AFFORDABLE & SUPPORTIVE HOUSING

Since 1987 Smith Dalia Architects has designed and built more than 3,800 affordable and supportive housing units.

The city of Atlanta still faces a deficit of affordable housing, estimated to be upwards of 40,000 units.
(Mayor Franklin’s 2006 Affordable Workforce Housing Implementation Plan)

The 5 county Atlanta Metro area was estimated to have a 343,000 affordable housing unit deficit in 2003.
(Dr. Sawicki’s 2003 Fair Share Housing in the Metropolitan Atlanta Region)

Presented by
Ed Akins, AIA, LEED AP

Smith Dalia Architects
&
The Georgia Institute of Technology
AIA 2004 Code of Ethics and Professional Conduct

This document states guidelines for the conduct of Members of the American Institute of Architects.

The Code is arranged in three tiers of statements (Canons, Ethical Standards, and Rules of Conduct):

**Canons** are broad principles of conduct.

**Ethical Standards** (E.S.) are more specific goals toward which Members should aspire in professional performance and behavior.

**Rules of Conduct** (Rule) are mandatory; violation of a Rule is grounds for disciplinary action by the Institute. Rules of Conduct, in some instances, implement more than one Canon or Ethical Standard.
CANON I
General Obligations

Members should maintain and advance their knowledge of the art and science of architecture, respect the body of architectural accomplishment, contribute to its growth, thoughtfully consider the social and environmental impact of their professional activities, and exercise learned and uncompromised professional Judgment.

E.S. 1.3 Natural and Cultural Heritage: Members should respect and help conserve their natural and cultural heritage while striving to improve the environment and the quality of life within it.

E.S. 1.4 Human Rights: Members should uphold human rights in all their professional endeavors.

Rule 1.401
Members shall not discriminate in their professional activities on the basis of race, religion, gender, national origin, age, disability, or sexual orientation.

CANON II
Obligations to the Public

Members should embrace the spirit and letter of the law governing their professional affairs and should promote and serve the public interest in their personal and professional activities.

E.S. 2.1 Conduct: Members should uphold the law in the conduct of their professional activities.

Rule 2.101
Members shall not, in the conduct of their professional practice, knowingly violate the law.

*2004 Edition. This copy of the Code of Ethics is current as of September 2004. General Counsel's Office (202) 626-7311
**Bone**
Serves as a framework for the body and protects internal organs.

**Muscle**
A major type of tissue adapted to contract, allowing body movement and mobility.

**Connective Tissue**
A major type of tissue adapted to contract, allowing body movement and mobility.
**system:**

1: a regularly interacting or interdependent group of items forming a unified whole <a number system>: as a (1): a group of interacting bodies under the influence of related forces <a gravitational system> (2): an assemblage of substances that is in or tends to equilibrium <a thermodynamic system> b (1): a group of body organs that together perform one or more vital functions <the digestive system> (2): the body considered as a functional unit c: a group of related natural objects or forces <a river system> d: a group of devices or artificial objects or an organization forming a network especially for distributing something or serving a common purpose <a telephone system> <a heating system> <a highway system> <a computer system> e: a major division of rocks usually larger than a series and including all formed during a period or era f: a form of social, economic, or political organization or practice <the capitalist system>
The organism makes use of immediately and locally available materials to construct itself, and does so with economy and efficiency. The same strategies when used in development can minimize global and local impacts on resources.

The organism adapts to its environment through instinctive reaction and an evolutionary process of generations. Through the ability to rationalize and mechanize, humans have the ability to adapt psychologically and physically in a matter of hours, but with little instinct for harmony with the environment.

The organism maintains a harmonious relationship with its environment by establishing a balance between its needs and available resources. Similarly, the ecologically sensitive design adjusts demands, lifestyles, and technologies to evolve a compatible balance with the natural and cultural systems within its environment.
ARCH4832 natural systems: course graphics

THE TREE THAT OWNS ITSELF
Quercus alba
Deeded to itself by Col. William H. Jackson circa 1832
This sidar of the original tree was planted by the Junior Ladies Garden Club in 1946
National Register of Historic Places 1975
Alamosa Historical Landmark 1988

Levels of Stability:
1. Most Stable
2. Most Adaptable

Exterior Walls: Structural insulated panels (SIPs) are pre-fabricated on site, eliminating waste during construction. At the time of installation, the panels can be cut, moved, and nested with minimal waste.

Interior Walls: Structural insulated panels (SIPs) are pre-fabricated on site, eliminating waste during construction. At the time of installation, the panels can be cut, moved, and nested with minimal waste.

Structures: The exterior walls span from the exterior wall to exterior wall. This means that the living space can be totally flexible. The hardwood beams run continuously across the entire width of the house, so that walls can be moved and there is no break in the floor finish.

Plumbing Walls: Bathrooms are vertically aligned to minimize plumbing runs. These walls are installed with screws to facilitate disassembly. Walls that do not house any utilities are entirely flexible to move (see #5).

Repositionable Interior Walls
Interior walls can be removed and relocated with no waste resulting from the process. A scale model of the wall system was constructed to test the feasibility. Light-gauge metal framing is used to frame the wall system to reduce weight for portability. The wall sections can be reused as is, or combined to create new configurations to meet the needs of the homeowner.

from clemson website
ARCH4832 natural systems: sketchbook examples

all images from Dan Goers (student 2006)
“We were born of light. The seasons are felt through light. We only know the world as it is evoked by light… to me natural light is the only light, because it has mood – it provides a ground of common agreement for man – it puts us in touch with the eternal. Natural light is the only light that makes architecture architecture.”

-Louis I. Kahn
Common floor plans for large buildings prior to the twentieth century as a result of need for light and ventilation:
Large building floor plans with dependence upon artificial sources for lighting and ventilation:
Images of Ontario with power restored from www.DARKSKY.org
“The global economy (in 1998) burned up an amount of energy (mostly fossil fuels), each minute, that the planet took 10,000 minutes (6.94 days) to produce through solar energy collection and photosynthesis.”

From ECOLOGY OF COMMERCE by Paul Hawkin
Energy Information Administration (www.eia.doe.gov) 2003 U.S. data & Building data from The Department of Energy and Heritage Australia
- **INDEPENDENT ENERGY SYSTEM**
  - Energized by wind power and photovoltaics
  - Appliances selected for compatibility with power source

- **WATER CONSERVATION**
  - Waste water for toilet flushing and irrigation
  - Flow restrictors on all faucets
  - Low-flush toilets
  - Rainwater collected in cisterns

- **CONSTRUCTION MATERIALS MADE FROM RECYCLABLES**
  - Waste or farmed trees for framing lumber
  - Waste newsprint wallboard
  - Waste glass
  - Waste plastic
  - Waste cardboard
  - Waste rubber tires

Example of Integrating Energy and Water Conservation with Environmentally Responsible Building Materials

Image from www.nps.gov
SUSTAINABLE = AFFORDABLE

Access to alternative transportation:
- Transit Oriented Development
- Walk-ability within Urban / Village / Town infill projects

A person can save an average of $672 dollars per month based on today’s gas price of $3.909 as reported by AAA. **The savings are more than the average household pays for food in a year. The annual cost savings is almost $2,000 more than the annual cost of food, according to the Food Institute ($6,111).**


Green Building Programs:
- LEED (Leadership in Energy and Environmental Design) Certified Projects
- Other green building programs include Earthcraft and Energy Star programs.

Data from the US Energy Association states that building operations relate to 76% of the annual US Electricity usage. An average household in the US consumes 10,656 kWh per year. Georgia’s residential electricity rates are roughly $.10 per kWh. **On average, LEED buildings were found to be delivering anticipated savings, performing 25-30% better than national average or modeled baselines.**

- source: www.newbuildings.org/index.htm

Pollution reduction from sustainable design:

According to the EPA, approximately 1.5lbs of Carbon dioxide are released into the atmosphere for every 1kWh. The American Lung Association released *The State of the Air 2007* in which some major metropolitan regions of Georgia received an “F” for air quality. **Groups at risk: Children, senior citizens, people who work or exercise outdoors, people with preexisting respiratory disease (e.g., asthma or COPD) and “responders” who are otherwise healthy but have an enhanced reaction to ozone.**

- source: American Lung Association

Approximately 210,000 Georgia children under the age of 17 have asthma, according to the Division of Public Health of the Georgia Department of Human Resources, July 2008. **The estimated annual cost for all pediatric asthma cases in Georgia: $28 million**

- source: Georgia Conservancy
Smith Dalia Architects is providing comprehensive sustainability strategies for this seminal project at Kannapolis, NC, in one the most ambitious and forward-looking university/private industry collaborations ever to take place. Now under construction on the site of a former mill, the North Carolina Research Campus [NCRC] consists of more than 260 acres of development including academic buildings and state-of-the-art laboratories, office space for participating industries, housing for professors, researchers, staff, students, company employees and service personnel; research farms, and commercial establishments serving the needs of this research-oriented City.
ATLANTA, GA : EON

EARTHCAST™ Multi-Family

EON is a certified EarthCraft Multifamily dwelling, and is comprised of two sustainably designed condominiums now under construction within Lindbergh City Center and sited 120 yards from the Lindbergh MARTA station in Buckhead.

A cooperative venture between the Metropolitan Atlanta Rapid Transit Authority (MARTA), BellSouth and private developers, the Lindbergh City Center is a Transit Oriented Development (a community centered near a public transit station), and one of the largest mixed-use developments in the U.S. with 352 units.

“The [transit-oriented] community will prevent an estimated 890,000 lbs. of carbon dioxide from entering the atmosphere -- the equivalent of taking 309 cars off the road annually.”

Anna Bentley, “Green Living at Lindbergh,” Jezebel. January, 2007, p. 120.
ATLANTA, GA : EON
EARTHCRAFT™ Multi-Family
Columbia Park/Avondale MARTA Station Development (CPAM) is a mixed use development which will create market residential condominiums as well as affordable housing and retail space, serving the City of Decatur’s growing need for workforce and other housing. The development occupies 7.6 acres of the total area of 45 acres designated as Columbia Park through the Livable Centers Initiative (LCI) planning process.

270 Residential units and 14,000sf of commercial retail space at grade.  
*Workforce housing accounts for 45% of the rental and 20% of the sales units to fulfill the city’s goal of 20% affordability for all units developed in this area.*
DECATUR, GA: Columbia Park
LEED™ Registered Building
This site is shared by the Historic Scottish Rite Hospital, an adaptive use (also by Smith Dalia Architects) of an original J. Neel Reid building that is now a community center. The cooperatively funded project included historic tax credits and HUD for the housing component. The architectural style references the surrounding neighborhood’s overall period, adding to a sense of place. Second bedrooms were added to units whose residents required personal attendants. Common courtyards, intimate in scale, serve as community space, and porches connect units for socializing purposes. By combining sidewalk with building ramping, the site both exceeded accessibility requirements and saved mature trees, significantly helping to preserve the neighborhood’s biodiversity.

**Awards:**
2003 AIA National HUD Secretary’s Alan J. Rothman Housing Accessibility Award
2003 Magnolia Award for Excellence in Affordable Housing/Superior Design Award
DECATUR, GA: INDEPENDENT COMMUNITIES
Shepherd Center and Progressive Redevelopment Inc.
DECATUR, GA: INDEPENDENT COMMUNITIES
Shepherd Center and Progressive Redevelopment Inc.

Fourteen (14) Apartments
Nine (9) one Bedroom Units
Five (5) two Bedroom Units

*All units are fully handicap accessible

Age: Over 18 years of age
All Residents: 50% of median income
Tenants pay no more than 30% of their income for rent.
HUD provides the PRAC – an "operating" subsidy to the project
The Hope House was built on a former parking lot in the heart of downtown Atlanta, and served 366 previously homeless men in its first year. Its design reflects both the urban pattern of this commercial area and the challenge of housing 70 individuals plus a full program of recovery services on a site of less than half an acre.
Of 209 men initially awaiting treatment, 81% stayed clean and sober. Of those who finished the program, 60% moved on to permanent housing.
Hope House is organized around a landscaped interior courtyard. While views through the lobby provide a visual connection to the street, the courtyard provides a calm, secluded environment for socializing, recreation and vegetable gardening, which partially supplies the kitchen.

Award:
2006 Magnolia Award for Excellence in Special Needs Housing
Combining affordable housing with an on-site social service staff, Presley Woods Apartments is innovative in its concept and design. The staff provides linkage to community services, enabling residents to live independently with success. This is the first project completed under the State of Georgia’s Supportive Housing Demonstration Project.

The substantial development has 40 fully-furnished studio apartments. Half are reserved for individuals living with a mental illness, and all residents are low income. The apartments are subsidized by HUD’s Shelter Plus Care program and the Section 8 program.

Construction cost was minimized through the use of prefabricated modular units for the homes.
ATLANTA, GA: Reynoldstown Square

Adaptive re-use / Affordable Housing

Sited between two new John Wieland Townhomes developments, this adaptive use was initiated by the Reynoldstown Revitalization Corporation, a non-profit community development center for this transitional Atlanta neighborhood. Smith Dalia Architects’ design apportioned the former 1940’s ice plant’s warehouse and company offices into lofts and smaller units, creating an affordable housing component for the complex. All of the resulting 23 condominiums were sold within a year of completion in 2004.

Awards:
Finalist, 2005 ULI Development of Excellence Award
2005 AHAND* Project of the Year
(As a John Wieland Townhome)
2005 Bridge Building Award, Reynoldstown Revitalization Corporation
The US Department of Housing and Urban Development (HUD) funding is distributed to regions via non-profit Community Development Corporations (CDC's). This funding is beginning to require increasing components of “green” or sustainable design.

**Doing the work…**

**Affordable Housing Directions**

The US Department of Housing and Urban Development (HUD) funding is distributed to regions via non-profit Community Development Corporations (CDC's). This funding is beginning to require increasing components of “green” or sustainable design.

**DCA** (Department of Community Affairs): Administers low income tax credits and offers Energy Star Bonus points

**Home Depot Foundation**: Earthcraft and Green Building Certification

**Enterprise Foundation**: An internal ranking system for “green” design

Predominantly, developers are incentivized through zoning and codes, wherein density and parking reductions may be awarded based upon adjacency to transit and/or allocation of affordable units within the development.
SMITH DALIA SUSTAINABLE INITIATIVES

In House Training
- Summer Green
- Energy Code
- Building Science
- Architecture 2030 (future 2008-2009)

LEED Accredited Professionals and Certified Projects
- Currently 80% of our employees (28 total) are LEED AP and over 28 projects in house are LEED certified or pursuing LEED certification.

LEED (Leadership in Energy and Environmental Design) is one of the more effective programs resulting in positive measurable reductions in energy and resource use within buildings.

In House green building consulting and LEED Administration staff
- As consultants for more responsive design, we internally and externally manage documents for LEED projects and help to guide projects to higher energy efficiency and greater connectivity within community resources and spaces.

SD GREEN
- A division of Smith Dalia Architects, soon to launch, providing identification and management guidelines for more efficient operability and use.
Ed Mazria (Creator of Architecture 2030) states:
“Design is the first strategy that should be used to reduce the need for fossil-fuel energy. Within this category there are a number of design techniques that are no-cost or low-cost. These strategies can dramatically reduce your home’s need for fossil-fuel energy.

The following are just some examples of energy-efficient design strategies: Air Sealing, Proper Insulation, Passive Solar, Day-lighting, Natural Ventilation, Landscaping and Material Selection.”

David Baker (DB+P Architects) in Street Logic:
- Use low cost, tactile materials with longevity
- Introduce cost effective custom details
- Collaborate locally
- Place design value in people instead of cars
- Respect site specific orthogonal systems
- Engender a collective identity and strong sense of place
- Welcome Community input and participation
- Consider the progression of spaces public and private
- Provide and fully explore the potential of courtyards
- Consider place and context in massing and proportions
- Provide for individuality and a sense of ownership
Joshua's 25th Firewood
Honour System