

Cost Savings Through Adaptive Reuse



School site.

WILLIAM H. GOLSON, JR.



Jail site.

Is it possible to deliver 328 beds and a new sheriff's office for \$16 million in an uncertain economic market? The leadership of Effingham County (a small, progressive county just north of Savannah, Georgia) thought so in 2012 when they initiated a program to build a new jail. That's a number just north of \$48,000 per bed. When costs per bed throughout the country were ranging from \$80,000 to \$100,000 per bed, how was this possible? The answer: adaptive reuse.

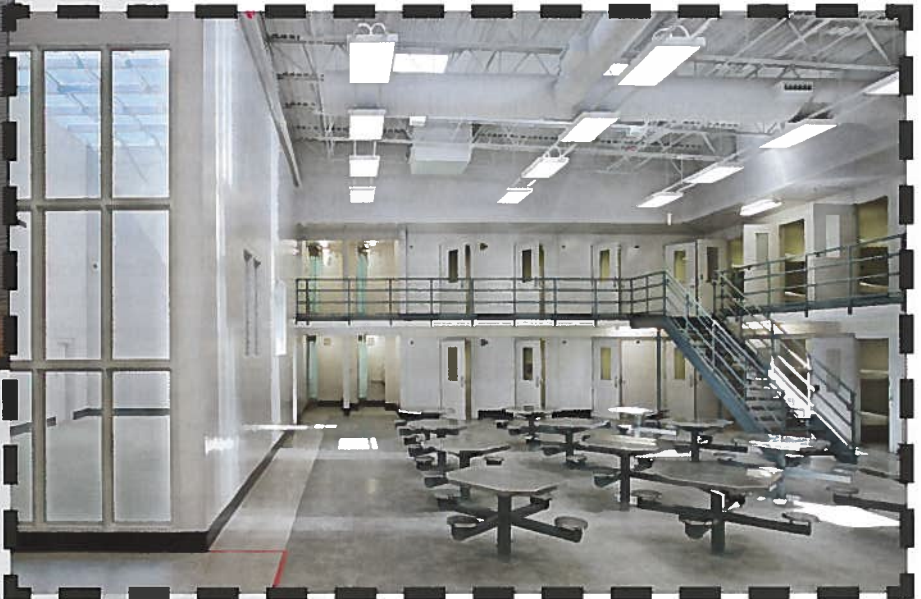
What is adaptive reuse? Simply put, it is finding a way to reuse or repurpose existing buildings at a much lower cost than building new ones. This was the challenge faced by Effingham County and its sheriff's office. The county had two possibilities for adaptive reuse: an abandoned school property that had fallen into disuse and the property containing the existing jail, a building long past its useful life.



Effingham entrance.



Precast concrete cell units.



Typical Effingham housing unit.

The Planning

In 2011, Effingham County recruited a team of design/engineering, construction, and project management firms to join its jail planning team of county administrators and the sheriff's office. Together, the teams evaluated both possibilities in detail. The condition of existing buildings, required site improvements, and the impact on the surrounding neighborhoods were among the issues carefully

weighed against an aggressive budget. It was determined that the existing jail property was the most cost-effective choice.

Planning, design, and cost calculation followed. However, even with the reuse of the existing jail, it soon became apparent that this site still did not provide enough space to meet the objective. However, next door to the existing jail was a county-owned prison in good condition and still in operation, but

not fully utilized. Why not use a portion of that facility? Although a great idea, this option posed several questions:

- *Could an efficient, economically feasible connection from the jail to prison be devised?* The first challenge was connecting the two buildings in order to provide adequate security. The existing jail and the prison were not physically adjacent—or even close together.



County prison site.

- *Could a renovation of the existing kitchen be accomplished within the project budget?* The second challenge was food service. The prison was economically attractive not only because of its existing beds, but also its kitchen had the potential to feed both populations.
- *How could jail inmates be managed effectively in a prison environment?* The third challenge involved inmate management. The same staff would be required to manage both prison and jail inmates, or at least a combined staff working from the same location.

Finding the Answers

In regards to the first question regarding a connection between the jail and prison, it was decided that

a portion of the existing jail would be repurposed as the sheriff's office. Then a new building containing intake, medical services, and housing would be constructed between the existing jail and the prison. In this way, the new building would be in a central location that was convenient to both the new sheriff's office and the prison, thus shortening the circulation path between them. Because a new building was already in the budget, this location would serve as a natural "bridge" between the existing jail and the prison and eliminate the need for an expensive connecting corridor.

For the question regarding the prison's kitchen, it was decided to reuse the existing kitchen equipment and purchase a limited amount of new equipment. The cost of renovat-

ing the prison kitchen was less than the cost to build a new kitchen in the jail. And, by reusing the existing kitchen equipment, the sheriff's office could continue to provide food service to entities outside the jail, thus protecting a revenue source for the county.

In answer to the last question, the Sheriff's Office resolved the co-responsibility of jail and prison inmate management by collaborating with the prison. First, they relocated the lower risk classification jail inmates in the prison dorms. Next both staffs created staffing shifts between jail and prison staff.

Still Over Budget!

Even with these creative ideas in place, the project was still over budget. Were there any construction-related ideas that could save money, but achieve the same results? One vendor offered an interesting idea. The vendor noted that inmate cells are often built in the factory and shipped to the site. The cells are made of concrete that is cast in reusable molds; however, the molds are usually custom built for each project. Even though this approach saves time and money, creating the molds is a large part of the manufacturing cost.

Questions on Islam?

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Prison-jail connection.

The vendor already had anticipated using cells constructed in this way as part of their cost-control strategy. They now changed their strategy. They asked, "Why not collaborate with the cell manufacturer to reuse molds that were used on another project?" Even though the design would strictly conform to the cell dimensions of the donor project, this approach would save considerable costs in production. To reuse these molds, the other vendors designed a special grouping of the cells.

Another creative and money-saving construction alternative approach suggested was to build security and structural walls called "tilt-up construction." In tilt-up construction, concrete walls are formed and poured lying directly on the ground rather than being poured into formwork erected vertically. Thus, the ground is actually the formwork. As the concrete hardens, the walls are tilted up into the final vertical position. This method saves considerable time as it alleviates the need for formwork. This method shaved more than an estimated two and one-half months off the construction schedule—and in the construction industry time is money. The longer the construction professional is on the site the more it costs

for project overhead. This time and cost savings was applied directly to the budget bottom line.

Project Completed

Almost to budget... but still not quite there. The cost of constructing the new building and the prison renovation was covered by the budget up to this point. However, the budget did not include the cost to repurpose the existing jail into the new sheriff's office. Were there any creative budget management ideas that could help? Both Effingham County and one of the vendors had an idea.

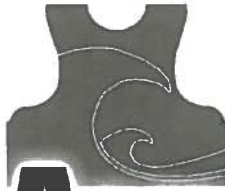
From the very beginning the project budget contained a contingency to cover unforeseen issues

that might arise during construction. Although this is normal, it is not always needed. They asked, "Is it possible to move ahead with the construction of the new building and prison renovation and put the existing jail's repurposing portion of the project in abeyance for future construction using contingency funds?"

That approach was adopted... and it worked! The design, construction, and jail planning team worked hard during the construction period to conserve these funds, and at the end there were remaining funds sufficient to complete the project.

So, what is the big take-away? How does this story help other jails and correctional facilities? Can everyone use the examples discussed here? Maybe not. Effingham County and its sheriff's office met the challenges and succeeded. Jails, even small ones, can be built for seemingly impossibly small budgets when there is a willingness to consider alternative approaches with an openness to explore new ideas by a highly collaborative team. ■

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