have been shelved as capacity has exceeded declining demand in most sectors of the meat and poultry industry in the U.S.," he adds. "We have been engaged for consulting, mergers and acquisitions and supply-chain work as the sector consolidates, and involved in value-added, retail, co-pack and private-label activity."

Where firms are investing, they are improving facilities to meet food-safety concerns, shuttering aging facilities that

simply cannot be renovated economically and retrofitting others with wall, floor, lighting and ventilation/refrigeration upgrades, Dixon says. “We are cleaning up the production rooms by removing hanging evaps and installing refrigeration piping and air handlers on the roofs and adding IMP ceilings and interstitial spaces above existing production,” he adds.

Dixon concludes, “Regrettably, we expect 2009 to be flat. Consulting, planning and design activity began to pick up in June, but significant investment, we believe, will not occur until 2010.”

Increased competition

Competition has expanded for meat and poultry industry construction projects, says Joe Bove, vice president of engineering, Jacksonville, Fla.-based Stellar. Facility owners should research potential contractors before making a final decision, he cautions.

“Some companies may not have sufficient experience in the meat and poultry industry and could be less familiar with the intricate details required to ensure food safety,” he says. “Some could also lack knowledge of the long-term performance needed for construction materials, which are subjected to harsh cleaning chemicals several times a day in meat and poultry facilities.” An emphasis on food safety continues to dominate the industry, Bove says. With recent food-safety scares and the heightened awareness of national security, government regulations are becoming more stringent.

“On an ongoing basis, companies must make changes or improvements to comply with these changing regulations,” Bove says. “The emphasis on food safety falls into three main areas: (1) Separation of raw and ready-to-eat food; (2) compartmentalization of production areas and HVAC-R [to ensure proper ventilation and avoid contamination through unhygienic air]; and (3) increased attention to the means of hanging sanitation devices, fixtures and other objects on facility walls [in an effort to avoid bacterial growth].”



Stellar has a wide variety of customers; it has seen a mix of new facility construction and renovations, which is representative of the industry as a whole. (Photo courtesy of Stellar)

Stellar has also seen a high level of packaging innovation. Some processors want to subtly decrease package sizes to increase profit margins, Bove says.

Since Stellar has a wide variety of customers, it has seen a mix of new facilities and renovations, which is representative of the industry as a whole, Bove says. “We have also been involved in providing solutions to complex plant consolidations, in which remodeling also consists of in-depth scheduling, decommissioning and start-up,” he adds. “For example, if company A wants to merge with company B, we analyze the logistics of the merger and determine the most practical and cost-effective strategy for bringing the two companies together. We look at everything from facility location, materials and construction, energy consumption and maintenance cost for the best ways to meet customer needs and price points.”

Stellar is currently building Keystone Foods LLC’s new processing plant in Gadsden, Ala. Stellar has provided full design-build services for the facility, which is scheduled for completion in September. The 185,000-square-foot facility will produce fully cooked chicken through the use of three processing lines for cooking, cooling and packaging products. The lines will be

fully segregated for continuous operations. In addition, the facility will feature an ammonia refrigeration room, raw ingredient storage coolers, an on-site waste-treatment facility and a raw receiving truck dock. It used high-efficiency building materials, such as insulated metal panel walls and a single-membrane roof.

Stellar is also finishing a renovation project for Sara Lee’s meat processing/prepared foods facility in Zeeland, Mich.

“Because we work closely with clients to strategically locate and design their facilities, in addition to full-service construction management, many companies are turning to us for their projects,” he adds. “We look at the overall picture to determine ways to design and build our clients’ facilities better, faster and less costly. The industry is extremely competitive. We strive to make every link in a company’s supply chain as cost effective as possible to minimize investment and maximize efficiency.”

Stellar predicts overall growth in all forms of meat and poultry industry construction, including new facilities and renovations. “While it differs for every business, it is likely we will see more remodels and expansions rather than new facilities,” Bove says. “This is

because much of the new construction will be focused on energy savings, business unit profitability and government incentives and initiatives [i.e., global warming and food safety]. Construction directed toward these goals can often be accomplished without building a new facility.”

Sustainability trend

Sustainability continues to be a major trend, says Darryl Wernimont, director at Jacksonville, Fla.-based Haskell. “Whether it is associated with packaging, energy optimization or formal LEED certification programs, we do not see this trend slowing down,” he adds. “Also in 2008, as concerns over the economy, both domestic and international, took its toll on the market, we began to see more capital spending focused on facility modifications, optimization and relocations.”

In 2008, Haskell continued to see growing trends in which clients are outsourcing program management (site, building, process, warehouse, security). “They are looking for individuals and or teams that can manage all facets of a project on their behalf,” Wernimont says.

In 2008 and 2009, Haskell has seen more consolidations and facility rationalization projects. “This included a growing trend involving line relocations and associated building modifications to support those relocations,” Wernimont says. “This activity is not limited to the U.S. We were involved in multiple line/plant relocations, U.S. to Mexico or Mexico to U.S. These programs involved disassembly of existing lines, tagging, crating, border expediting, building modifications, equipment installation, start-up and training. As a result of this activity in both the domestic and international markets, we had to expand our installation and relocation division.”

Over the past year the market has been flat, Wernimont says. “The U.S. economy is struggling and that is not going to change in the near future,” he adds. “This is one of the first times



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I can remember that not only the U.S. economy is struggling but the global markets as a whole are struggling. This creates a unique situation for the global players. In the past if the U.S. market slowed, segments of the international markets were booming and vice versa, thus allowing selective investment by the global players. That was not the case in 2008 and it does not appear to be what the future holds for 2009. For the first time, we seem to be playing in a global market that is all temporarily down.”

“Over the past few years, we have seen ‘new’ category swings like “MAP, marinated products, ready-to-eat entrées, etc., which drove investment in facilities and equipment,” Wernimont says. “In 2008 and now 2009, I have not seen a dominant new category surface that would drive investment as we have seen it in the past.”

There was much discussion about the impact acquisitions could have on the market resulting in new category leaders and possible plant closures and consolidations. The end result was a year of questions: Should we build or expand or will there be facilities becoming available? Should we invest in a new line or pick up equipment on the used market?

“These questions tend to result in holds or delays. Much of this activity is carrying over into 2009,” he says.

Haskell will continue providing AE&C services for Greenfields, expansions and modifications.

“However, in 2009, we will continue to expand our ‘inside-the-box’ services, program management, line modifications/expansions and line relocations in the country and across borders,” Wernimont concludes.

Should the economy improve at a faster rate than anticipated, some insiders say to expect a wide range of industry construction projects planned or on hold to quickly kick into high gear. The engines are already revving. **M&P**

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