

Florida Housing Coalition



Green Design and Construction

Creating Value by Going Green

You must be the change you wish to see in the world. - Ghandi

Housekeeping



Panel Intro....



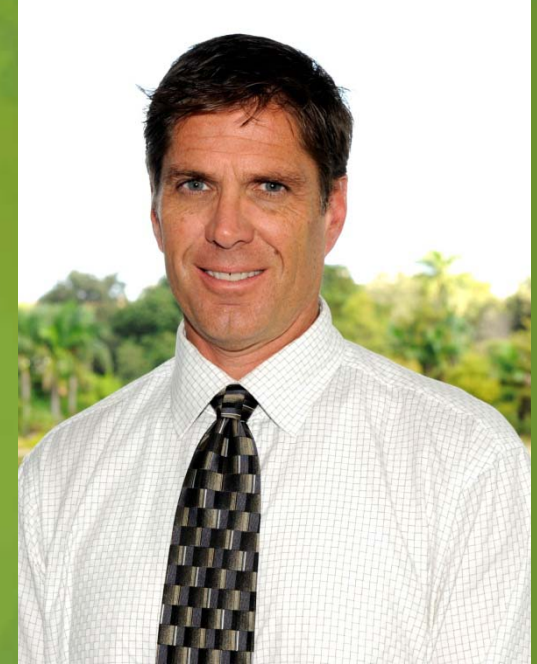
Ed Binkley, AIA

ed binkley design
architecture



Cathy Byrd

GreenHeights
Development Corp
construction



Brad Goar

Florida Power & Light
Program Manager

Presentation Outline

- Benefits of Building Green
- Land Planning
- Multi Family
- Design Basics
- Small Lot Single Family
- Systems Built Housing
- Conclusions....

Design and Aesthetics

For a house or any building to be sustainable:

- people must want to inhabit it.
- it must appeal to the psyche.
- it must be adaptable to people's personalities.

Case Study East Tampa CRA

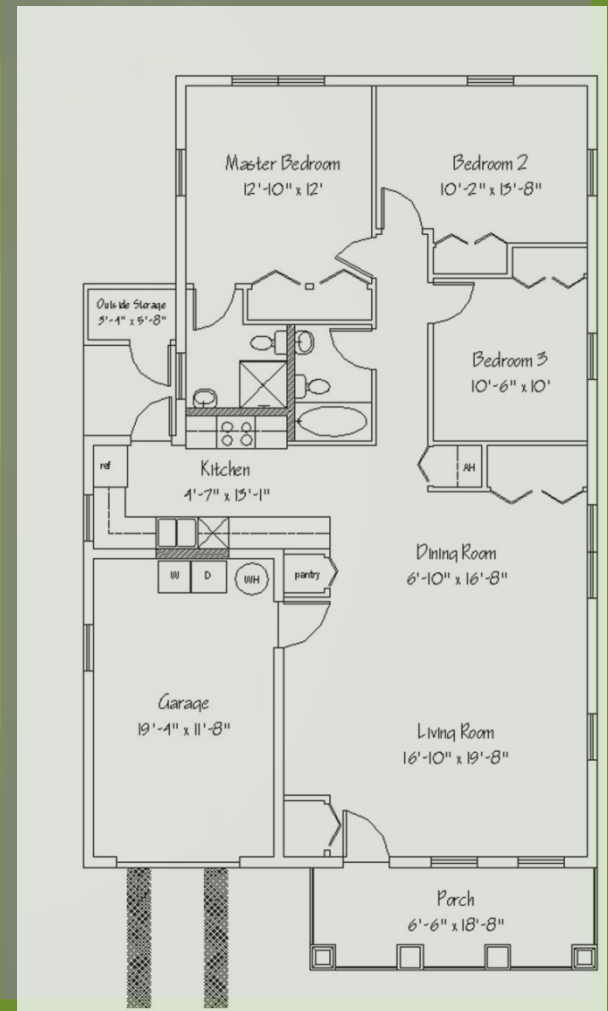
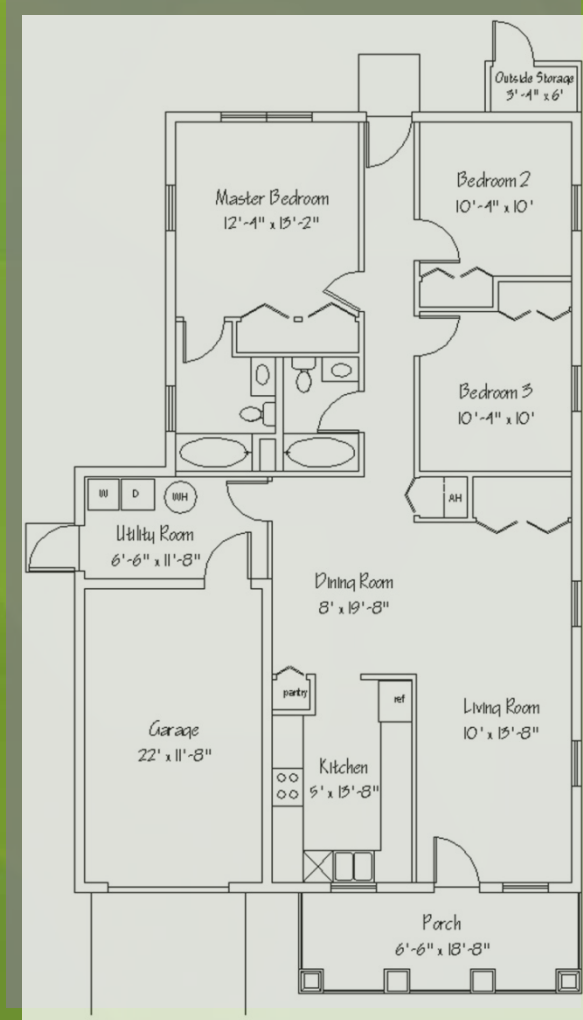
- Three bedroom/two bath single family home designed for east Tampa area.
- Sq footage –
A/C floor: 1302.4 sf
Garage: 235.4 sf
Porch: 124.4 sf

Total: 1662.2
sf



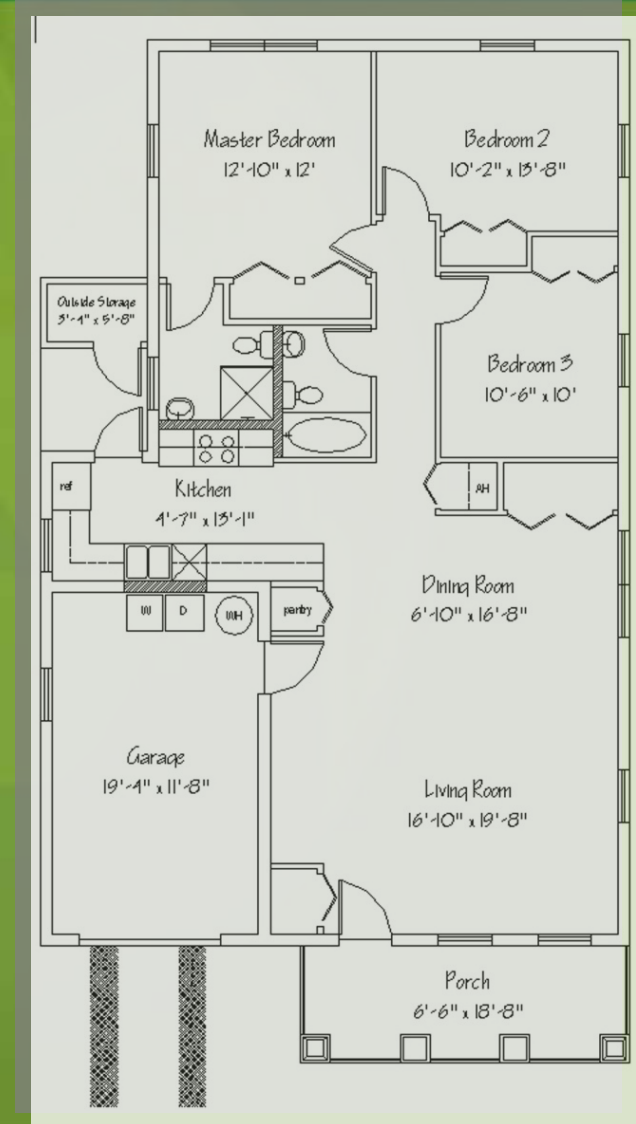
City of Tampa Concept

proposed
“green”
concept



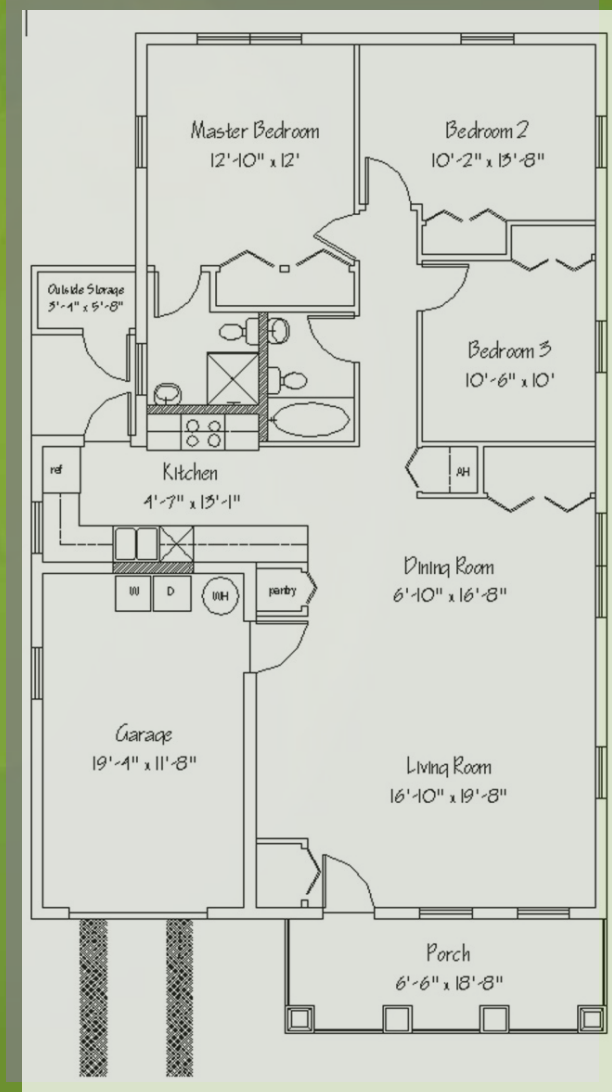
Suggested Plan Changes

- increases usable square footage by 111 sq ft without increasing actual square footage
- expanding 2nd bedroom increases occupancy of house by one without the effects of 'crowding'
- move washer and dryer to non-air conditioned garage for more sustainable energy usage
- locating windows on two walls in a room and including ceiling fans helps increase natural ventilation
- increasing number of windows creates more day lighting
- consolidates plumbing



Suggested Plan Changes

- relocating kitchen makes living area larger, increasing the usability of the space
- relocating back door away from children's rooms creates safer environment (either real or perceived)
- relocating storage to side of house saves on formwork materials and labor costs
- reduces overall material usage and decreases labor costs
- unfinished garage saves on materials and allows homeowner to organize overhead storage to their preference
- concrete lattice driveway reduces runoff, heat gain, and materials



Benefits of Plan Changes

- Reduces material usage (cost)
- uses approximately 8 linear feet less cabinetry for kitchen and eliminates cabinetry in bathrooms
- uses 6 sq ft less counter space in kitchen
- uses 381 sq ft less of 1/2" gypsum on the interior and 660 sq ft less of 1/2" gypsum in the garage
- uses 152 linear ft less of 2"x4" stud for interior walls
- 1 less interior swing door
- concrete pour for walkway and driveway replaced by lattice work and stepping stones
- Increases size of spaces and overall usable square footage without increasing costs or actual square footage.
- Larger gathering area for family and larger bedrooms allow for a higher occupancy without the effect of 'crowding.'

Sustainable Benefits

- Reduces amount of materials required for construction while maintaining square footage.
- Reduces energy required to operate home.
- Reduces heat gain in front yard and roof and reduces runoff.
- Increases safety, usability, and adaptability of home → elongates life of structure

'Green' Components

In analyzing and subjecting this project to environmental alternatives, the key factors are:

- system description
- environmental benefits
- financial consideration

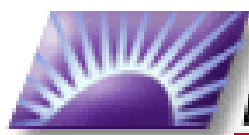
Conclusion

By making simple, logical substitutions this will be a cost effective energy and resource efficient home.

References

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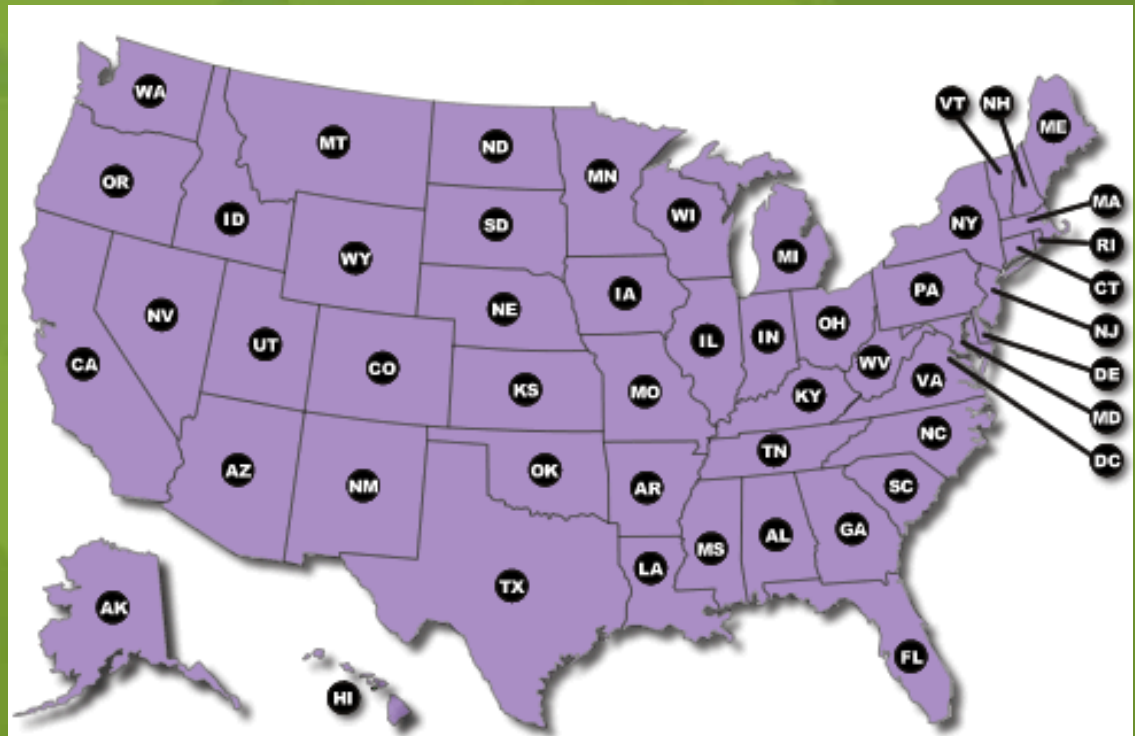
Tax Incentives & Rebates



DSIRE

Database of State Incentives for Renewables & Efficiency

State by State
Programs in Place
and
Dollars Available...
Just click on Your
State...



www.dsireusa.org

Land Planning

- Smaller lots = less land cost
- Smaller lots = less sprawl
- Smaller lots = less yard maintenance
- Smaller lots = smaller home
- Smaller home = less upkeep
- Less upkeep = more quality time
- More quality time =okay...you know where this is headed....

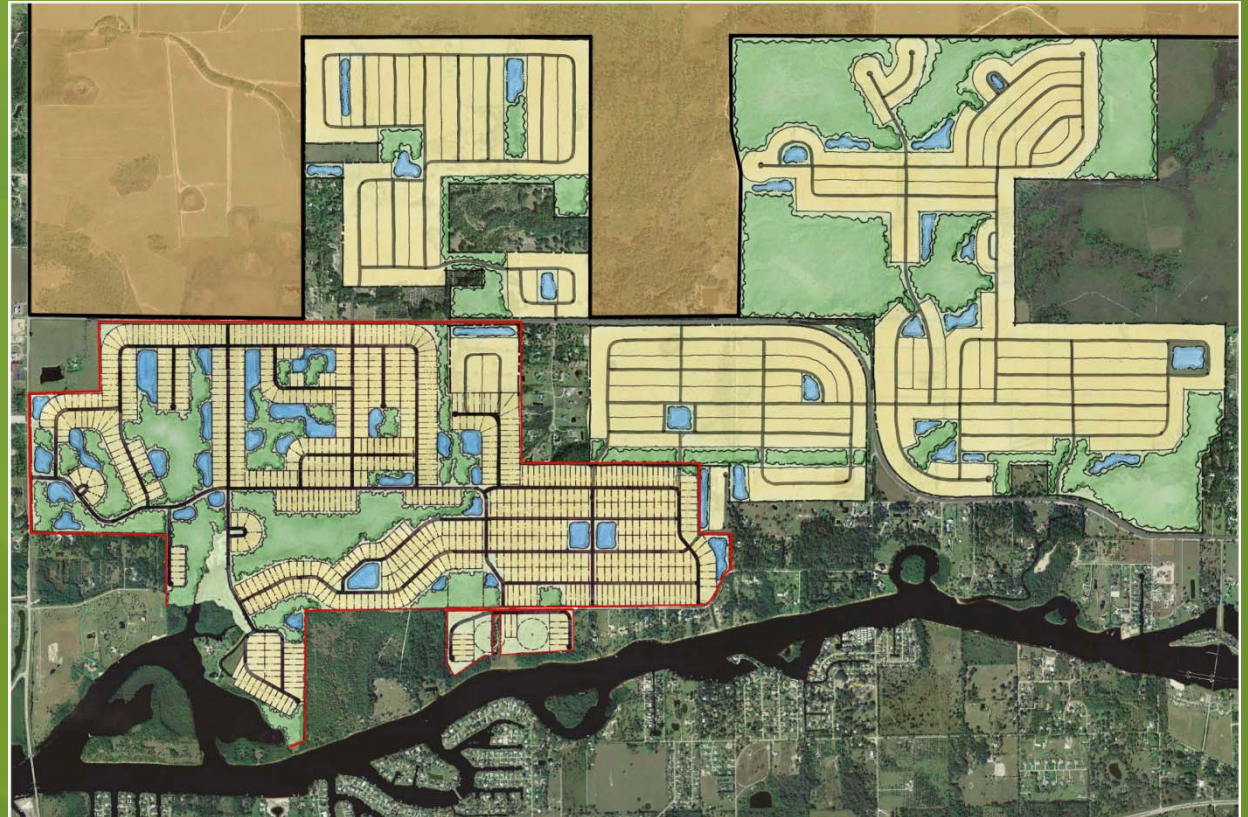
Clustering Promotes Green

- Clustered development preserves open space
- Clustering uses less land
- Minimizes impervious surfaces
- Allows for connection of wildlife habitat
- Makes central water/sewer feasible
- Deflects growth away from environmentally sensitive areas

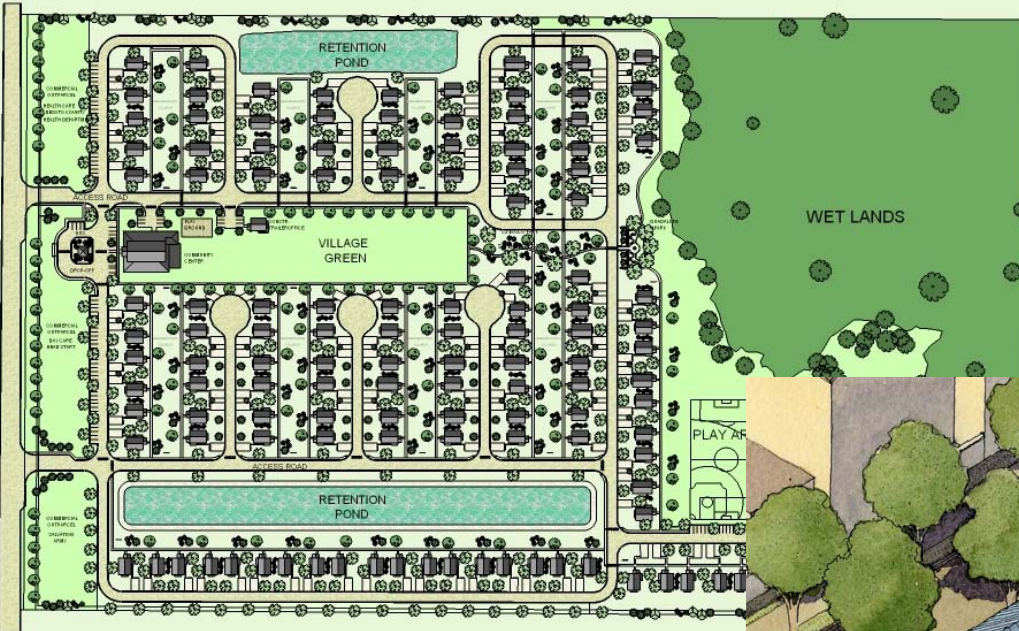
Density Reduces Sprawl

urban,
urban fringe,
suburban,
and
rural infill...

look at
“overlooked”
areas for
small
development
projects

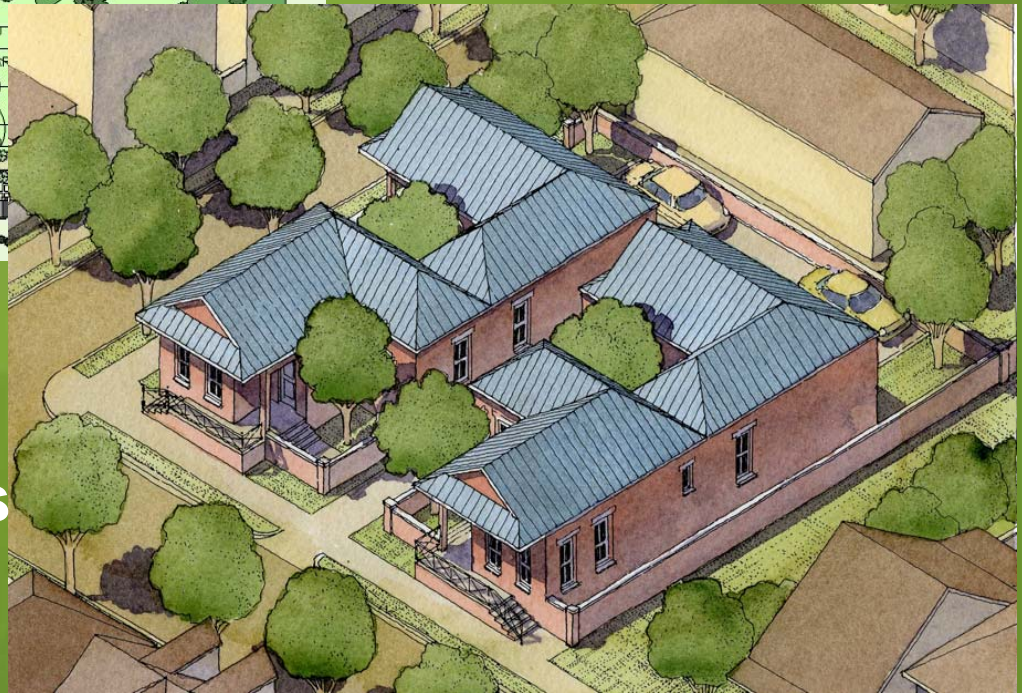


Land Planning



east-west orientation
when possible

preserve natural areas &
create community spaces



Multi Family Urban Infill



*If you don't build here,
moo will...meet moo.*

Multi Family Urban Infill



Seek out overlooked opportunities...start small, with 2-6 unit buildings...



Multi Family Urban Infill



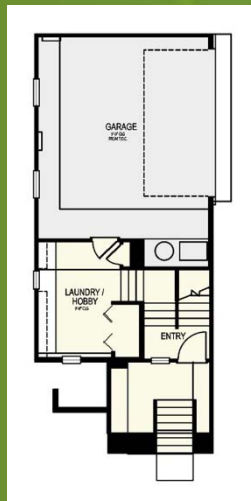
43 Units on 1.6 ac
27 du/ac



Multi Family Urban Infill



Rear Load
AutoCourt
Townhomes
20–30
du / ac



Multi Family: The Car



Must deal with the cars..

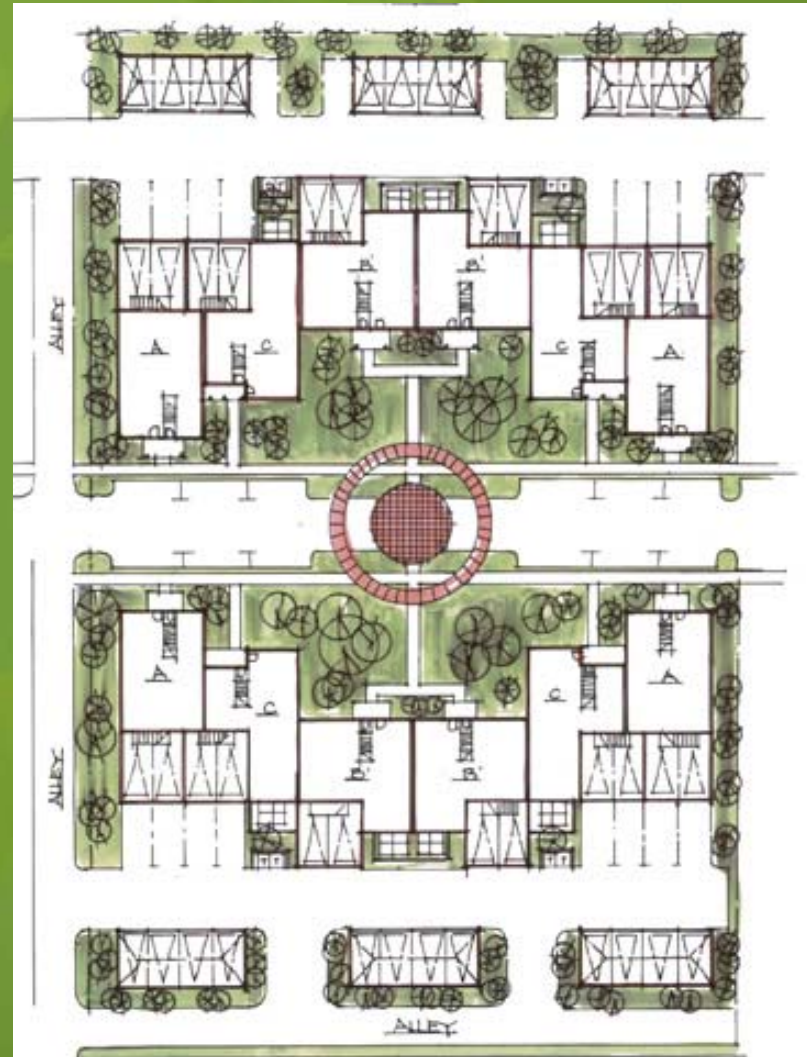
20 du / ac



ARTIST RENDERING

Multi Family: Flat Over Flat

- Attached Housing
- 12 U Creates Front Courtyard units
- All Flats
- Direct Access Garages
- Staggered Bldg Plan
- Adequate guest parking

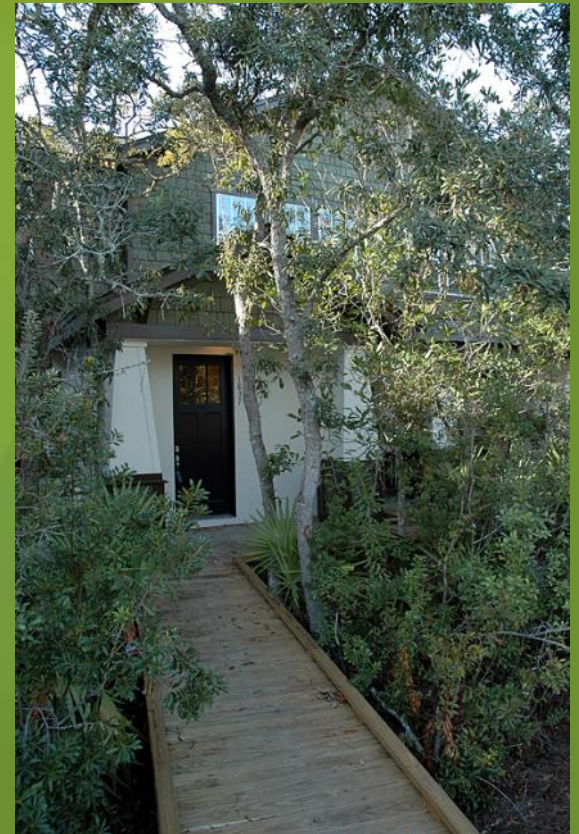


Multi Family: Flat Over Flat



12 unit building with
single family character...

Preserve existing
landscaping...



Foreclosed McMansions



Put them to good use...
house four families...instead of one...

Design Basics

Build Smaller & Smarter:

we don't buy cars by the pound...so
why should we buy homes by the
square footage?

Integrated Design Process

- Start Early
- Establish Clear & Common Goals
- Include All Players
- No Single Decision Maker
- Be Innovative
- Continue Concept Through All Phases
- Develop Ongoing Cost Estimates
- Develop Communication & Feedback Loop

Design Basics: Economize

- Smaller Lots
- Smaller Homes
- Smaller Prices



Design Basics

- Be Flexible...Double Duty Rooms
- Add Extra Height & Fill the Entire Volume
- Reduce Circulation Paths
- Built in Furniture
- Remove Formal Spaces
- Use Bedrooms for Sleep
- Provide Ample Storage
- Add Focal Points



Take Advantage of Unused Space



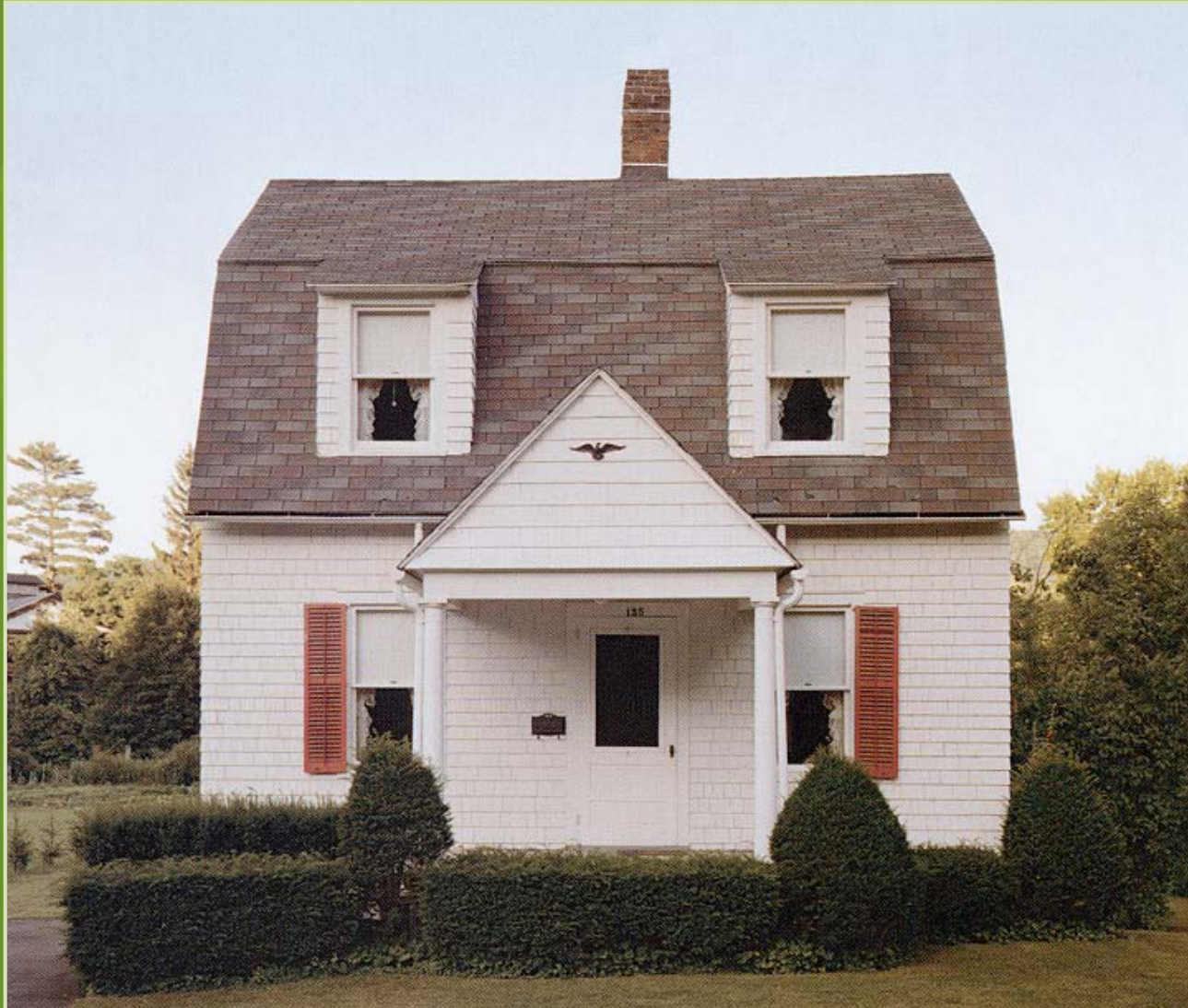
Daylight, High Glass, Light Colors



Use of Light Colors
And Daylight
Maximizes Scale



Lessons From Grandma's House



Think Inside the Box



**Narrow front = smaller canvas
to detail accurately**

**Simple but deliberate
details**



Façade Color

one
plan
multiple
colors



ed
binkley
design

shelter four
plan one
20 x 80
detached rear garage