

### **Description of Collaborative Partnership between the Georgia Housing and Finance Authority and Southern Polytechnic State University**

The Housing and Economic Recovery Act (HERA) and the American Recovery and Reinvestment Act (ARRA) (referred to collectively as “Recovery Act”) placed a major emphasis on energy efficiency and the use of renewable resources. In addition, the Recovery Act placed a major emphasis on government accountability for the efficient and appropriate use of allocated resources. As a result, DCA initiated a collaborative partnership with Atlanta’s Southern Polytechnic State University’s (SPSU) Construction Management Department (CMD) to assist DCA in the evaluation of projects participating in the American Recovery and Reinvestment Act Office of Affordable Housing Programs. DCA, in conjunction with SPSU, evaluated the proposed plans and specifications of each project requesting Recovery funds to analyze whether additional efficient components or construction design could result in more sustainable use of resources. In addition, each construction budget for proposed project was evaluated to ensure that proposed costs were reasonable. DCA believes that this type of creative intergovernmental collaboration exemplifies the underlying policies and goals of Recovery Act legislation. It also results in a significant decrease in costs in completing these reviews and increased the efficiency and sustainable building for each of the developments that were awarded stimulus funds. The collaboration involved using students enrolled in the construction management graduate program to assist in the review of proposed costs and project plans and specifications. The cost of the reviews was significantly lower for DCA. At the same time, the fees collected by Southern Poly significantly assisted the University at a time when its funding levels were significantly impacted by the declining economic situation.

#### **Why and When it was Undertaken**

The economic impact of the financial crisis starting in 2007 and continuing through 2008 placed a tremendous burden on the development of Low Income Housing Tax Credit projects (LIHTC). Both HERA and ARRA placed a major emphasis on energy efficiency and ARRA placed a major emphasis on the efficient use of Recovery Act funds. The resources from ARRA in combination with those provided by the 2008 Housing and Economic Recovery Act provided the State of Georgia with powerful resources intended to combat current economic challenges within the Low Income Housing Tax Credit (LIHTC) program. At the same time, neither legislative initiative provided significant funds for the administration of these new, complex programs. State economic issues further exacerbated the problem as DCA found itself with little new funds to administer these time sensitive programs and little room to hire additional staff because of a state hiring freeze. The Georgia Department of Community Affairs (DCA), on behalf of the Georgia Housing and Finance Authority, concluded that these funds created a special opportunity to structure transactions that would encourage innovative use of green building techniques, materials and system in the construction of projects that were funded with stimulus programs.

Our objectives were as follows:

- Use cost savings to incorporate state of the art “energy efficient design, materials and systems” without increasing the originally submitted development costs.
- Provide affordable energy design recommendations to the tax credit development community.
- Encourage developers to include sustainable design options into their development as priorities.

Georgia Department of Community Affairs  
Collaboration for the Analysis of Energy efficiency and costs for ARRA funded projects

- Measure the long term feasibility impact of the additional energy efficient components.

**What it has accomplished**

The large volume of projects seeking stimulus funding created a monumental task in providing a comprehensive cost analysis for each project. The collaboration allowed our office to undertake an extremely detailed review of proposed costs. The initial review prompted many Applicants' to reopen negotiations with General Contractors resulting in significant reductions in proposed construction costs. The initial cost review completed by the University recommended that proposed construction hard costs for stimulus projects be reduced by approximately \$12 million dollars. These project cost reductions were used in many cases to increase the energy efficient design of the proposed project. The comprehensive front end analysis also decreased the level of time consumption in the construction administration phase of construction. Project cost certification is processed more fluidly which have been correlated with the project's schedule of values that were reviewed and approved prior to owner and contractor contract agreements. A comprehensive data base generated from the outcome of the rigorous review provides a quick overview to immediately identify those projects that are candidates for a third party cost analysis.

The investment in sustainable design and energy efficiency components above the state code minimum energy requirements, such as solar panels and thermal heating systems will definitely promote sustainable communities through environmentally sensitive housing. The increase in energy efficiency will also help to maintain rent levels so that the owners/developers will not have to tap into reserves allocated for operating expenses. It is DCA's belief that there will be a benefit realized by the tenants with a realization of reduced utility costs.

**Why it is considered meritorious**

It is DCA's belief that this type of creative intergovernmental collaboration exemplifies the underlying policies and goals of ARRA. The DCA staff consisting of one Architect and one Construction Manager was able to perform cost and energy analysis for over 40 ARRA funded projects with the assistance of SPSU's Construction Management Department all within the ARRA Act's restrictive timeline. The rigorous cost and energy analysis fostered unprecedented level of accountability and transparency to help maintain a reasonable cost for higher quality along with the increase usage of sustainable energy components above the state's energy code minimum requirements. A majority of the funded projects obtained energy efficiency certification from third party certification program such as Energy Star, Earthcraft, and LEED for Homes.

**Innovative**

In order to validate the degree of energy efficiency, the projects were audited through the use of Revit, eQuest, and Green Building studio software to conduct cost control and energy efficiency, lighting and ventilation analysis. The studies calculated the initial and life cycle cost, energy consumption, natural lighting quality and CO2 emission output for each proposed project. The studies generated by SPSU

Georgia Department of Community Affairs  
Collaboration for the Analysis of Energy efficiency and costs for ARRA funded projects

provided DCA with the impetus to suggest more cost effective sustainable measures, such as design alternatives and new innovative green building technologies. This type of innovated technology was not previously available to this agency. While Georgia tax credit developers almost always install energy efficient appliances into new construction, this new program was directed at making developers think about how the actual design of the project could be modified to reduce energy costs. Recommendations such as increased insulation added very little cost to proposed budgets, but significantly increased the energy efficiency of the units.

### **Replicable**

All is required is an enthusiastic team working towards strategic objectives, entrusted with effective project management. Other HFA's should be able to replicate or develop their own intergovernmental partnership with a collegiate research university or similar educational center. The partnership can be a conduit to cutting edge research without a great deal of expenditure; or if budget permits, an HFA can equip their staff from the many choices of costing and energy analysis software that is on the market to perform the same or similar studies in house.

### **Respond to a management challenge or opportunity**

Through the collective efforts of the collaboration between DCA and SPSU; DCA was able to quickly process a preference of projects defined as "shovel ready" and reduce the amount of funding needed to complete projects. These cost savings were used to increase the energy efficiency of projects. This collaborative allowed management to meet the challenge of comprehensive, technical review of proposed costs, while at the same time using ARRA resources to finance the implementation of new innovative green technologies.

Strategic objectives met included:

- Over \$12 million initial hard cost reduction recommend in initial review.
- Scheduled closing of over \$54 million TCAP, allowing for disbursement within ARRA deadline.
- Closed over \$179 million (92%) of exchange allocation with remaining funds scheduled to close to meet the "30% test" by year end 2010.
- Disbursement of over \$29 million (53%) of TCAP and over \$62 million (35%) of exchange.
- Promoted energy conservation measures through third party certification programs.
- Promoted the use of geothermal heating and photo voltaic systems.
- Spur immediate economic activity and employment by quickly processing projects that were deemed shovel ready for construction commencement.

Please see hyperlinks and attachments for typical projects solar studies:

<https://larissa.spsu.edu/file/download.pl?id=ha5hq86pggnd>

<https://larissa.spsu.edu/file/download.pl?id=sxvmyfpmcb22>