

NOTICE OF FUNDING AVAILABILITY (NOFA)

Public Housing Capital Fund

NOFA Funding Categories

1. Improvements Addressing the Needs of the Elderly and/or Persons with Disabilities - \$95,000,000 (Round 1)
2. Public Housing Transformation - \$100,000,000 (Round 1)
3. Gap Financing for Projects Stalled Due to Financial Issues - \$200,000,000 (Round 1)
4. Creation of Energy Efficient Green Communities - \$600,000,000
 - Option 1: \$300,000,000
 - Option 2: \$300,000,000

NOFA Revisions

- Threshold Requirements “High Performer”
 - Categories 1-3
 - Revised the HP threshold – now only applicable to be funded under Round 1’s Threshold Funding Cap
 - Threshold Funding Cap = In Round 1, approx. 50% of each Category’s Funding Cap is reserved for eligible applications from High Performers.
 - The balance of each Category Funding Cap will be available for remaining eligible applications from High Performers and non-High Performers.
 - Those not funded in Round 1 will be considered in Round 2

NOFA Revisions

- Threshold Requirements “High Performer”
 - Category 4
 - Removed High Performer threshold
 - Replaced with an additional 5 points (out of the total of 110) for High Performer applicants

NOFA Revisions

- Modification of Expenditure Threshold for all NOFA Categories
 - Categories 1-3
 - PHAs that violate Section 9j of the 1937 act ineligible for Round 1 consideration
 - Threshold can be lifted in Round 2
 - Category 4
 - 9j violators ineligible for initial ranking
 - Threshold can be lifted after initial consideration

NOFA Revisions

- **Modification of Poverty Rate Census Tract Threshold for Category 2**
 - Concentration of poverty required under this Threshold increased from 20-40%
 - Units proposed to be completed as a result of this grant must be located in a census tract (using data from the 2000 Census) with a concentration of poverty that does not exceed 40 percent.
 - All of the units in the proposed redevelopment must be in census tract(s) that meet this requirement

NOFA Revisions

- Modification of Poverty Rate Census Tract Threshold for Category 2
 - Units proposed can be done on or off of the original PH site, subject to the 40%.
 - If the existing PH project is in a census tract with a concentration of poverty that exceeds 40%, proposed units could not be built back on site.
 - Proposed units could be built off site in a census tract that does not exceed 40%.
 - Exception: if existing PH project occupies an entire census tract, & that census tract exceeds 40% standard, but ALL of the census tracts that are physically adjacent to the existing PH site are in census tracts that comply with 40% standard, PHA could build back on existing site.

NOFA Revisions

- Modification of Poverty Rate Census Tract Threshold for Category 2
- If the units proposed to be completed as a result of this grant will be completed off site, they must be located in either:
 - (i) A stable, well-functioning community, where services and community infrastructure, already exist; or
 - (ii) A community that lacks resources, but has already been targeted by the local government or other responsible entity for revitalization. These types of activities must have commenced prior to the issuance of the NOFA.

NOFA Revisions

- Modification of Demo/Dispo Threshold for Category 3
 - Demo/Dispo applications must be **submitted** to HUD for approval by the publication date of the revised NOFA (June 3, 2009) instead of approved.

NOFA Revisions

- Modification of Category 4, Option 1 Funding Request Limit
 - Applicants for Category 4, Option 1, may request the higher of:
 - the sliding scale PHA cap (based on size of PHA's inventory), or
 - request a max of \$10 million,
 - Applicants (in ALL Categories) must comply with the Budget, Leverage and Financing Thresholds of the NOFA (which includes TDC/HCC requirements), as relevant, & Funding Restrictions of the NOFA.

NOFA Revisions

- Modifications Related to Leverage & Match
 - Definitions: Added definitions of leverage and match
 - Amended Leverage Threshold for Category 1 from .25:1 to .05:1.
 - Modification to Tie-Breaking Procedure
 - Added optional criteria of match (not required)
 - Modified tie breaking criteria for Categories 1, 2 & 3 to use leverage & match combined

NOFA Revisions

- Modified language in Category 4, Option 2, Rating Factor Strategy for Energy Efficient Communities concerning energy/water.
 - Points for Reduction in Water Consumption and Energy will be Weighted: 70% Energy and 30% Water
- Clarified that HUD will only fund one grant per project.

NOFA Revisions

- **Schedule Adjustments**
 - **Threshold-Based Categories 1-3:**
 - First ordinal assigned July 6
 - Applications accepted June 22-August 18
 - Round 1 is July 6-31
 - Round 2 is August 1-18
 - **Rated & Ranked Category 4:**
 - Applications due July 21 (no change)
 - Applications accepted starting June 22

NOFA Revisions

- The revised NOFA is available at http://portal.hud.gov/portal/page?_pageid=153,7973363&_dad=portal&_schema=PORTAL
- Send any questions on the NOFA to PIHOICI@hud.gov

Submitting Applications

- Application and Submission Information
 - PIH is updating the CFRC Application Spreadsheets to conform to the NOFA revisions, PHA's will be notified by email when updated application spreadsheets are available:
 - <http://www.hud.gov/offices/pih/programs/ph/capfund.ocir.cfm>
 - All applications submitted electronically by email to the address below:
 - PIH_RecoveryCompetition@hud.gov

Section 3 of the
Housing & Urban Development Act of
1968

Staci Gilliam Hampton
Director
Economic Opportunity Division

Section 3 Background

- HUD funds are one of the largest sources of federal dollars in distressed communities
- The expenditure of HUD funds typically results in new contracts, employment or training opportunities
- *When economic opportunities are created, preference shall be given to low-income residents of the community where the funds are spent and the businesses that substantially employ these persons*

Section 3 Preference

- Section 3 of the HUD Act is race and gender neutral.
- The preferences provided by under Section 3 are based on income and location.

Section 3 Residents

- Residents of Public Housing; or
- Low- and very low-income persons residing in the metropolitan area or non-metropolitan county

Section 3 Business Concerns

1. Owned by Section 3 residents;
2. Substantially employs Section 3 residents (30% or more); or
3. Can provide evidence of commitment to subcontract 25% of work to another Section 3 Business

Section 3 Funding Thresholds

- There are **no thresholds** for Public and Indian Housing assistance, the Section 3 requirements apply to all activities regardless of the dollar amount
- The requirements also apply to all contracts regardless of the dollar amount

Section 3 Scoring

Section 3 Compliance—1 point

Applicant demonstrates compliance during the most recent reporting period (i.e., copy of 60002)

Section 3 Scoring

Section 3 Plan—2 points

- Feasible plan for ensuring Section 3 compliance
- Rated on the extent to which the Section 3 Plan describes how the applicant will carry out activities in paragraphs (I)-(VII) in Rating Factor 4 of NOFA

Feasible Section 3 Plans

- Anticipated hiring & contracting needs;
- Section 3 Preference
- Eligibility Criteria/ Certification
- Notification Procedures
- Monitoring contractors
- Meeting Numerical Goals
- Contact Information

60002 Annual Reporting Form

Section 3 Summary Report
Economic Opportunities for
Low and Very Low-Income Persons

**U.S. Department of Housing
and Urban Development**
Office of Fair Housing
and Equal Opportunity

OMB Approval No.2529-0043
(exp. 8/31/2007)

*HUD Field Office :

See Public Reporting Burden Statement below
General Instructions

***1. Recipient Name :**

Recipient Address

Street

City

State

Zip (or Postal Code)

***2. Grant Number :**

***3. Total Amount of Award:** \$
Amount of All Contracts Awarded: \$

4. Contact Person :

5. Phone:
Fax:
E-Mail:

6. Length of Grant :

 Month(s)

***7. Reporting Period:**

***8. Date Report Submitted :**

(MM/DD/YYYY)

***9. Program Code-Name :**

***= Mandatory Field**

Section 3 Additional Resources

- 24 CFR Part 135
- www.hud.gov/section3
- www.doleta.gov/usworkforce/wia
- section3@hud.gov
- 202-708-3633

The Public Workforce System

Janet Sten
U.S Dept of Labor

The Public Workforce System

- A vast network of information and resources which can be leveraged to help train and place public housing residents into jobs created by Recovery Act-funded projects
- This network is accessed through:
 - Multiple Federal, State, and Local Web sites
 - More than 2,900 One-Stop Career Centers

Public Workforce Funding Flow

U.S. Department of Labor

Oversees the service delivery system

State Agency/State Workforce Investment Boards

Provides leadership to the local boards and informs local strategies

Local Workforce Investment Boards

Provides strategic direction of their areas, setting training and investment priorities

Local One-Stop Career Centers

Provides services to jobseekers and employers

Service Providers

Including community colleges and CBOs

Public Workforce Career Centers

■ To HUD housing residents seeking jobs:

- Initial needs assessment
 - Searches for jobs and training
 - Access to job banks or job listings
 - Referral to an employer with current job openings
 - Comprehensive assessment
 - Employment counseling
 - Short-term job prep skills
 - Skills training, upgrading /retraining
 - Adult education and literacy
- Core Services
- Intensive Services
- Training Services

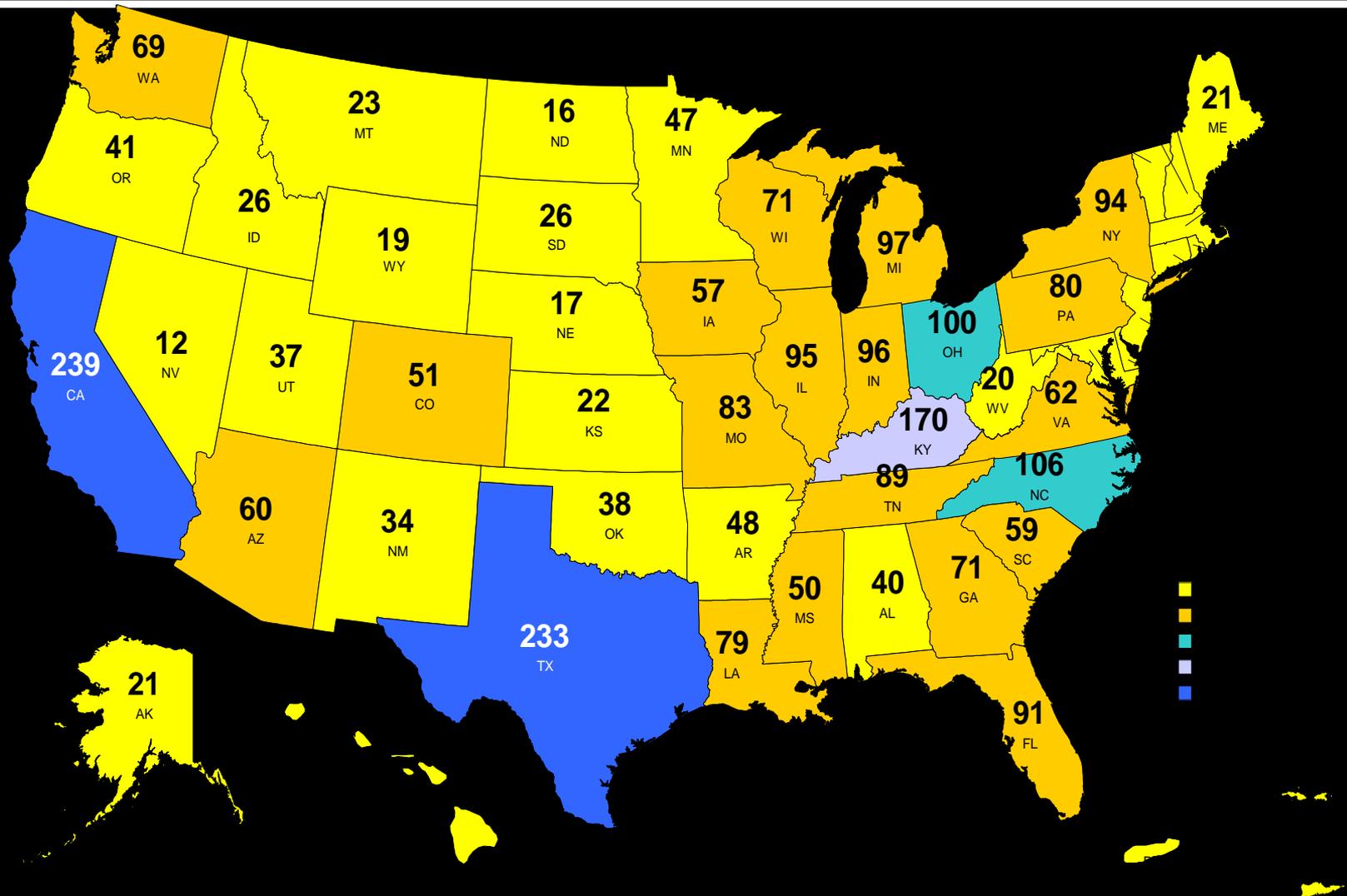


Public Workforce Career Centers

- To PHAs and their contractors seeking to hire HUD housing residents:
 - Job description writing
 - Posting of jobs
 - Resume review
 - Space to conduct interviews
 - Candidate pre-screening
 - Skill assessment
 - Referral of job-ready candidates
 - Assistance in organizing job fairs



Public Workforce Career Centers



Public Workforce Career Centers

Go to:

www.servicelocator.org

Or, call:

1-877-US2-JOBS

The screenshot shows the America's Service Locator website. At the top, there is a navigation bar with links for [Explore Careers](#), [Salary + Benefits](#), [Education + Training](#), [Job Search](#), [Resumes + Interviews](#), and [People + Places to Help](#). Below this is a search bar with a dropdown menu set to "State Job Banks" and a "More Resources" link to "America's Career Infonet". A "Worker ReEmployment" banner is visible, along with a "helpine" section providing contact information: 1-877-US2-JOBS, 1-877-872-5627, and TTY 1-877-898-0627. The main content area features a "One-Stop Career Centers" section with a form to find a center near you, and a "America's Service Locator" section with a map and a "thinkabout:" logo. A footer contains links for [Home](#), [Explore Careers](#), [Salary + Benefits](#), [Education + Training](#), [Job Search](#), [Resumes + Interviews](#), [People + Places to Help](#), [About Us](#), [Site Privacy](#), [Contact Us](#), [Links to Us](#), [Site Map](#), and copyright information for 2009 State of Minnesota v.2.1.

Public Workforce Career Centers

- **What Online Resources Are Available?**
 - To post green employment opportunities for HUD housing residents, visit this site to locate the public workforce system job banks in your state: www.jobbankinfo.org
 - To find information about the workforce system, career and occupational information, and service delivery locations, visit: www.careeronestop.org
 - A site for students, career changers, parents, and career advisors to explore career options and learn about high growth jobs: www.careervoyages.org

Overview of Green Communities Criteria



Leading with Ideas

DEMONSTRATION THROUGH ACTION

Transforming with Capital

SUSTAINING THROUGH POLICIES AND PARTNERSHIP

Extending Enterprise's Vision



“What ought to be, can be, if we have the will to make it so.”
- James W. Rouse

WHAT IS GREEN COMMUNITIES?

\$555 mm to
create 8,500
environmen-
tally sustainable
homes



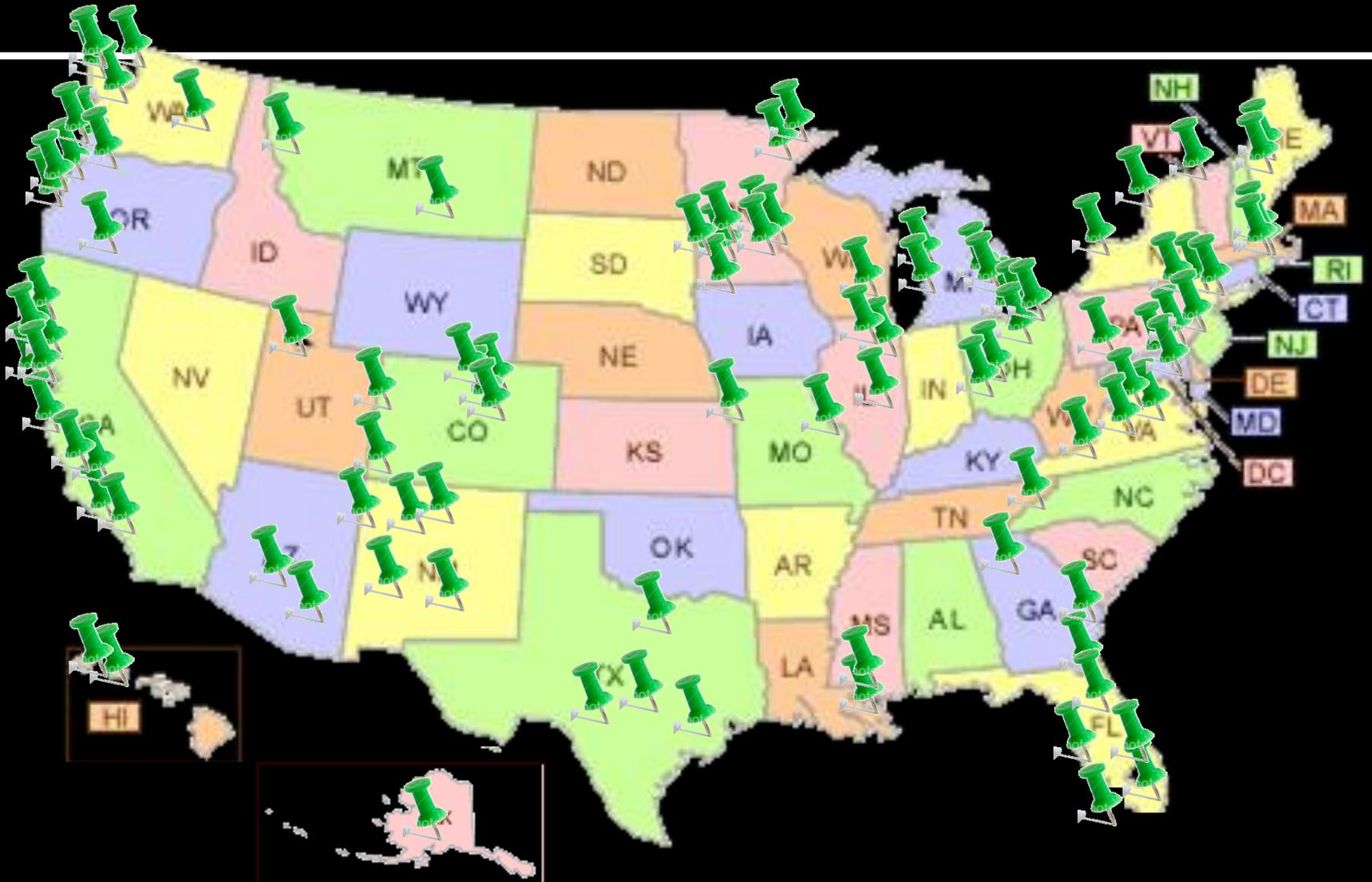
Transform how
we locate,
design, and
build affordable
housing



Build bridge
between
environmentalists
and community
developers



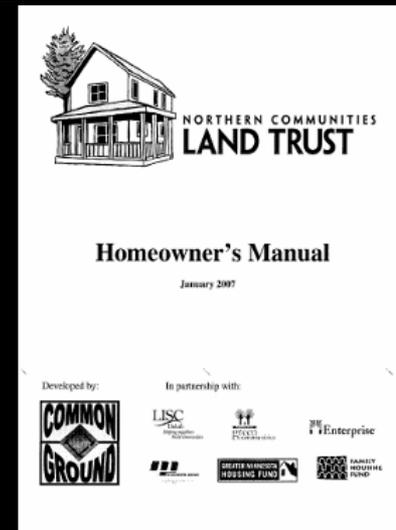
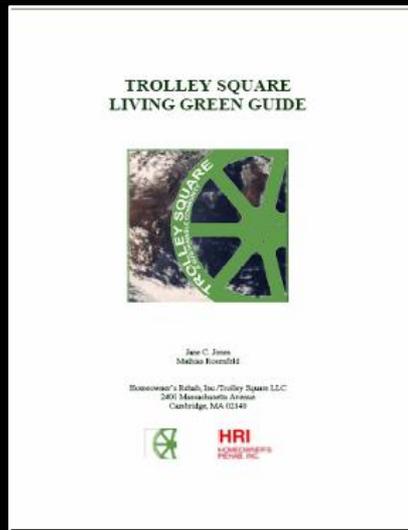
Results at Work



Green Communities Results to Date

- Established the Green Communities Criteria.
- \$655 million invested.
- 14,600 green affordable homes in 335 developments in 33 states.
- 4,000 professionals trained through in-person and on-line events.
- 20 state and local housing policies made more sustainable.
- Emerging research showing significant energy and water savings, health benefits and carbon emissions reductions.

Assistance We Offer



Green Communities National Partners

American Institute of Architects

American Planning Association

Bank of America

Blue Moon Fund

BP America

Citigroup Foundation

Fannie Mae

Freddie Mac

Global Green USA

The Home Depot Foundation

J.P. Morgan Chase

The Kendeda Fund

The Kresge Foundation

Merrill Lynch CDC

M&T Bank

Natl Assoc State Energy
Officials

Natl Center Healthy Hsng

Natural Resources Defense
Council

Southface

Surdna Foundation

Tides Foundation

US Dept HUD

US Green Building Council

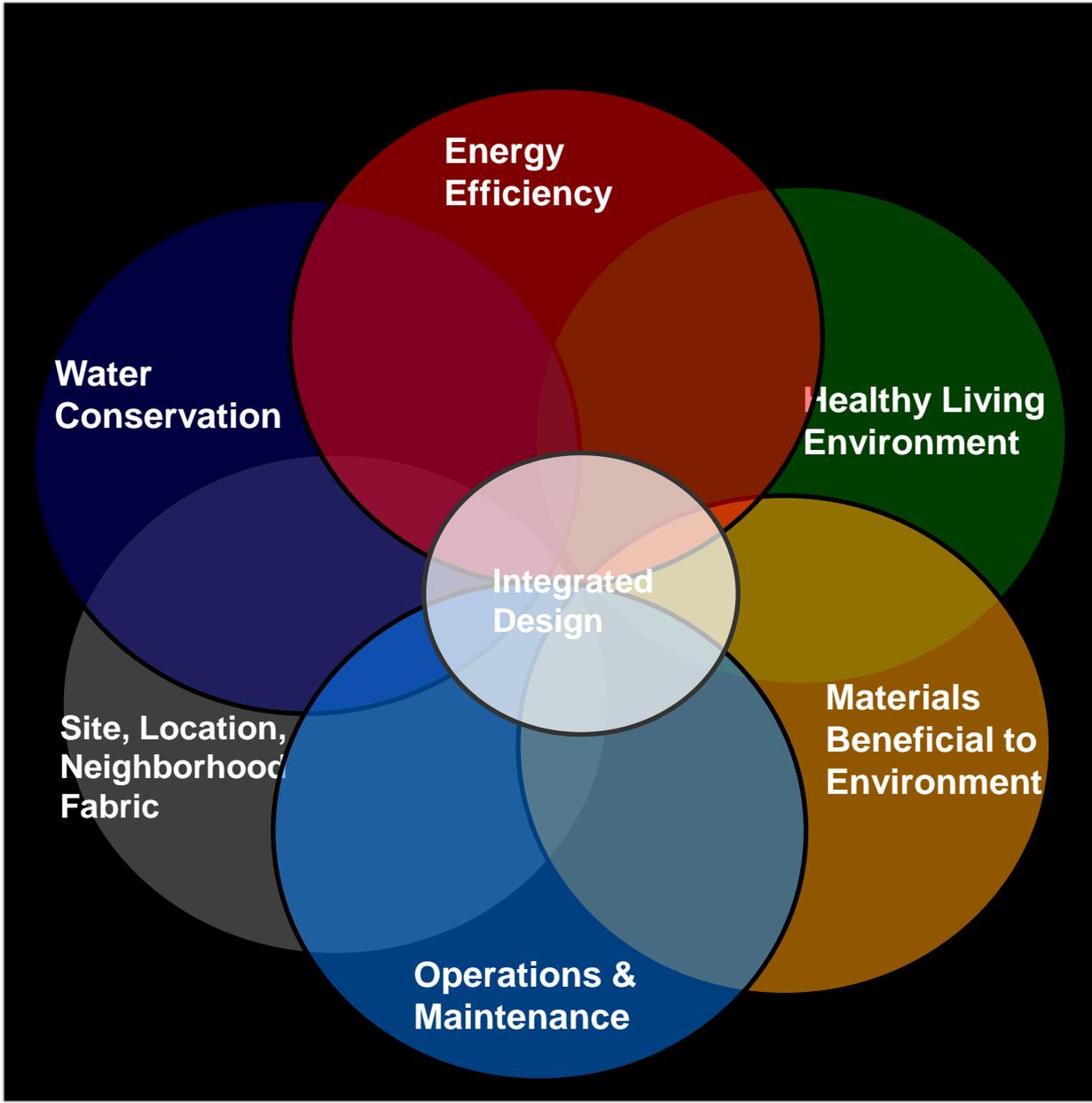
Washington Mutual

William J. Clinton Foundation

William Penn Foundation

Green Communities Framework

- Urban, Suburban, Rural
- New Construction
- Rehabilitation
- Moderate Rehabilitation
- Adaptive Re-use
- Single-family Detached
- Single-family Attached
- Multi-family high-,mid-,and low-rise



Green Communities Criteria





Green Communities Criteria Checklist

Revised February 2008

Developer Name:

Project Name:

Address (Street/City/State):

Maximum Points

Yes	No	?		
Integrated Design				
			1.1 Green Development Plan	
			Submit Green Development Plan outlining the integrated design approach used for this development that demonstrates involvement of the entire development team.	Mandatory
Site, Location and Neighborhood Fabric				
			2.1a Smart Site Location: Proximity to Existing Development	
			LH Provide site map demonstrating that the development is located on a site with access to existing roads, water, sewers and other infrastructure within or contiguous (having at least 25 percent of the perimeter bordering) to existing development.	Mandatory <i>except infill site or rehabs</i>
			2.1b Smart Site Location: Protecting Environmental Resources - New Construction	
			LH Do not locate new development within 100 feet of wetlands, critical slope areas, land identified as habitat for a threatened or endangered species; or on land previously used as public park land, land identified as prime farmland, or with elevation at or below the 100-year floodplain.	Mandatory <i>except infill site or rehabs</i>
			2.1c Smart Site Location: Proximity to Services - New Construction	
			LH Locate projects within a ¼ mile of at least two, or ½ mile of at least four community and retail facilities.	Mandatory <i>except infill site or rehabs</i>
			2.2 Compact Development: New Construction	
			Achieve densities for new construction of at least six units per acre for detached/semi-detached houses; 10 for town homes; 15 for apartments.	Mandatory <i>except rehabs</i>
			2.3 Walkable Neighborhoods: Sidewalks and Pathways	
			Connect project to the pedestrian grid. Include sidewalks or other all-weather pathways within a multifamily property or single-family subdivision linking residential development to public spaces, open spaces and adjacent development.	Mandatory
			2.4a Smart Site Location: Passive Solar Heating/Cooling	
			LH Orient building to make the greatest use of passive solar heating and cooling.	4
			2.4b Smart Site Location: Grayfield, Brownfield or Adaptive Reuse Site	
			Locate the project on a grayfield, brownfield or adaptive reuse site.	10
			2.5 Compact Development	
			LH Increase average minimum densities to meet or exceed: seven units per acre for detached/semi-detached; 12 units for town homes; and 20 units for apartments.	5
			2.6 Walkable Neighborhoods: Connections to Surrounding Neighborhood	
			Provide a site plan demonstrating at least three separate connections from the development to sidewalks or all-weather pathways in surrounding neighborhoods.	5
			2.7 Transportation Choices	
			LH Locate project within ¼ mile radius of adequate public transit service, or ½ mile radius from an adequate fixed rail or ferry station.	12

Integrated Design Charrette



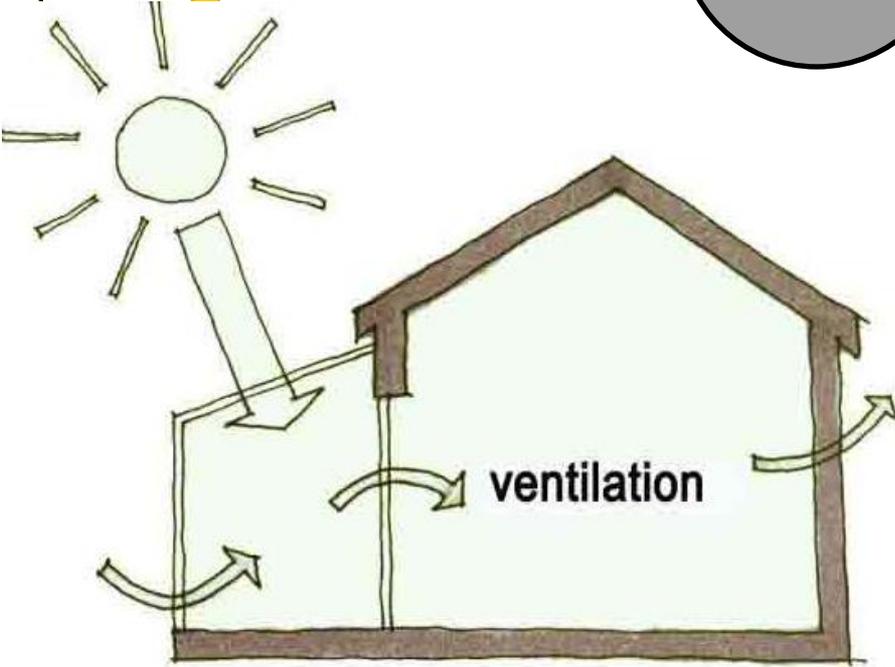
Interdisciplinary approach to integration of green measures
Overview of specifications and methods to accomplishing GCC objectives

Tremont Pointe - Cleveland, OH



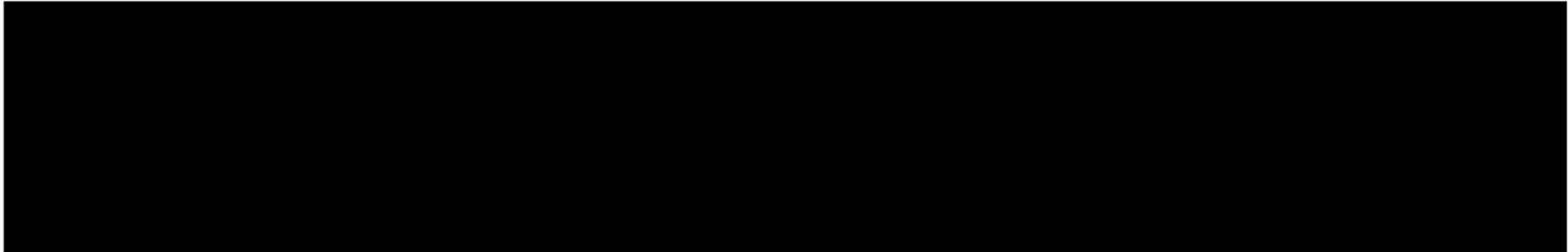
Site Planning & Layout

Site, Location and Neighborhood Fabric

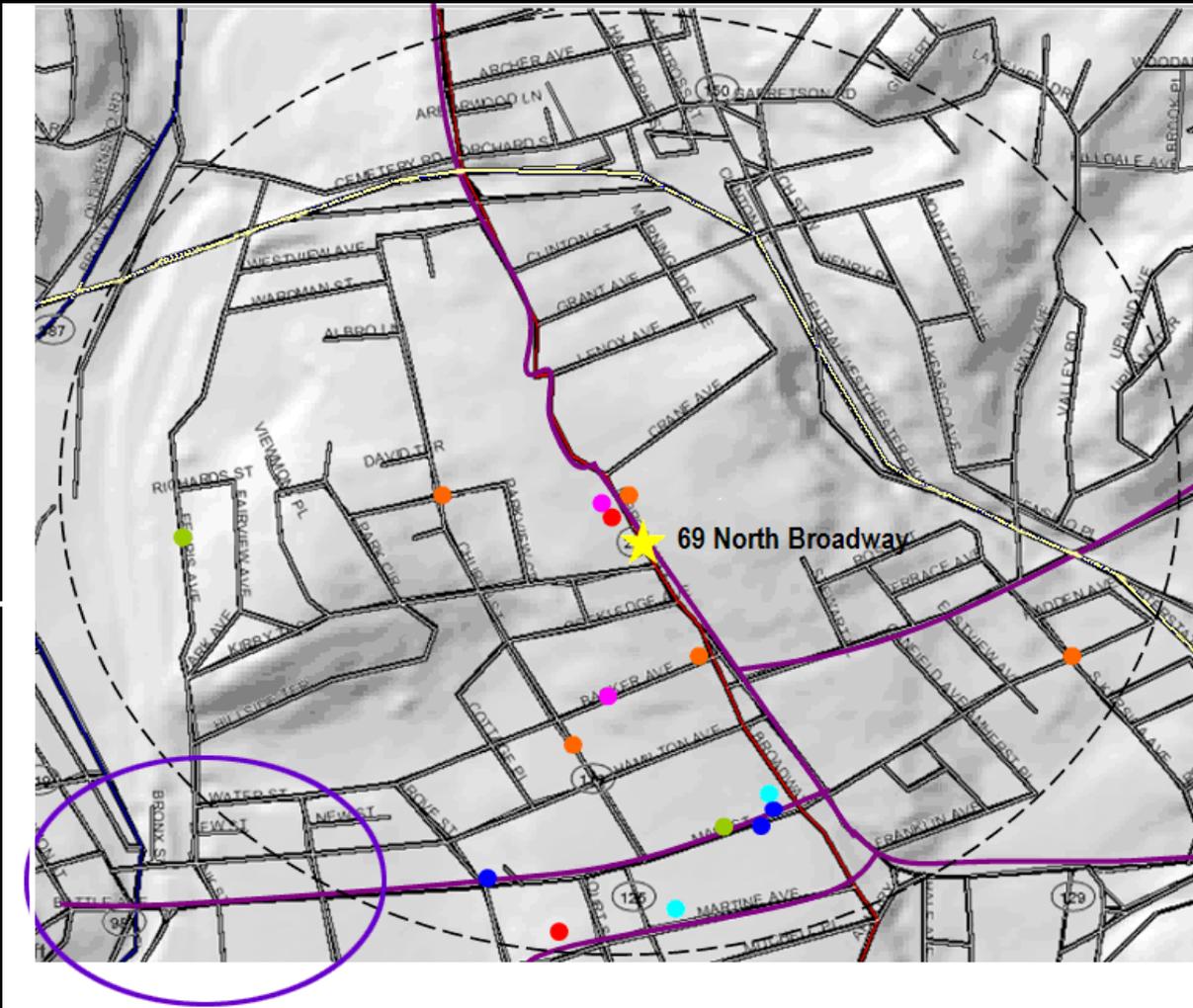


Click to Enlarge

geos
EARTH, SUN, HOME.
Types of Home



Context Map



KEY

----- .5 mile radius

● Schools

● Libraries

● Retail

● Doctor / Dental Clinics

● Grocery Store

Laurel Village - E



Atonatl Condominiums - Washington, DC



PAN AMERICAN
LAUNDRY
LOCAL OPERATED
MACHINES
SELF SERVICE
OPERATION

DOLLA

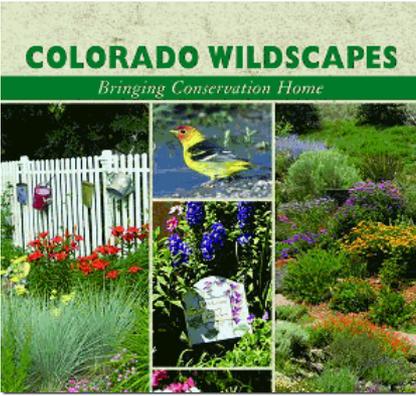
PAN AMERICAN LAUNDRY

3125

MOUNT PLEASANT
CLEANERS

WASH ATONATL!
WASH MY PLEASANT!
WASH MANNA, INC.

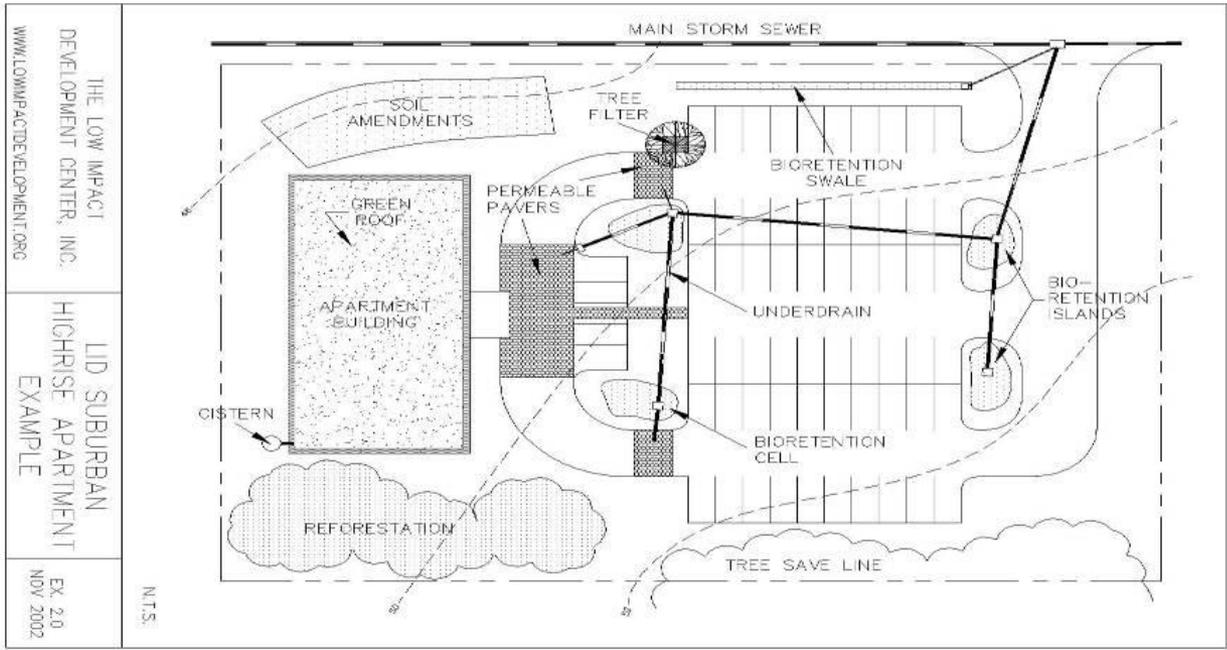
3121





Site Improvements

Interior of High Point project. Photo copyright Bill Holmstrom, AICP.



THE LOW IMPACT
DEVELOPMENT CENTER, INC.
WWW.LOWIMPACTDEVELOPMENT.ORG

LID SUBURBAN
HIGHRISE APARTMENT
EXAMPLE

EX. 2.0
NOV 2002

N.T.S.

Visiting Nurse Senior Living Community - Somerville, MA





Faucets = 2.0 GPM or less



Front load washers save 60%+

Water Efficient Fixtures: Faucets Showers Toilets (Washing Machines)



Showerheads = 2.0 GPM or less



Toilet = 1.3 GPF or less, that meet performance specification
www.cwwa.ca/freepub_e.asp

Minimum Energy Performance

- ▶ **New Homes (1-3 floors) - Energy Star Standards**
 - ▶ Modeling to meet HERS requirements.
- ▶ **Mid-rise/high-rise - 15% better than ASHRAE 90.1**
 - ▶ Modeling required, but no 3rd party testing.
- ▶ **Renovation - 15% improvement from existing**
 - ▶ Requires energy audit and analysis.





energyLogic
analyze. enlight. empower.
 www.energylogic.com

Home Energy Rating Certificate

McStain Neighborhood
 2203 Valentia St
 Denver, CO 80238



**5 Stars Plus
 Site Visit**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70-0

Energy Efficient

HERS Index: 64

General Information

Conditioned Area: 2184 sq. ft. HouseType: Townhouse, end unit
 Conditioned Volume: 26120 cubic ft. Foundation: More than one type
 Bedrooms: 2

Mechanical Systems Features

Water Heating: Instant water heater, Natural gas, 0.82 EF.
 Heating: Fuel-fired air distribution, Natural gas, 92.1 AFUE.
 Cooling: Air conditioner, Electric, 13.0 SEER.
 Duct Leakage to Outside: 19.76 CFM.
 Ventilation System: Supply Only: 75 cfm, 100.0 watts.
 Programmable Thermostat: Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat: R-38 Exposed Floor: NA
 Vaulted Ceiling: R-38 Window Type: Low E .35 / .32
 Above Grade Walls: R-20 Infiltration:
 Foundation Walls: R-11.0 Rate: Htg: 1680 Cfg: 1680 CFM50
 Slab: R-0.0 Edge, R-7.0 Under Method: Blower door test

Lights and Appliance Features

Percent Fluorescent Pin-Based: 0.00 Clothes Dryer Fuel: Electric
 Percent Fluorescent CFL: 100.00 Range/Oven Fuel: Electric
 Refrigerator (kWh/yr): 775.00 Ceiling Fan (cfm/Watt): 0.00
 Dishwasher Energy Factor: 0.46

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.4

This information does not constitute any warranty of energy cost or savings.

© 1985-2007 Architectural Energy Corporation, Boulder, Colorado.

Rating Number: 11342
 Certified Energy Rater: Todd Snizek
 Rating Date: 3/12/2007
 Rating Ordered For: McStain Home Buyer

Estimated Annual Energy Cost

Use	Site Visit		
	MMBtu	Cost	Percent
Heating	36.5	\$256	24%
Cooling	2.9	\$59	6%
Hot Water	12.2	\$82	8%
Lights/Appliances	22.8	\$475	45%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$183	17%
Total		\$1056	100%

**This home meets or exceeds the minimum
 criteria for all of the following:**

- EPA Energy Star Home
- 2001 International Energy Conservation Code
- 2003 International Energy Conservation Code
- 2004 International Energy Conservation Code

Home Energy Rating Provider

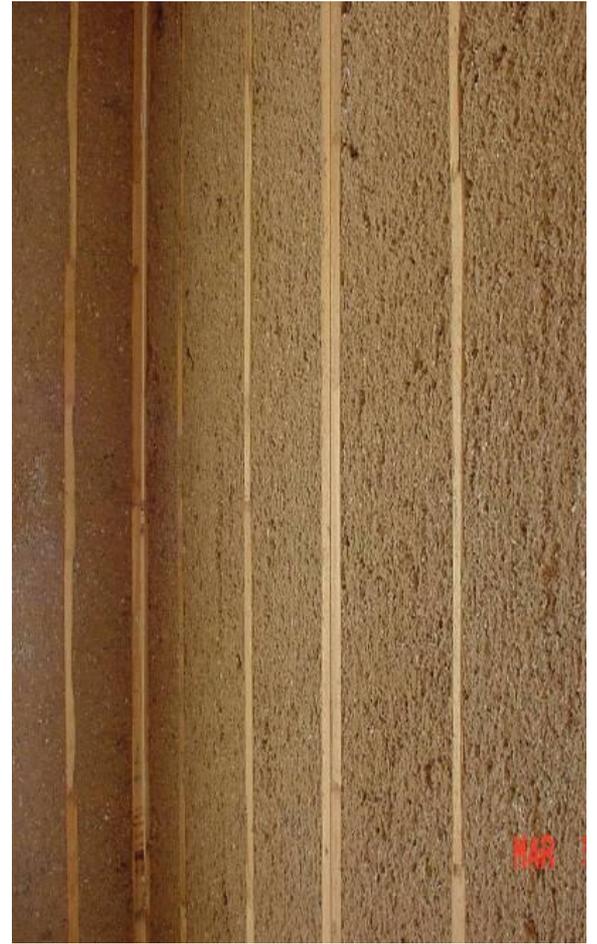
EnergyLogic, Inc
 P.O. Box N
 Berthoud, CO 80513
 1-800-315-0459
 www.nrglogic.com



Certified Energy Rater



Tight Construction



Improved Insulation Systems



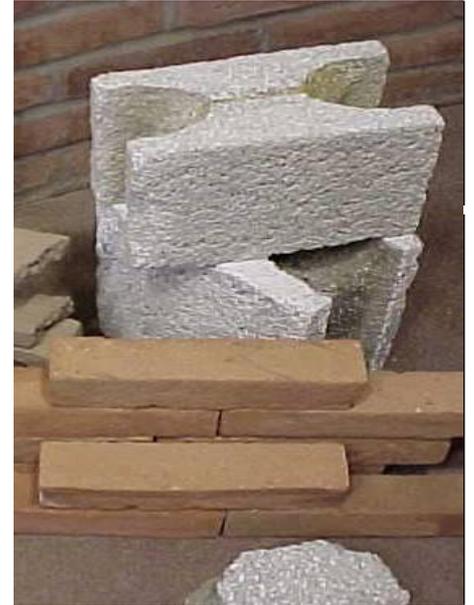
HVAC system efficiency

Evergreen Park – Potsdam, NY





Materials
Beneficial to
Environment



Waste reductions-delivery or disposal? Additional points for >25% reductions

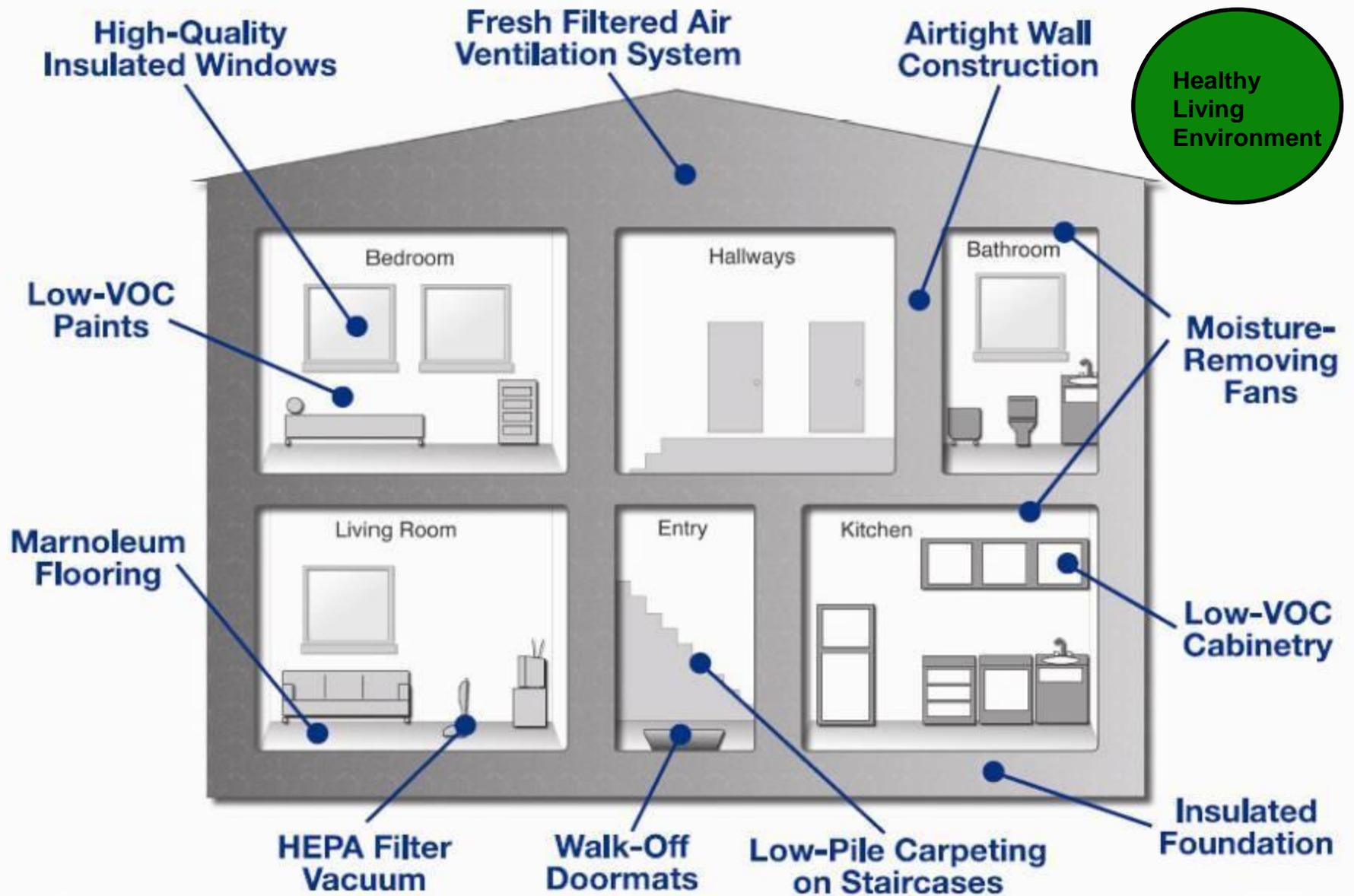
Materials
Beneficial to
Environment





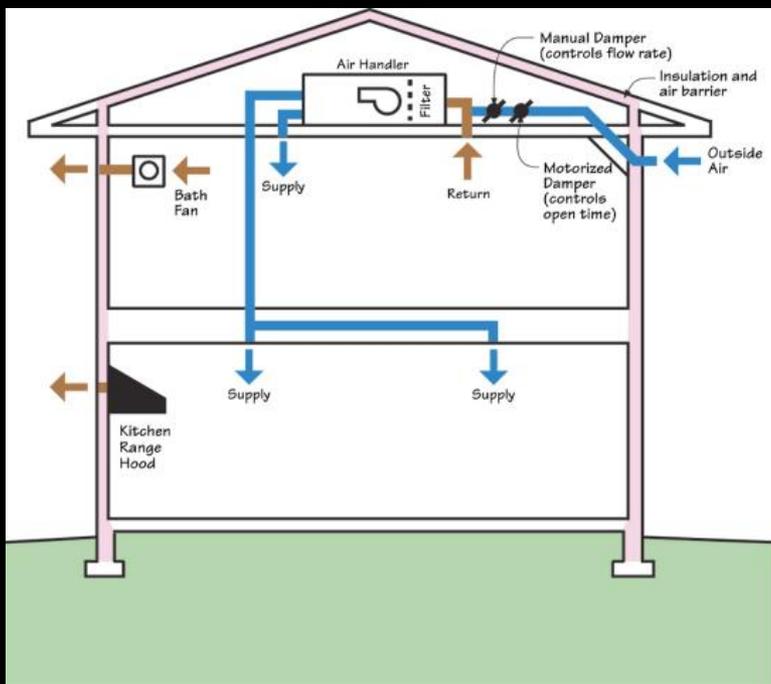
Longfellow Creek

Slides Courtesy of Tom Phillips, Seattle Housing Authority
Aerial Photo
View to the west



Slides Courtesy of Tom Phillips, Seattle Housing Authority
 Aerial Photo
 View to the west

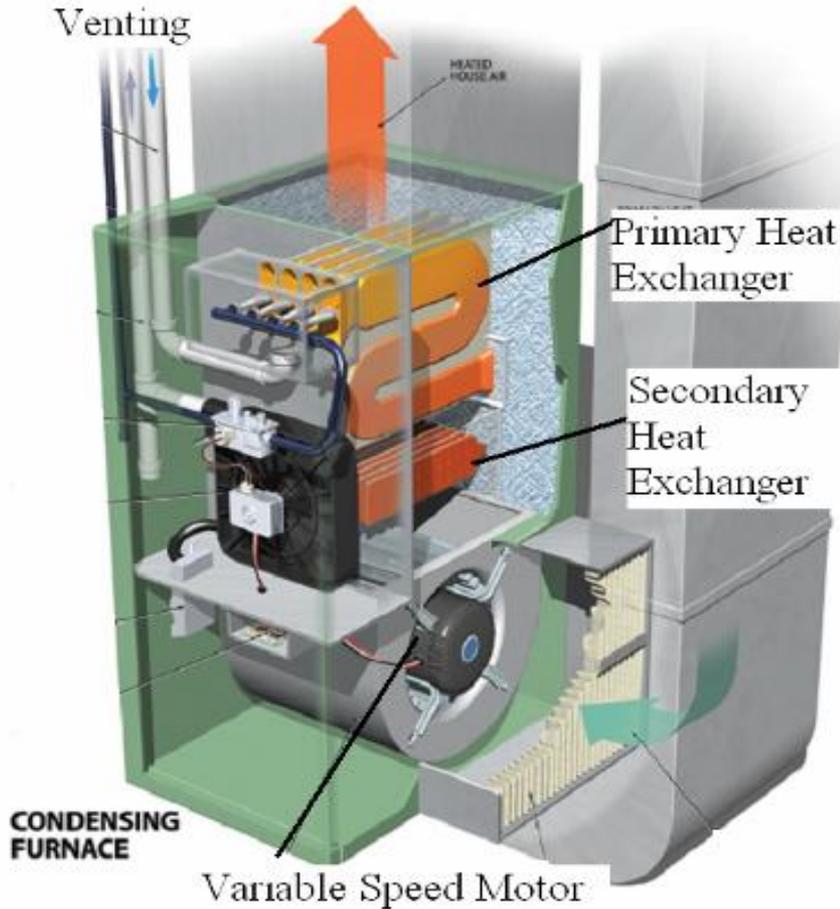
Ventilation-Whole House and Exhaust



Kitchens Vented to Exterior

Healthy Living Environment





Healthy Living Environment

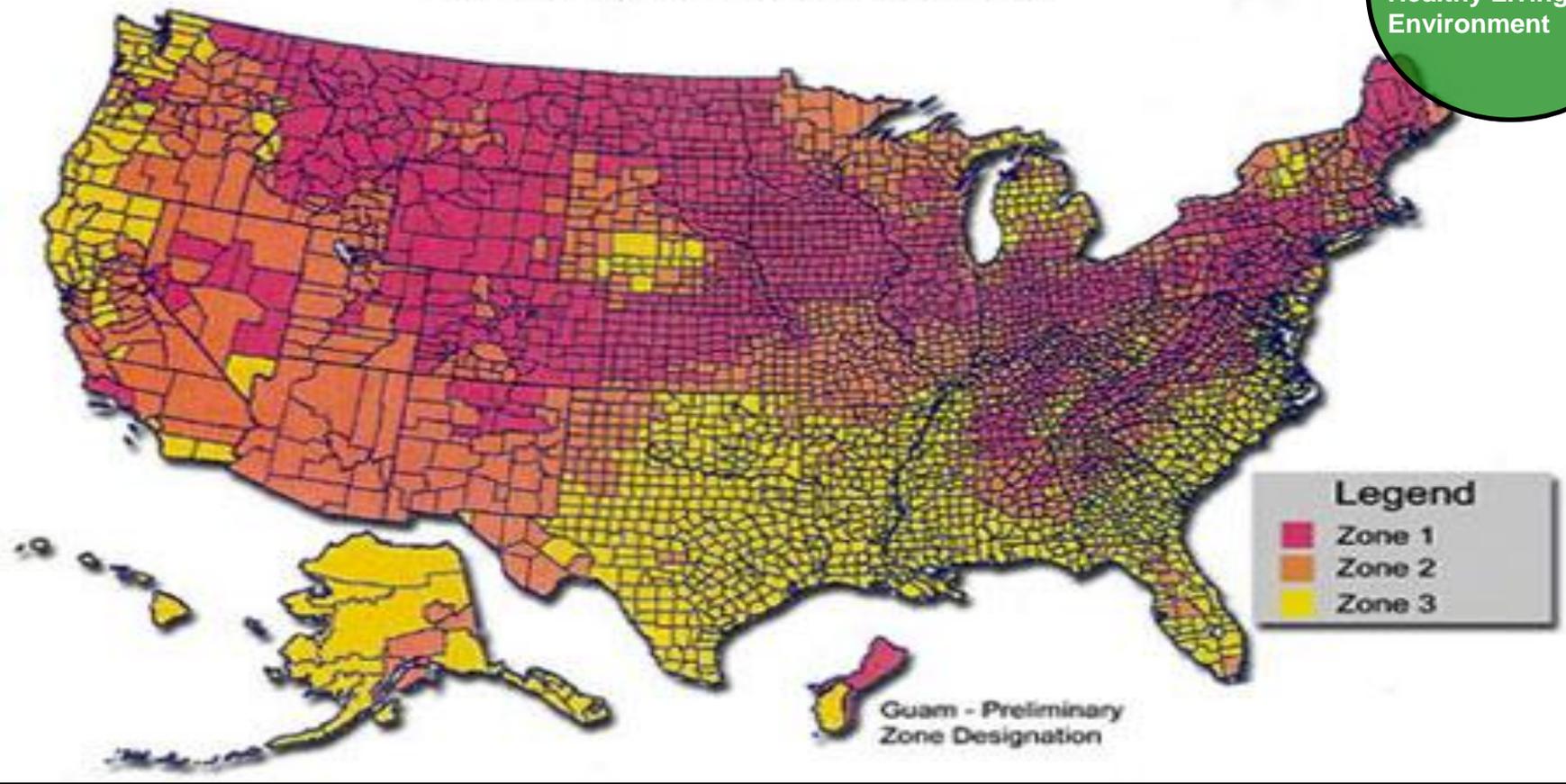


Heating & Cooling Equipment- Sized per Manual J



Ductwork Sized per Manual D

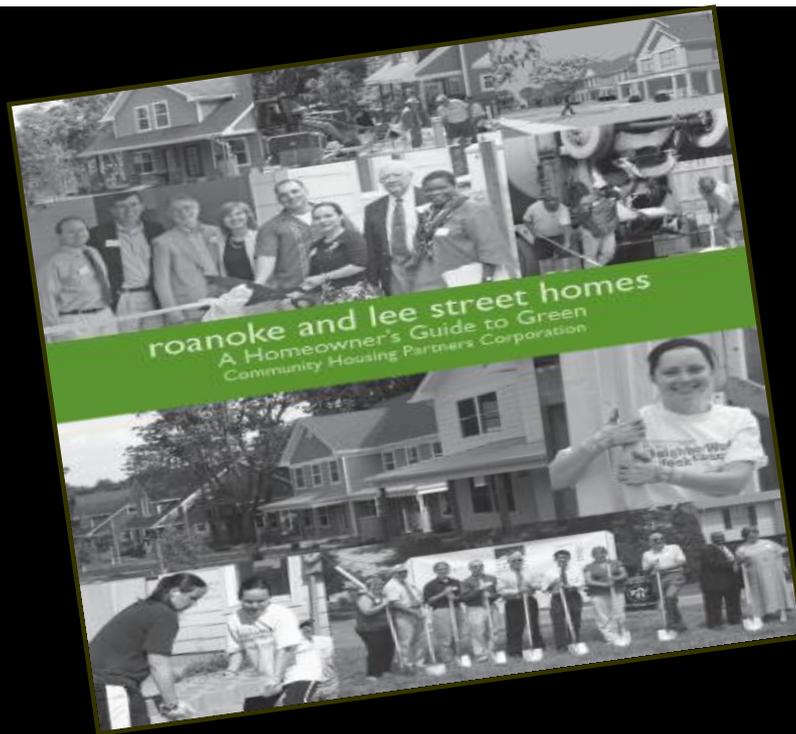
EPA Map of Radon Zones



Radon mitigation

Humboldt Gardens – Portland, OR





Create Manual; Conduct Orientation

O&M info
Warranty procedures
Thermostat settings
Community
amenities
What to expect

Resources

Main website:

www.greencommunitiesonline.org

Webpage for PHAs and project teams:

http://www.greencommunitiesonline.org/tools/funding/rants/public_housing_authorities.asp

Hotline:

410.715.7433



TORTI GALLAS AND PARTNERS

Architects of Sustainable Community

Silver Spring, Maryland | Los Angeles, California | Istanbul, Turkey

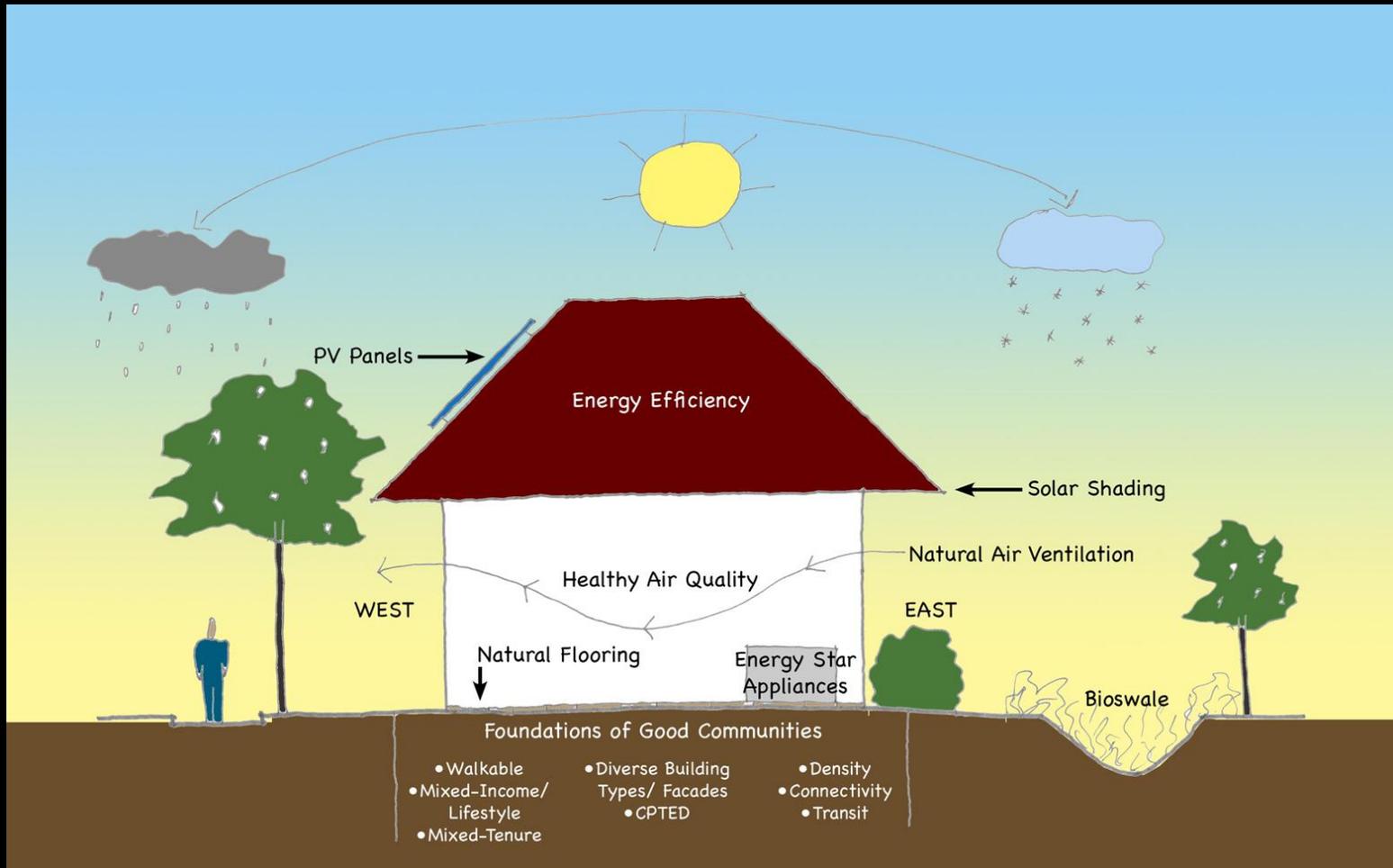
Torti Gallas at a Glance

- Founded in 1953
- Offices in Washington, DC, Los Angeles and Istanbul
- 34 HOPE VI Neighborhood Revitalizations
- Community Outreach to Achieve Consensus
- An Integrated Planning and Architecture Process
- A Commitment to Sustainable Communities
- More National Design Awards for HOPE VI Revitalizations than any other firm in the Country
- Designer of 55 Transit-Oriented Developments
- Master Planner of over 700 Communities
- 37 LEED Accredited Professionals

The Opportunity

- Capital Fund Recovery Act Competition(CFRC)
- A Source of Funding that will Create Energy Efficient, Green Communities
- For Substantial Rehabilitation, New Construction or Moderate Rehabilitation of Public Housing
 - Reduce Energy Costs
 - Generate Resident and PHA Energy Savings
 - Reduce Green House Gas Emissions Attributable to Energy Consumption

Designs Appropriate to Region and Climate



Amended Enterprise Green Communities Criteria

Mandatory and Optional Compliance

1. Integrated Design Process
2. Site, Location and Neighborhood Fabric
3. Site Improvements
4. Water Conservation
5. Energy Efficiency
6. Materials Beneficial to the Environment
7. Healthy Living Environment
8. Operations and Maintenance

1. Integrated Design

Martin Luther King Plaza HOPE VI Revitalization, Philadelphia, PA



- Consensus Building
 - Community Charrettes
 - 75 Person Task Force
 - Door-to-Door Surveys
 - Community Supportive Services to Create Self-Sufficiency

2. Site, Location and Neighborhood Fabric

Bridgeton HOPE VI Revitalization, Bridgeton, NJ

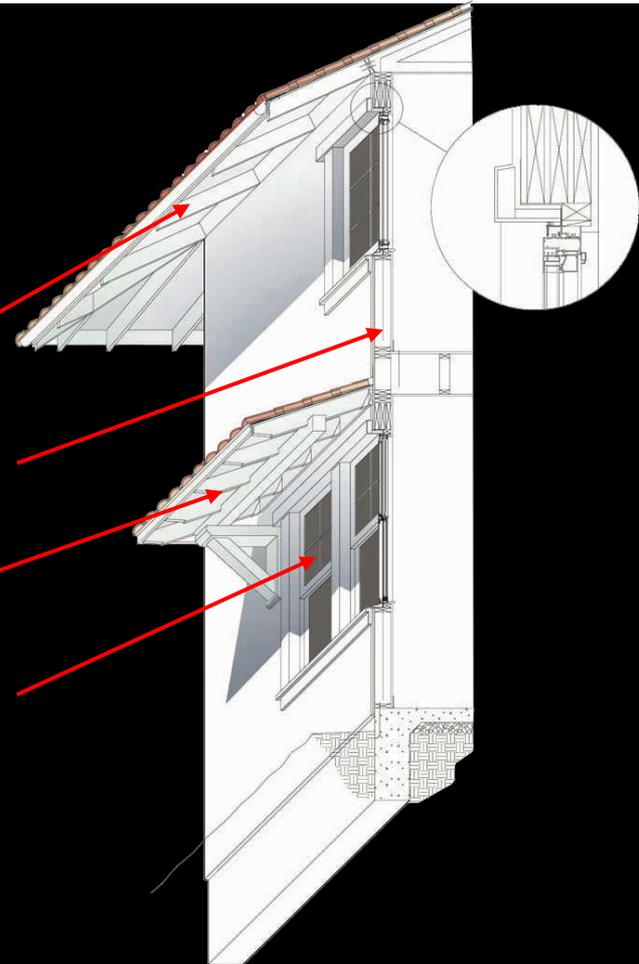


- Infill Within Existing Streets, Blocks, and Sidewalks
- Walkable Neighborhood
- Defined Private/Public Realm

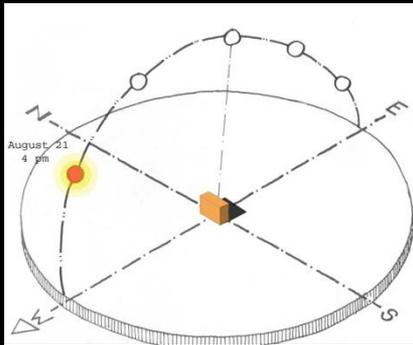
2. Site, Location and Neighborhood Fabric

Passive Solar Kit of Parts that Responds to Building Orientation

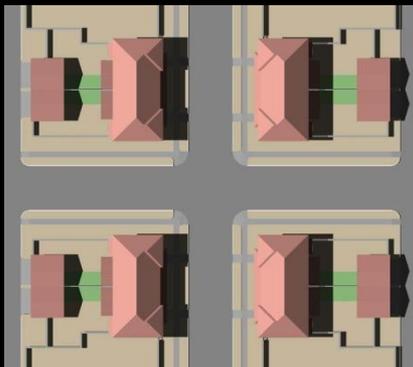
- Deep Roof Overhangs (3')
- 2x6 Exterior Walls with Increased Insulation (R19/R38)
- Window Shading (Awnings)
- Small/Fewer Windows Facing East and West
- Covered Porches and Patios
- Solar Powered Attic Fans



2. Site, Location and Neighborhood Fabric



Fort Irwin Family Housing Revitalization, Mojave Desert, CA



East/West Facing Homes

2. Site, Location and Neighborhood Fabric

Customization of Homes Relative to the Sun



North Facing Facade

- 18" Hip Roof
- Projecting Bay Window
- More/Larger Windows



South Facing Facade

- 36" Gable Roof
- Window Shading Devices
- Fewer/Shorter Windows



East/West Facing Facade

- 36" Hip Roof
- Projected Window Shutters
- Smaller Windows



3. Site Improvements



- Surface Water Management
 - “Make Running Water Walk”
 - Infiltration of 90% of Rainwater
 - Network of Bioretention Swales
- Indigenous Landscaping
- Phase I Environmental Site Assessment

4. Water Conservation



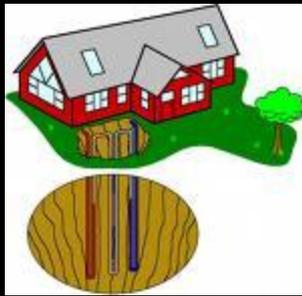
- Incentivized to a Higher Level of Conservation
 - Water Conserving Fixtures and Appliances



	<u>Mandatory</u>	<u>Incentive</u>
Toilets	1.3 GPF	1.1 GPF
Showerheads	2.0 GPM	1.75 GPM
Kitchen Faucets	2.0 GPM	2.0 GPM
Bathroom Faucets	2.0 GPM	1.5 GPM



5. Energy Efficiency



- Geothermal Heating and Cooling
- Solar Powered Attic Fans
- Energy Star Appliances
- Energy Star Indoor Air Package
 - Kitchen and Bathroom Venting
- Natural Ventilation
- Solar Light Tubes

5. Energy Efficiency

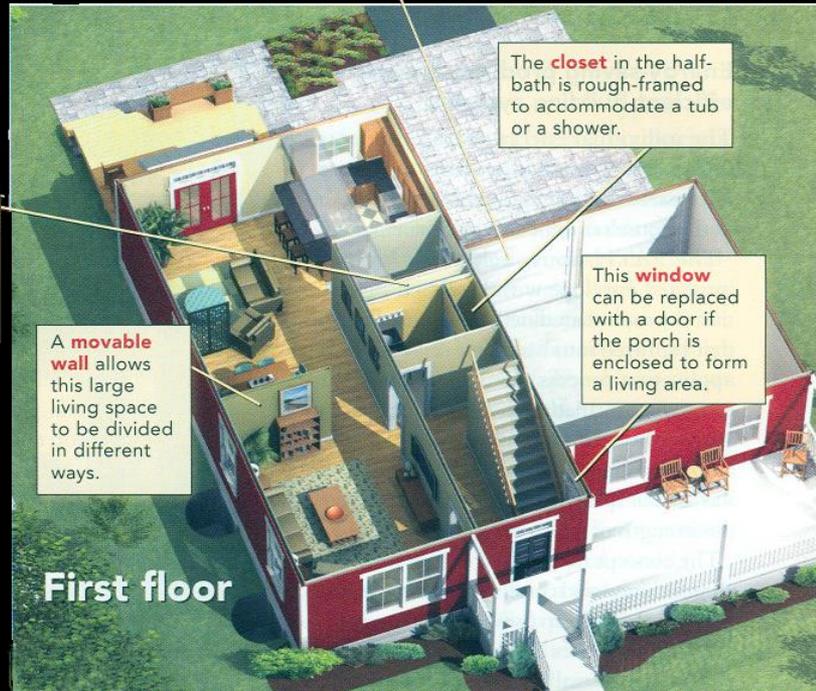
PATH (Partnership for Advancing Technology in Housing) House, Omaha, NE

- **LEED for Homes**

The **attached garage** is designed so that it can be built with a rear, side, or front entrance without affecting the rest of the house's layout. This allows a builder to use the same house plan in a variety of site locations with minimal impact on overall house design.



The **utility core** houses all the major plumbing lines, electrical wires, a radon stack, and HVAC ducts that service the first and second floor. Having the utilities contained in this compact area makes remodeling easier because many of the living-area walls are empty.



The **closet** in the half-bath is rough-framed to accommodate a tub or a shower.

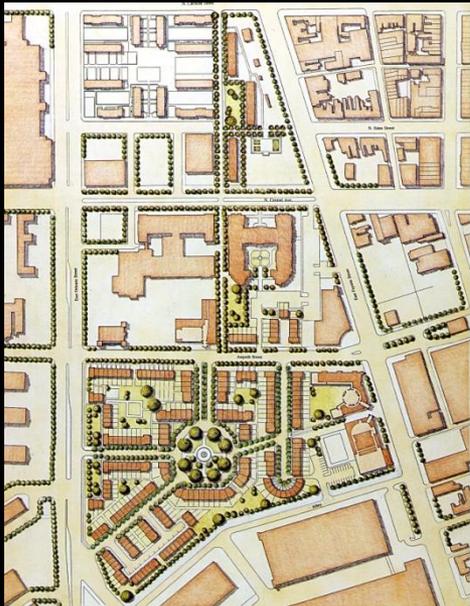
This **window** can be replaced with a door if the porch is enclosed to form a living area.

A **movable wall** allows this large living space to be divided in different ways.

First floor



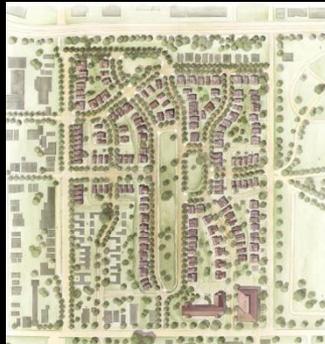
6. Materials Beneficial to the Environment



- Reused Demolition Rubble for Street Beds
- Local Materials
- Reconnected to City Street Grid
- Walkable Neighborhood
- Defined Private/ Public Spaces

6. Materials Beneficial to the Environment

- Save the Trees!!
- Reduced Heat Island Effect
- Increased Value to the Community



6. Materials Beneficial to the Environment



- Save the Trees!!
- Reduced Heat Island Effect
- Increased Value to the Community



6. Materials Beneficial to the Environment



- Water-Permeable Parking
- Multi-Use Courtyard



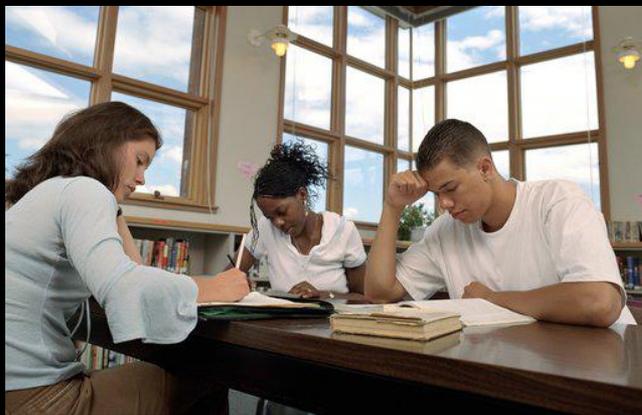
7. Healthy Living Environment



- Low/ No VOC's
 - Paints
 - Adhesives
 - Sealants
- Green Label Certified Floor Coverings
- Mold Prevention
- Tub and Shower Enclosures
- Non-Vinyl, Non-Carpet Coverings
 - Linoleum/Bamboo Wood Floors
- Carbon Monoxide Detector
- Smoke-free Buildings

8. Operations and Maintenance

- Occupant's Manual
- New Resident Orientation



Smart Communities



- Affordable Housing Above Metro Station
- Mixed-Finance (Nine Sources)
- Mixed-Use
- Mixed-Income

Metro Pointe, Wheaton, MD -
Housing Opportunities Commission of Montgomery County, MD

Smart Communities



- HUD Section 202 Funding
- Low-Income Housing for Seniors
- Transit-Oriented Development
- Walkable
- Mixed-Use
- Urban Infill

Smart Communities

- Doubled the Density
- Transit-Oriented Development
- Mixed-Income
- Mixed-Tenure
- LEED Certified Community Center



Summary

- CFRC Removes the Hurdles for Realizing Affordable Green Communities that will Maximize Efficiency and Minimize the use of Natural Resources
- Lots of Ways to Create Energy Efficient, Green Communities
- “We Can’t Afford It” is No Longer an Excuse
- A Win-Win for Everyone

The Foundation Created HOPE VI-Good Communities

From its onset the HOPE VI program aspired to create GOOD Communities that were:

- Walkable
- Mixed in Income, Use, Tenure, Lifestyle
- Diverse in Building Density, Type and Facade
- Crime Prevention Through Environmental Design

These characteristics have become the Foundation of HOPE VI. This foundation is now a solid platform that will be reached through the use of Green Communities Criteria which will further enhance the revitalization of communities through:

- Integrated Design Process Involving the Entire Development Team
- Attention to Site, Location and Reintegration into the Fabric of the Community
- Site Improvements
- Water Conservation
- Energy Efficiency
- The Use of Materials Beneficial to the Environment
- Creation of A Healthy Living Environment
- Enhanced Operations and Maintenance

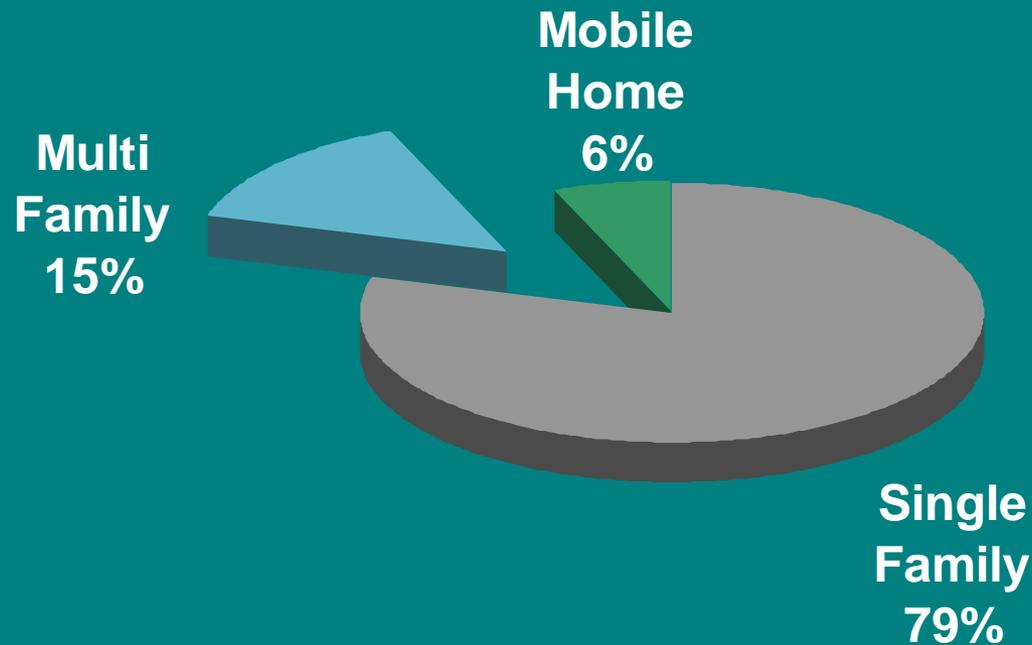
Green Retrofits

Michael Freedberg
Office of Policy Development
and Research

Doing More With Less: Retrofitting Existing Public Housing

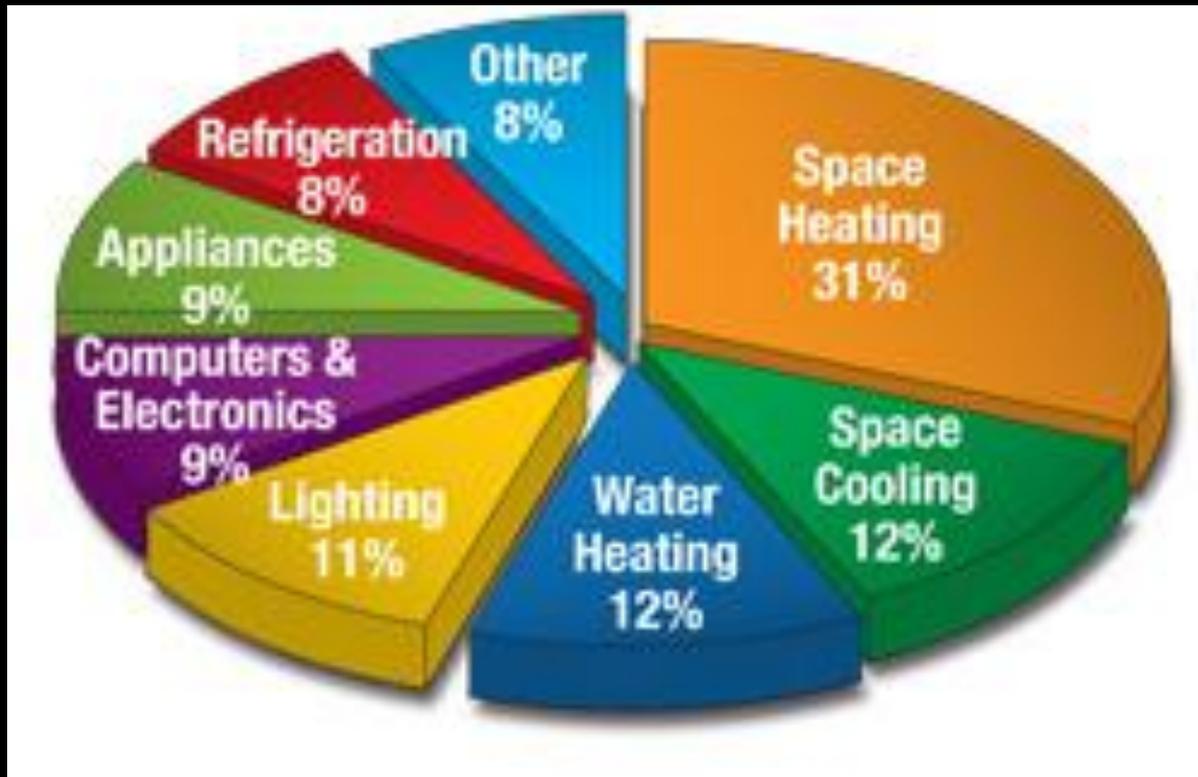


Percent of Total Residential Energy Consumption

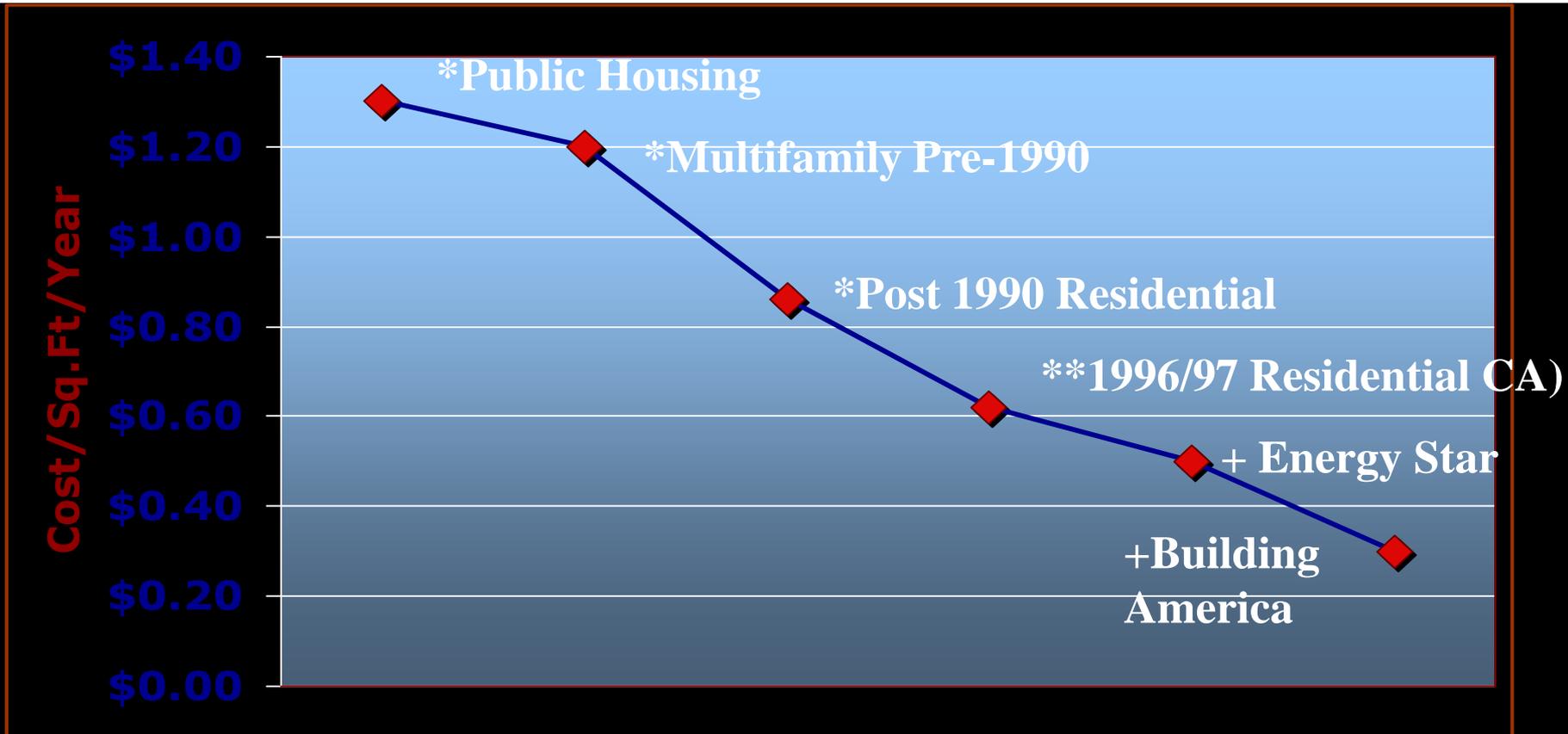


Source: 2001 EIA

Residential Energy Consumption



Why Performance Counts



Source: *2006 Building Energy Data Book; DOE Representative Annual Unit Cost of Energy for 2005

** California Energy Commission ; + Derived from research studies and anecdotal information.

Energy Retrofit Principles

- Start with low-cost measures
- Target highest cost utilities first
- Improve indoor environmental quality
- Buy Energy Star quality appliances and products
- Almost every capital improvement is an opportunity for energy efficiency
- Conduct resident training

Energy Retrofit Principles

- Explore job training and employment opportunities
- Develop a sound Operations and Maintenance plan
- Focus on water conservation and efficiency
- Plan for going green
- Set targets and measure performance

The Energy Audit

An energy audit is a detailed examination of:

- How the property uses energy
- What it pays for that energy
- Technical evaluation of the building and associated systems
- Results in recommendations to reduce the energy costs through building envelope, equipment and operational changes; and,
- Ties into Physical Needs Assessment (PNA)

The Energy Audit Report

- Includes a detailed table of recommended measures with:
 - ✓ Annual savings in BTUs
 - ✓ Annual savings in dollars
 - ✓ Life of measure
 - ✓ Life cycle savings of measure
 - ✓ Estimated cost (e.g. from RS Means)
- Building description (existing conditions)

The Energy Audit Report

- All evaluated measures
 - ✓ Analysis of fuel and electricity bills
 - ✓ Rationale, including energy and non-energy impacts
 - ✓ Identification of recommended measures and projected payback
- Building site visit data

Whole-house Approach

- Visual and diagnostic inspection
 - Energy specialist trained in building science
- Diagnostic testing (before work)
 - i.e. air infiltration, HVAC air flow, duct leakage
- Summary report
 - Results
 - Recommendations
 - Estimated costs and savings

RECOMMENDED IMPROVEMENTS

 ASK ABOUT ENERGY STAR

Customer: Anne Rosenberg

This report addresses the key recommendations for improving the comfort, safety and efficiency of your home.

Annual Cost Savings by Improvement in Recommended Packages

Improvement Description	Non-energy benefits	Improvement Cost	Basic Insulation Only	Total Envelope	The Whole Home Package
Energy Star ECM Drive Furnace: Install new natural gas 80,000 Btu/hr FURNACE with efficiency of 90.0%.	Increased equity.	\$ 4,000			\$ 517/yr
Wall Insulation: Upgrade 1,040 square feet of existing wall to Gyp Bd, 2x6 16" OC, 3.5" Cellulose, 1" Wood, R-12.	Improve comfort, increase value of building.	\$ 1,872	\$ 500/yr	\$ 457/yr	\$ 437/yr
Add R-30 Attic Insulation: Upgrade 1,000 square feet of existing ceiling to Gyp Bd, 2x6 16" OC, 8" Blown Fiberglass, 6" Cellulose, R-49.	Improve comfort, increase value of building.	\$ 1,260	\$ 144/yr	\$ 129/yr	\$ 123/yr
Reduce Air Sealing Package: Reduce overall air leakage of heated area from 3800 CFM50 to 2000 CFM50.	Reduce drafts.	\$ 1,200	\$ 581/yr	\$ 522/yr	\$ 499/yr
Energy Star Windows: Install 2 double pane clear windows with wood/vinyl frame.	Improve comfort (reduce drafts), increase value of building.	\$ 900		\$ 40/yr	\$ 38/yr

Page 1

Diagnositics: Blower Door Test



Diagnostics: Infrared Imaging To Locate Thermal Bypasses



HUD's Online Rehab Advisor...

Address  <http://rehabadvisor.pathnet.org/index.asp> Go

ENERGY EFFICIENT REHAB ADVISOR

[HOME](#) | [ABOUT](#) 

WELCOME TO THE ENERGY EFFICIENT REHAB ADVISOR!

This Advisor describes the U.S. Department of Housing and Urban Development's (HUD) guidelines for conducting energy efficient housing rehabilitation. HUD recommends following these guidelines when undertaking any type of renovation project in single family and multifamily housing, whether it is privately-owned or public housing.

The Advisor's energy efficiency recommendations are based on ENERGY STAR® specifications, where applicable. ENERGY STAR is the government-backed symbol for energy efficiency.

Incorporating energy efficiency into your rehab project is a significant step toward achieving High Performance Housing -- housing that is energy efficient, durable, sustainable and healthy. Click on the following icons to learn about these benefits.

Enter your profile below to **Get Started!** You can also find [general information](#) on energy efficiency topics, like air sealing and insulation. Please send your comments and suggestions on the Advisor to info@rehabadvisor.com.


Comfort


Durability


Maintenance


Indoor
Air Quality


Operating
Costs


Quiet
Operation


Control


Environment


Water Use


Freezing
Problems

BUILD YOUR PROFILE

YOUR BUILDING	YOUR ROLE	YOUR CLIMATE	YOUR BUILDING AGE	SUBMIT
Select an Item... 	Select an Item... 	Select an Item... 	Select an Item... 	

www.rehabadvisor.net

Homes & Communities

U.S. Department of Housing and Urban Development

Public and Indian Housing

- Public housing
- PHECC
 - PIH Utility Policies
 - Incentives & Funding
 - Utility Allowances
 - Success Stories
 - Cost Reduction Toolbox
 - Energy Star, etc.
 - Training & Conferences
 - Resources & Links
 - Newsletter
 - Contact Us

HUD news

Homes

Communities

Working with HUD

Resources

Tools

- Webcasts
- Mailing lists
- Contact us
- Help



Public and Indian Housing

En español | Text only | Search/index

Public Housing Energy Conservation Clearinghouse

News

Mold and Hurricane Rebuilding

The following resources discuss mold in hurricane and flood damaged housing. Mold is a major health hazard and can become difficult to control if not dealt with promptly and properly.

- [Mold Removal Guidelines for Your Flooded Home](#)
- [The ABC's of Returning to Flooded Buildings](#)
- [Initial Restoration for Flooded Buildings](#)
- Seminars:** "Moisture, Wind, Energy Management in Post Katrina/Rita Residential and Commercial Design" and "Rebuilding and Restoring Homes for the Gulf Coast Region" -- December 15th in Baton Rouge, Louisiana

[More PHECC information on hurricane rebuilding.](#)

Best Practices for Household Mold and Moisture Prevention

A new report, *Controlling and Preventing*

- Information by State
- Print version
- Email this to a friend

Jump to...

- Energy Performance Contracting
- Education Materials for Residents
- PIH Utility Policies
- Incentives & Funding
- Utility Allowances
- Success Stories
- Cost Reduction Toolbox
- Energy Star, etc.
- Training & Conferences
- Resources & Links
- Newsletter
- Contact Us

Search

Can't find what you're looking for? [Search HUD.gov](#) for more information.

Website Spotlight

Common Energy Improvements

- Water conservation that include repair or replacement of supply pipes
- Mechanical equipment and systems replacements (boilers, furnaces)
- Thermostatic controls, including programmable thermostats
- Improvements in envelope design and function, e.g., penetration sealing, wall insulation, attic insulation, roof replacement, windows, storm doors and vent dampers

Energy Improvements (cont'd)

- Fuel conversions
- Lighting and lighting controls
- Energy related infrastructure – utility/energy distribution systems; and,
- Irrigation systems and controls

Potential Savings - New Multifamily

- 30-35% savings through envelope, central heating/cooling, lighting and appliances
- Avge incremental investment of \$1,132/unit would result in 32% savings or \$203 per unit
- Simple payback of 5.6 years

Potential Savings - Multifamily

Existing Units:

- 15-20% energy savings through Energy Star lighting, appliances and window products
- Average investment of \$567/unit will result in savings of \$156/unit
- Simple payback of 3.6 years

Example – Sacramento

- **Recommended ECMs**
 - Screw-in Compact Fluorescents
 - Insulate DHW pipes
 - High efficiency Gas Water Heater
 - Basic HVAC tune-up
 - Energy Star AC units
 - Energy Star windows
 - Attic/roof insulation
 - Programmable Thermostats
 - Energy Star gas furnace
 - Advanced HVAC tune-up
- **Savings of \$81,789,**
- **Investment of \$260,783 – 3.2 year payback**

Example – Chicago

- 26% overall savings
 - 42% - space heating
 - 24% - DHW
 - 34% - lighting
- Space heating index(therms/sq ft/year)
 - Pre-retrofit - 1.32
 - Post-retrofit - 1.08
- Estimated payback
 - Simple payback – 3.2 years
 - Return on Investment – 32%

Energy Retrofits-Performance Contracts

- 204 Contracts – Shared savings
- \$504 million invested
- Annual savings \$102 million
- Internal Rate of Return: 14-22 percent
- Rapid increases in recent years
- Average investment of less than \$4,000/unit

Benefits of Energy Star

- **Refrigerators** – At least **15%** more efficient than federal standards
- **Dishwashers** – Use **25%** less energy than minimum standards
- **Compact Fluorescent Lights (CFLs)** - Use **2/3** less energy and last **6-10** times longer.
- **Furnaces** - About **15%** more efficient than standard
- **New Homes** – **30%** more efficient than standard construction

ENERGY STAR

Product Savings and Payback Periods

ENERGY STAR Product	Percent Better than Non-Qualified	Savings per Year	Price Premium	Payback Period
Clothes Washers	50%	\$50	\$300	4-6 years
Dishwashers	25%	\$15	\$0	0 years
Refrigerators	15%	\$6	\$30-\$50	2-6 years
Room ACs	10%	\$7	\$30-\$50	5 years
Central AC	N/A	N/A	N/A	Criteria Revised
Dehumidifiers	10-20%	\$20	\$0	0 years
CFLs	75%	\$5	\$5	1 year
Windows	10-20%	\$125-\$340	5-15%	3 years or more

Quality Assurance

- **Essential** to ensure recommendations are unbiased and installed to best practices
- **High confidence in utility savings**
- **Certification and Accreditation**
 - Technician certification
 - Contractor accreditation
- **Or, Job Review and Inspection Oversight**

Chattanooga Housing Authority

PHA Size: 3,109 units.

ESCO: Honeywell

Contract Cost: \$9.9 million

Energy Savings: \$1.4 million/yr
(\$16.6 million over 12 years)

HUD Incentive: Add-On Subsidy

Energy: \$3.1 million (PFS cost benefit)

Cost Avoidance: \$6.5 million (Heat
Pumps)



Assisted Multifamily: Senior Housing

**Project: 221 d(4)
Substantial Rehab with
LIHTC**

**10-Story Elderly Apartment
Building, 126,000 sf, 200
apartment units**

Rehab Cost: \$2.2 million



Includes Co-Gen heating system, consisting of six (6) Carrier 60kW Micro-Turbines (Total cost ~\$900K).

High-pressure natural gas as the sole power source,

Generates potable hot water, hydronic heating hot water, and all electricity for the site. Potential to sell electricity to adjacent site.

How To Start To Conserve?

- **Conduct analyses of utility bills as a percentage of total expenses; look at cost and consumption trends (3 years), rate hikes**
- **Use HUD's Benchmarking Tool to compare your buildings with local housing agencies**
<http://www.hud.gov/offices/pih/programs/ph/phecc/ubenchtool.cfm>
- **Refer to ECM Checklist under Additional Resources**
<http://www.hud.gov/offices/pih/programs/ph/phecc/>
- **Google PHECC for PIH energy clearinghouse**
- **Talk to other PHAs for "Best Practices"**
- **Contact Local HUD Field Office to Start EPC**

Resources

- HUD EcoWise monthly Newsletter to Field, PHAs and Industry Partners
<http://www.hud.gov/offices/pih/programs/ph/phecc/newsletter/newsletter.cfm>
- Energy Conservation for Housing: A Workbook, September, 1998
- EPC Field Procedures
<http://www.hud.gov/offices/pih/programs/ph/phecc/eperformance.cfm>
- Benchmarking Tool
<http://www.hud.gov/offices/pih/programs/ph/phecc/ubenchtool.cfm>
- Energy Improvements Checklist – under Additional Resources
<http://www.hud.gov/offices/pih/programs/ph/phecc/>