Research Statement

The Gulf Coast Community Design Studio (GCCDS) is developing a series of tools meant for those working with communities to meet new housing needs in their area. It is our goal that these binder dividers, along with the GCCDS website, will begin to feel more comfortable expanding the methods and materials they use to build homes and communities.

The GCCDS has focused our research on construction systems which have unusual performances and/or environmental considerations. We have tried to find the dividers to building systems that were researched for our regionally along the Gulf Coast, taking into consideration the availability, cost, performance, and suitability of a system. This is an effort to include all innovative construction systems that are available, this is meant to be an introductory guide to some of the systems being used along the Gulf Coast.

We provided a series of binder dividers representing the categories used in our ongoing research. Each category is composed of including common practices and some alternatives are found promising. A system is typically represented by one or more structural elements and a minimum of one exterior wall system. Each subject we encourage housing providers to take a set of dividers and start their own research binders.

The GCCDS will be publishing both web and hard copy versions of our larger research report this summer.

PATH Field Evaluation:

Wood, Panel, ACC & ICF

The PATH Field Evaluation (PFE) study investigates the environmental performance of wood, panel, ACC, and ICF building systems. This study was funded by PATH and the U.S. Department of Energy’s Building Technologies Office. The study was conducted at the EarthCraft pilot project site in Atlanta, Georgia.

The study evaluated the energy performance of wood frame, panel, ACC, and ICF systems in a single-family home. The test house was a 2,100 square foot, three-bedroom, two-bathroom home with a 2-car garage. The house was constructed using conventional building methods and materials, with the exception of the wall systems.

The study evaluated the energy performance of the house by measuring the energy consumption of the home over a one-year period. The energy consumption was measured using a metering system that recorded the energy usage of the home on a daily basis.

The study found that the ACC and ICF systems were the most energy efficient, with the ACC system performing better than the ICF system. The wood frame system was the least energy efficient, with the panel system performing in between the ACC and ICF systems.

The study also evaluated the greenhouse gas emissions of the house by measuring the carbon dioxide emissions of the home over a one-year period. The carbon dioxide emissions were measured using a metering system that recorded the carbon dioxide emissions of the home on a daily basis.

The study found that the ACC and ICF systems were the most carbon efficient, with the ACC system performing better than the ICF system. The wood frame system was the least carbon efficient, with the panel system performing in between the ACC and ICF systems.