

# **BUILDING GREEN**

**BUILDING DESIGN, CONSTRUCTION,  
AND USE THAT SUPPORTS  
SUSTAINABILITY**

# MANY LEVELS OF GREEN CONSTRUCTION

- LEED Rating
- Green Building Code
- ENERGY STAR
- International Energy Conservation Code (IECC)

# GREEN CONSTRUCTION

(Amended IECC)

STATE  
ENERGY  
CODE

LEED

ENERGY  
STAR

GREEN  
BUILDING  
CODE

(Step above IECC)

# L.E.E.D.

- *Leadership in Energy & Environmental Design*
- Rigid Point System
- Levels: Certified, Silver, Gold, or Platinum
- Building plans approved by select committee in Washington, D.C.
- **Construction process approved by same committee**

# ON-SITE PROJECT APPROVAL

- On site review before, during, and after construction
- Approvals require 3<sup>rd</sup> party inspections
- 3<sup>rd</sup> party inspector is appointed by Washington D.C. committee

# LEED GREEN PRINCIPLES

- Higher density
- Smaller buildings
- Smaller lots
- Less grass
- Less concrete
- Narrower streets
- Recycling of construction waste

# LEED COSTS

- Adds 10% - 15% to construction costs
- Can add \$10,000 - \$20,000 to cost of SFD
- Would add \$250,000 to cost of Fairbourne apartments
- Can add \$1 million to cost of very large building

# ENERGY STAR SYSTEM

E.P.A. - 1992

- Very similar to current energy code
- Claims buildings are 15% more energy efficient
- Requires 3<sup>rd</sup> party on site testing
- Requires blower door test of home
- Only audits every 7<sup>th</sup> home
- Adds \$4,000 to \$5,000 cost per home
- Recognized in LEED process

# UTAH UNIFORM BUILDING STANDARDS ACT

- Adopted into law in 1990
- **Created Mini-Max State Building Code**
- Goal was to provide uniform building code regulations throughout the State for builders and design professionals
- By law the Legislature prohibits any jurisdiction from adopting rules contrary to State Code

# Utah Title 15A-1-204

- (1)(a) The State Construction Code is the construction codes adopted with any modifications in accordance with this section **that the state and each political subdivision of the state will follow**

# INTERNATIONAL ENERGY CONSERVATION CODE - IECC

- **State Energy Code**
- Developed in a national legislative-type process
- Product of strong national energy lobby
- Addresses both residential and commercial construction
- Replaced old 1993 Federal Model *Energy Code* in 2000

# IECC REGULATIONS

- Insulation in walls, attics, floors, basements
- Heating/cooling ductwork **design** & insulation
- Appliance efficiency
- Plumbing fixture efficiency
- Window U-ratings
- Ratio of window/wall area
- Whole house analysis for energy loss
- Building orientation

# MORE IECC CONCERNS

- **ResCheck** heating/cooling analysis per home per lot
- ComCheck heating/cooling/lighting analysis per commercial building
- Commercial vestibules
- HVAC system testing for commercial construction
- Blower door testing (limited by Legislature)

# IECC CERTIFICATE



## 2009 IECC Energy Efficiency Certificate

### Insulation Rating

R-Value

Wall

19.00

Floor

11.00

Ceiling / Roof

38.00

Ductwork (unconditioned spaces):

### Glass & Door Rating

U-Factor

SHGC

Window

0.35

0.38

Door

0.35

0.38

### Heating & Cooling Equipment

Efficiency

Forced Hot Air

92.1 AFUE

Electric Central Air

13 SEER

Water Heater:

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Comments: \_\_\_\_\_

# GREEN BUILDING CODE

- Similar to LEED concept
- Flexible point system
- Recently created by ICC in conjunction with the *Sustainable Buildings Industry Council*
- **Not currently adopted by Utah**
- University of Utah, Park City, and Summit County all interested in this **Green Code**

# STATE ENERGY CODE CLASS

- Hosted by Bonneville Chapter ICC
- Utah Cultural Celebration Center
- **Thursday, October 30<sup>th</sup> (all day class)**
- Instructor Brent Ursenbach
- Will address latest edition of State Energy Code w/Utah amendments

# SALT LAKE CITY PROGRAM

- LEED SILVER required for new City owned and operated buildings, new City funded projects, or renovations over 10,000 square feet
- Expedited plan review incentive:
  - For homes achieving ENERGY STAR rating
  - For commercial building achieving LEED Silver or better

# INCENTIVE EXAMPLES

- Waived or reduced plan review fees
- Expedited plan review
- Bonus density
- Cover cost of third party verification for certified projects
- Tax incentives
- Technical & design assistance

# BALANCING OTHER CITY INTERESTS

- Quality architecture
- Durable materials
- Larger lots
- Larger homes
- Economic development
- Construction related fee revenue