THE CITY OF NEWARK CONSERVATION ADVISORY COMMISSION
ANNUAL REPORT FOR THE YEAR 2005

Committee Members: Steven Dentel (Chairman), Robert Bennett, Christopher Bohinski, resigned and replaced by Steve Beard 10/11/05, Jennifer Byrne, Jane Dilley, Parks Director Charlie Emerson (*ex officio*), Steven Hastings, (appointed by mayor) resigned and replaced by Thomas Fruehstorfer 5/05, Kurt Philipp, Katherine Sheedy, Gerald Kauffman joined April 2005 to fill vacant post for District 5.

Community Cleanup

Many members of the CAC participated in Newark's 2005 Community Clean Up held on Saturday April 23, 2005 from 9:00 am to 11:00 am. Although the weather was a bit dreary, the turnout was good. Approximately 200 volunteers participated in the cleanup. The University of Delaware in coordination with the city held their own cleanup and focused on the James F. Hall trail. The common areas that were cleaned included sections of Elkton Road, the Christina Parkway, Route 72, Wyoming Road and several city parks. Several CAC members focused special attention to the railroad underpass between Cleveland Avenue and the Newark Shopping Center. The event ran smoothly and was very successful. A barbeque welcomed the volunteers as they arrived back after cleaning their assigned areas.

Adopt-A-Park/Stream

The CAC conducted a community stewardship program from 1991 to 1993. A similar program was re-initiated in 2001 by the CAC allowing groups or organizations to take care of either City parks or stream sections. Street or block areas were dropped from the program in consideration of vehicular traffic volunteer safety. The program primarily encourages litter and trash clean up and provides plastic bags to participants. Participants clean their areas once a month. A description of the program is included in each issue of the City of Newark Newsletter.

The program continues to grow with five new participants this year and lots of inquiries

Current Participants:

Boy Scout Cub Pack 56
Boy Scout Troop 250
Cavanagh Family
McBride Family
Bauerschmidt Family
Fontenelle Family
Menzer Family

Lumbrook Park
Christina Creek (Barksdale to Church Road)
Kells Park
Stafford Park
Fairfield Park
Christiana Creek (Elkton Rd to Barksdale)
Handloff Park (Barksdale to Elkton Road)

New participants in 2005

Newark Center for Creative Learning
Unitarian Universalist Fellowship of Newark
Cummings Family

Phillips Park
Rittenhouse Park
Devon Park

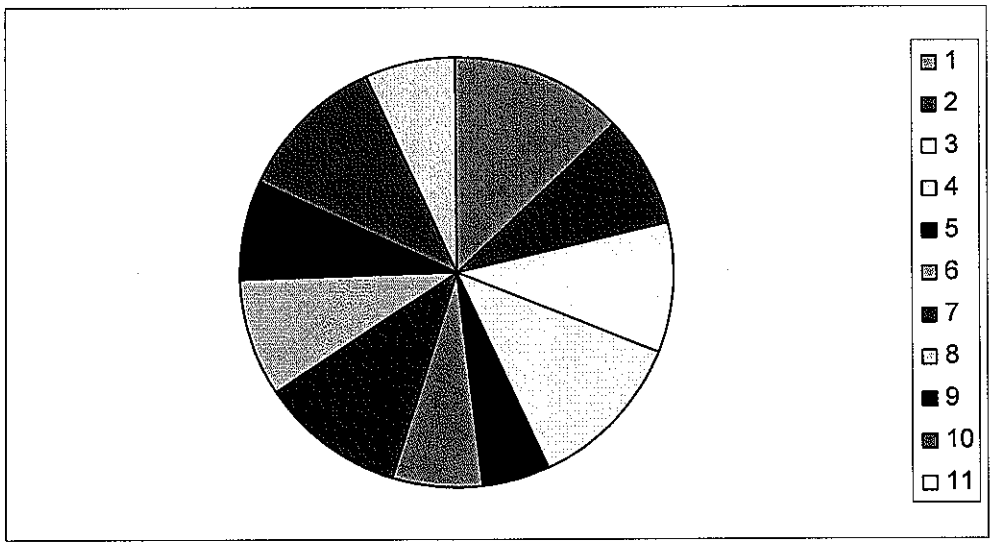
Former participants
Mt. Aviat Academy
Newark High School

George Reed Park
Christina Creek (Arbour Park to Elkton Rd)

Community Day

Community Day was held on September 18, 2005 and the event was well attended. The CAC manned a booth and conducted an informal survey to poll the public on issues that matter most. Participants were to rank in the order of importance, from 1 to 5, the topics that interested them. The results are listed below.

	PRIORITY	1	2	3	4	5	Total Responses
1	A higher percentage of our electricity from renewable sources	7	3	5	3	6	24
2	More open space within the City	3	1	3	4	4	15
3	More pedestrian and bike paths	2	3	5	5	3	18
4	Better public transport	4	6	4	3	5	22
5	Main Street closed to automobile traffic	4	2	3	0	0	9
6	Rooftop gardens on public parking garages	3	2	2	0	5	12
7	Required LEED certification for all new City construction	6	2	3	4	5	20
8	City support for use of LEED certified construction methods in private projects	2	7	0	5	2	16
9	Use of high volume composting toilets in new public buildings	2	3	4	0	5	14
10	Free recycling/fee based trash pickup	5	3	4	5	4	21
11	Preservation and development of wildlife habitats in the City	4	2	1	2	3	12



Brochures and other literature were available regarding the LEED program. Handouts announcing a CAC sponsored LEED Building standards workshop October 18, 2005 were

available. A poster of buildings built using LEED design criteria was on display and helped the public visualize green buildings versus conventional structures.

Promoting Improvement through the A Better Newark Award

Since 1986, the "A Better Newark Award" has been awarded quarterly for environmental improvements as well as noteworthy aesthetic improvements. The award includes a proclamation signed by the Mayor, a photo is publicized in the Newark Post and a photo is presented to the property owner. Nominations are reviewed periodically by the CAC, and the winning properties are voted on. This year, one nomination led to discussions on the criteria used in selecting properties. The CAC voted to change the order of the wording on the nomination form so that the primary focus is on environmental integrity. Acknowledgement will be given both to "green" and esthetic improvements (see attached brochure). CAC is considering hosting a Back Yard Habitat program to also encourage environmentally friendly property uses.

The winning properties from January 2005 to December 2005 were:

901 Pheasant Run	Homeowners: William and Lynn Clarke
Emmaus House	Homeward Bound, Inc.
108 E. Park Place	Homeowners: Mr. and Mrs. Dennis Mertz

Review of Planning Department Administrative Reports

The CAC regularly reviews these administrative reports for potential situations involving environmental effects of development within city limits. The following topics, listed in chronological order, were of interest to the CAC and generated discussion at the monthly meetings:

- The future of the Newark Country Club
- Amendments to the subdivision regulations regarding drainage and stormwater management – this amendment brought the city regulations up to date with federal requirements
- The Laura Glen major subdivision – CAC was concerned about the floodplain issues
- Floodplain Protection, Regulation and Riparian Buffers - CAC spent time working on a recommendation to send to Council for the 500 year floodplain
- The relocation of the Newark passenger Railroad Station
- The development of the Wilson Property
- The Stone Balloon redevelopment project
- West Park Place and South College Avenue

Purchase of Renewable Energy

After extensive review of the implications (economic, environmental, and practical) CAC recommended City Council increase the City's annual purchase of renewable energy by 2%. Council did accept the recommendation to increase the purchase but by a dollar amount rather than the % increase recommendation. CAC registered some concern that the dollar amount could be too inflexible an approach to achieve the desired increase and would not encourage the incremental increases CAC hopes will be initiated over time. The renewable energy the City purchased has come from Susquehanna Dam power generation.

LEED ("Leadership in Energy and Environmental Design")

CAC continued throughout 2005 to educate itself and additionally to educate the public and City Council on the implications of the City's instituting a LEED program. A student presentation in 2004 started the initiative and was followed by invited practitioners in 2005 (Chuck Dobson who is a specialist in sustainable architecture at Tetra Tech and Scott Kelly who is a partner in Re:Vision Architecture and a member of the U.S. Green Building Council which sets standards for what constitutes "green building") who presented and discussed the characteristics and values of LEED development.

In October the CAC sponsored a LEED workshop for Council, City staff, and the public. Lorna Rosenberg, the Executive Director of the Delaware Valley Green Building Council, gave a presentation on the nature and benefits of the LEED certification program. CAC presented basic information on LEED architecture with examples from the area. Rosenberg stated the goals of LEED: to improve occupant well-being, environmental performance and economic return using established innovative practices, standards, and technology. Six areas may be rated for LEED certification:

- Sustainable site
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation and design process

Using a point system a building may receive a Certified, Silver, Gold, or Platinum rating. LEED standards may be applied to new construction, commercial property, core and shell projects, and homes.

Successful LEED programs need LEED accredited professionals (architects, designers, engineers, etc.). While square foot building costs tend to be 2-6% higher than traditional projects, early commitment to LEED practices reduces costs. In addition, maintenance and operation costs can be expected to be less on LEED buildings. LEED compatible codes facilitate meeting LEED goals (energy codes, EPA based standards for erosion and sediment control). LEED guidelines give all relevant information in its "Best Practices" chapter. University communities have a special opportunity by offering courses featuring sustainability which attract students who in turn influence their institutions to adopt sustainable building practices.

The CAC continues to gather information in the hope of making a recommendation to Council. In the meantime continuing to educate the public and decision-makers is the goal. CAC has distributed copies of Arlington, Virginia's implementation program which has been outstandingly successful.

Property Development Issues

Property development issues were raised with regard to environmental implications such as water run-off and flood control. The Newark Country Club property has a significant impact on the Christina Creek which may raise concerns. The Wilson Farm property was not available when the City sought to purchase it for open space. Currant plans to develop this property as well as Council's deliberations on "Laura's Glen" have given the CAC added incentive to pay particular attention to the updating of Newark's storm water and drainage regulations to see whether proposed revisions would achieve the desired environmental goals. Concerns about soil run-off from construction are addressed by the required creation of storm water ponds but other concerns gave rise to CAC's recommendation to Council.

CAC recommended stricter requirements in the design of bridge and culverts (to a 100-year flood standard) and to require that the lowest floor of new building be 2-3' above the 100-year flood plain; further, to base construction restrictions on the 500-year flood plain with certain exceptions permitted or to add a buffer zone to the 100-year flood plain. City Council did not endorse CAC's recommendations though it did move to look into the cost/benefit of requiring stricter bridge and culvert regulations. Flood plain requirements are addressed in the Subdivision Advisory Committee's land use section: Council has asked that Committee to consider what amendments might be needed to provide adequate protection and to report back to the CAC. Questions arose as to whether watershed designation of the White Clay and Christina would provide a firmer basis on which to make flood plain decisions. CAC decided not to pursue such a designation at this time.

Curbside Recycling

Curbside Recycling comes up again and again and is always stalled by the recognition that Newark alone is too small to successfully carry off a full recycling program. Statewide action is needed and two statewide committees are considering the options. CAC is following the progress toward statewide recycling.

Hybrid Vehicle Purchase

CAC inquired of the City the status and feasibility of turning to hybrid vehicles when purchases are anticipated for the City's fleet. The Commission has been assured of progress in this area and that it will be kept informed.

Recognition of Pat Bodley's

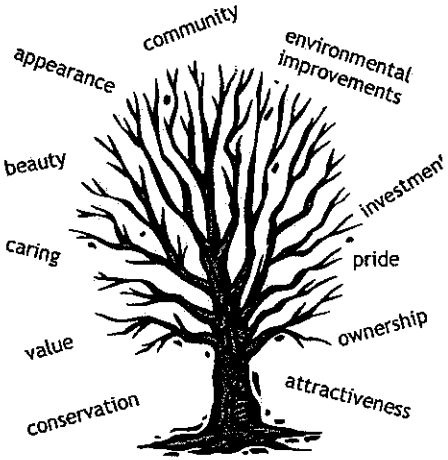
Recognition of the many years of Pat Bodley's dedicated service to the CAC and the City was celebrated with a cake and applause at the January meeting. Record keeping and communication has been critical to the functioning of the Commission. The support of the City Secretary's Office and cooperation of the various departments of City government are greatly appreciated and Pat was consistent and skilled in facilitating this.

Water Treatment Plant Tours

It was noted that the current concerns over terrorism have caused a cessation of tours of Newark's Water Treatment Plant. A letter from CAC expressed the hope that somewhat less drastic precautions could be instituted and the water treatment plant preserved as a public works.

"A BETTER NEWARK" AWARD

NEWARK
DELAWARE
Committed to Service Excellence



MAIL-IN NOMINATION FORM

From: _____

_____

_____

_____

Postage Required

Conservation Advisory Commission
Sonji Hubbard, Secretary
City of Newark
220 Elkton Road
P.O. Box 390
Newark, DE 19715-0390

USE TAPE OR STAPLE TO SEAL BEFORE MAILING

"A BETTER NEWARK" AWARD

The "A Better Newark Award" is sponsored by the Newark Conservation Advisory Commission (CAC) to recognize property owners of houses and businesses for improving the environmental integrity and/or the appearance of their property. Such environmental measures as waste reduction, energy, water, and soil conservation and/or aesthetic measures as landscaping and structural renovations are considered in the CAC's selection of the award.

Anyone may nominate a Newark property for this award by completing and mailing this addressed nomination form. The award is presented periodically, normally quarterly, and includes a commemorative proclamation signed by the Mayor of Newark accompanied by a mounted large photograph of the award winning property, suitable for display. A duplicate photo and press release is sent to local newspapers for publication.

Call Sonji Hubbard,
CAC Secretary, at 366-7070
if you have questions regarding this award.

NEWARK
DELAWARE
Committed to Service Excellence

NEWARK PROPERTY NOMINATED: _____
(Address)

OWNER: _____
(Name) (Phone #)

LANDSCAPE UPGRADES:

- ☐ Diverse Planting
- ☐ Native Plants
- ☐ Shrubs
- ☐ Flowers
- ☐ Neatness
- ☐ Overall Appearance
- ☐ Shade Trees
- ☐ Lawn
- ☐ Sidewalk/Steps
- ☐ Lighting
- ☐ Business Sign Placement

IMPROVEMENTS TO BUILDING(S):

- ☐ Color Coordination (Siding, Windows)
- ☐ Décor Preservation (Clean bricks, historic)
- ☐ Attractiveness
- ☐ Other Improvements:

ENVIRONMENTAL UPGRADES:

ENERGY CONSERVATION:

Siding/Insulation _____
Fans _____
Power Conservation _____
Energy Barrier Windows/Doors _____
Solar Panels _____

WATER CONSERVATION:

Devices Installed _____
Practices in Place _____
Erosion/Sediment Control _____

COMPOSITION _____

LAWN MULCHING _____

NATIVE PLANTS _____

OTHER ENVIRONMENTAL UPGRADES: _____

NOMINATOR: _____ _____
(Printed Name) (Date)

_____
(Address)

Signature: _____

Appendix to CAC 2005 Annual Report

1. **Revised application form for "A Better Newark"**

2. **Slides used for October 2005 LEED Workshop**

3. **CAC Poster for Community Day**

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"A BETTER NEWARK" AWARD

NEWARK DELAWARE
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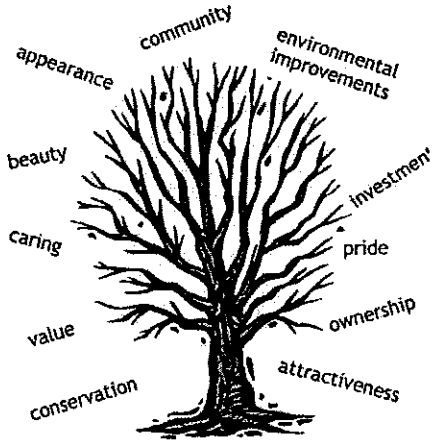

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COMPOSITION _____

LAWN MULCHING _____

NATIVE PLANTS _____

OTHER ENVIRONMENTAL UPGRADES: _____

NOMINATOR: _____ _____
(Printed Name) (Date)

_____
(Address)

Signature: _____

Single-Family Dwellings

Homes built by individuals or in alternative communities have set the trend for sustainable housing. A LEED certification program will soon be available to encourage LEED use on a larger scale for housing development.

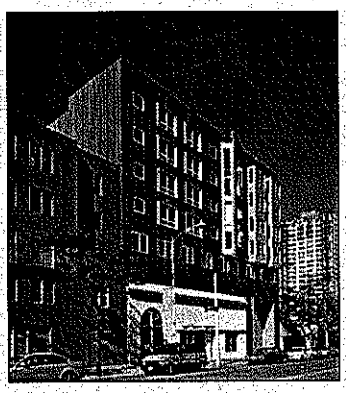
EcoVillage, Loudon County, VA

EcoVillage, Ithaca, NY

Multiple-Family Dwellings

In addition to energy and water efficiency, these LEED-certified buildings feature durability, low maintenance, and use of recycled materials.

Waterfront Housing, Burlington, VT

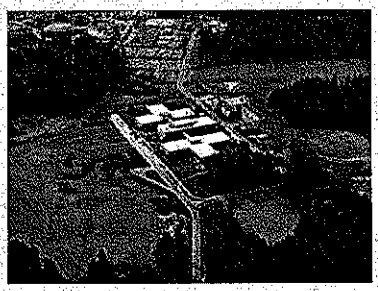


Affordable housing, Seattle

Offices

LEED certification includes consideration of the human environment. Productivity in this type of office space has been shown to increase by 60%.

LEED-certified office building, Pittsburgh



Vancouver Island Technology Park received LEED Gold certification.

Schools and Public Facilities

North Boulder Recreation Facility

Middle school in Punahou, Hawai'i

Vancouver Public Works Facility

Colleges and Universities

Clemson University Master Plan 2002

adopts the use of LEED for new construction:

"*Campus architecture should support the University's commitment to optimize energy usage, protect air and water resources of the general environment, and conserve materials and resources associated with the construction of buildings. The LEED system is but one example of the type of standards that the University will consider for sustainable design.*"

Clemson is also renovating facilities to be certified by the new LEED EB (Existing building) program. Pictured here is Clemson's Fraternity Quad, renovated for LEED Silver Certification.

Elements of Green Buildings

There is not any one single technique for designing and building a green building, but green buildings often:

- Preserve natural vegetation;
- Contain non-toxic or recycled-content building materials;
- Maintain good indoor air-quality;
- Use water and energy efficiently;
- Conserve natural resources;
- Feature natural lighting;
- Include recycling facilities throughout;
- Include access to public transportation;
- Feature flexible interiors; and
- Recycle construction and demolition waste.

Advantages of LEED certification to the builder

- Third party validation of green features.
- Assurance of complete implementation of designed and intended green features.
- Third-party rating of degree of sustainability.
- Benefit of LEED "brand" association.
- Incentives from public agencies.

XI. Conclusions

This report has sought to define, document and analyze the costs and financial benefits of green buildings. It has attempted to identify gaps in current knowledge about green building costs and benefits and to identify recommended areas of future research and analysis.

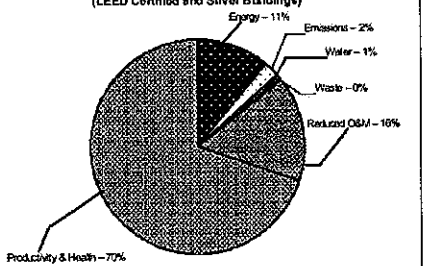
The financial benefits estimated in this report are a measure of financial benefits to the state of California as a whole, rather than to specific building tenants or owners. While a government entity should care about the benefits their building may have for society, a private commercial entity may not. Private sector building owners, for example, may be less likely to care about health and environmental impacts, and hence might perceive lower financial benefits of building green. In addition, because of higher capital costs and hurdle rates, future financial benefits are discounted more heavily by private entities than by public ones, potentially further reducing the perceived value of future green building financial benefits for the private sector. These differences help explain the significant disparity between public and private sector adoption of green building design.

Figure XI-1. Summary of Findings (per ft^2)

Category	20-year NPV
Energy Value	$5.79
Emissions Value	$1.18
Water Value	$0.51
Waste Value (construction only) - 1 year	$0.03
Commissioning O&M Value	$8.47
Productivity and Health Value (Certified and Silver)	$36.89
Productivity and Health Value (Gold and Platinum)	$55.33
Less Green Cost Premium	($4.00)
Total 20-year NPV (Certified and Silver)	$48.87
Total 20-year NPV (Gold and Platinum)	$67.31

Source: Capital E Analysis

Figure XI-2. Percentage Breakdown of Green Building Financial Benefits (LEED Certified and Silver Buildings)



Source: Capital E Analysis

The above pie chart is for Certified and Silver buildings. For Gold and Platinum buildings, a larger portion of benefits are represented by productivity and health, and the percentages of benefits from the other categories reduce correspondingly. The relatively large impact of productivity and health gains reflects the fact that the direct and indirect costs of employees are far larger than the costs of buildings and energy, so even small increases in employee productivity translate into large benefits. Note that this estimate does not include the financial benefits of reduced moving costs (churn) associated with underfloor air distribution systems because most green buildings do not currently use them.

As summarized above, total financial benefits of green design are estimated to be almost $50/ft^2 for Certified and Silver level green buildings, and over $75/ft^2 for Gold and Platinum level buildings. This is over ten times larger than the average 2% cost premium – about $3-5/ft^2 in California – for the 33 green buildings analyzed.

The financial benefits of green buildings include lower energy, waste, and water costs, lower environmental and emissions costs, lower operations and maintenance costs, and savings from increased productivity and health. These benefits range from being fairly predictable (energy, waste, and water savings) to relatively uncertain (productivity/health benefits.) Energy and water savings can be predicted with reasonable precision, measured, and monitored over time, so much so that commercial firms contract to buy streams of future energy and water savings. In contrast, productivity and health gains are much less precisely understood and far harder to predict with accuracy. This is due in part to the complexity of human health and performance issues, the large range in human reactions to indoor environmental quality changes, and the large range of ways that improvements can show up, including lowered insured or uninsured health costs, lower employee turnover or increased productivity.

What Can We Do in Newark?

- Incentives for LEED
- Other "green" options

Some Cities with LEED Incentive Programs

Arlington, MA	Los Angeles CA
Atlanta GA	New York, NY
Austin TX	Pleasanton, CA
Berkeley, CA	Portland OR
Boulder, CO	San Diego, CA
Bowie, MD	San Francisco, CA
Chula Vista, CA	San Jose CA
Dallas, TX	Santa Monica, CA
Eugene, OR	Scottsdale, AZ
Frisco, TX	Seattle WA
Kansas City, MO	Vancouver, BC

Arlington, VA

- "Front of the Line" permit processing
- Possible increases in floor area ratio (FAR increased by up to 15% for basic certification, 35% for Gold)
- Green Building Fund ($0.03 per sq ft) required of site plan developers, but refunded when LEED certification is obtained

Arlington, VA (cont'd)

- All site plan projects must have a LEED accredited professional on the development team.
- All site plan applications complete the LEED scorecard with an explanation of each credit, describing how they intend to achieve the credit, or why they are unable to.
- For multi-family residential projects, appliances, fixtures, and relevant building components must be EPA's Energy Star qualified.

Scottsdale, Arizona

- **Priority plan review** - All qualified green building projects receive fast track plan review service. This means green building projects receive building permits in half the time as regular projects depending on degree of complexity. Development process assistance is offered in the resolution of compliance issues.
- **Job site signs** - City green building construction job site signs are available to distinguish projects involved in the program. This serves as a billboard that informs the general public of the builder's commitment to environmentally responsible building and the long-term health of the community.
- **Directory of participating designers and builders** - Participating architects, designers and builders are listed and published in promotional materials. This material is on the city web site and is a part of the green building information packets which is distributed at public events and mailed out to the general public on request.

- **Green building certification through inspections** - The City provides a series of green building inspections during the course of construction to ensure the project is following prescribed guidelines. From a homebuyer's perspective, this extra inspection process ensures a superior quality product as compared to typical building projects. Upon successful completion of the project, a green building certificate is awarded.
- **Homeowner's manual** - A homeowner's manual is available which explains the features and benefits of green building, including indoor environmental health, energy, water, and resource efficiency. The manual is in layman's terms and helps to describe the uniqueness of each project.
- **Promotional package for builders/developers** - Promotional packages include green building logo for ads, brochures, and abbreviated green building checklists. The Green Building Program provides additional media coverage in the form of press releases and articles in the local news media.
- **Educational programs** - The City of Scottsdale sponsors green building lectures and seminars that serve as an introduction to energy/ resource efficient and environmentally responsible buildings. These programs feature information and resources in the areas of site use, energy, building materials, indoor air quality, water and solid waste reduction.

Possible Steps

- Priority processing if LEED certification to be sought
- LEED scorecard must be completed
- Green Building Fund
- Allowance for FAR increases
- Job site signs and other promotional materials

Newark Conservation Advisory Commission

Promoting Sustainable Development in Newark through "Green" Construction

A City Workshop – Open to All – City Hall, October 18th, 7:30 pm

When new buildings are planned, designed, and constructed in Newark, there are many ways to save resources and promote conservation. New buildings of many types—residences, office buildings, commercial establishments, apartments, and others—can be environmentally responsible, profitable, and healthy places to live and work.

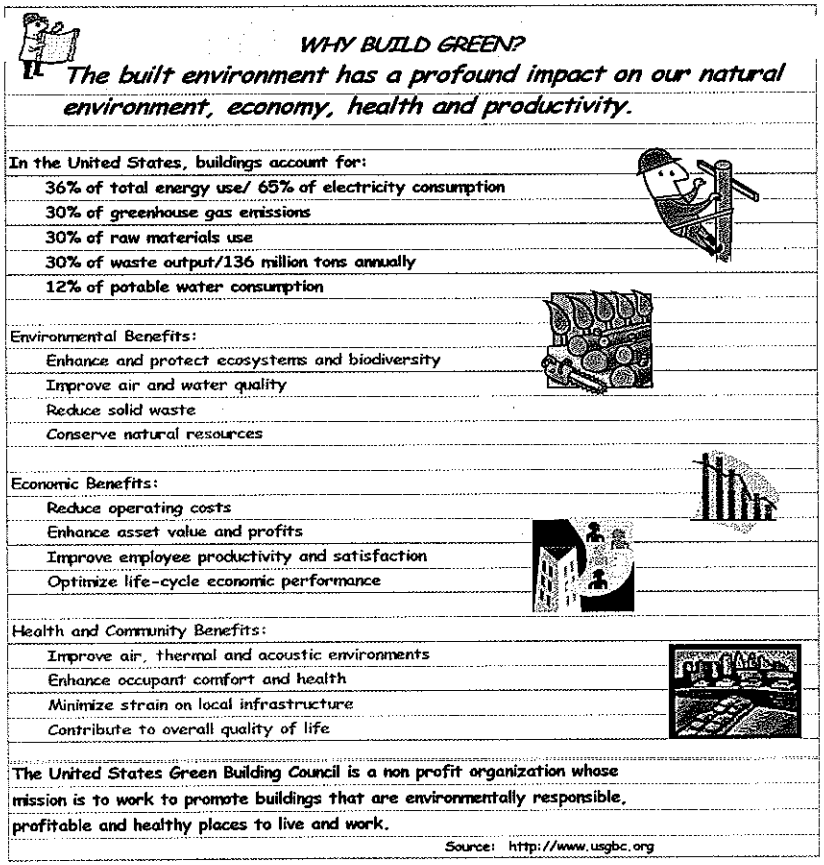
How can this be done? What techniques are used to bring together the many elements of environmental design? How is it possible to make energy- and water-conserving buildings affordable? And, for Newark, how can we provide incentives that will convince developers and renovators to take these steps?

This workshop will explore these questions. Guest speakers will present perspectives from architects, engineers, and developers. Examples from other communities will be presented. An opportunity will be available for all to learn, question, and discuss these possibilities for Newark.

For more information call

Sonji Hubbard – City Secretary's Office – (302) 366-7070

Steve Dentel – Conservation Advisory Commission – (302) – 831-8120



How "green" can a building be? It's important to have standards for the environmental, economic, and community benefits of sustainable construction. The U.S. Green Building Council has developed one set of standards, known as LEED: Leadership in Energy and Environmental Design. These are available, or soon available, for commercial construction and renovations; homes; existing building operations; commercial interiors; and core and shell construction. In Newark, the permitting process could include economic and procedural incentives for LEED certification.

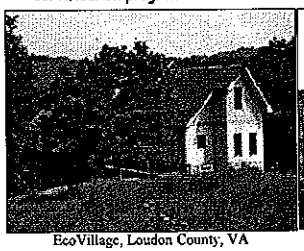
Newark Conservation Advisory Commission

Promoting Sustainable Development in Newark through "Green" Construction

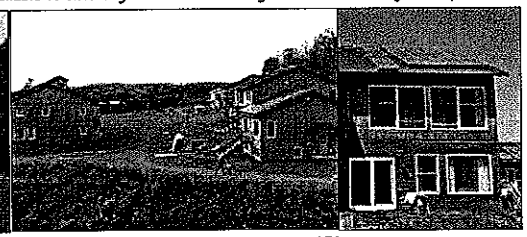
A City Workshop – Open to All – City Hall, October 18th, 7:30 pm

Single-Family Dwellings

Homes built by individuals or in alternative communities have set the trend for sustainable housing. A LEED certification program will soon be available to encourage LEED use on a larger scale for housing development.



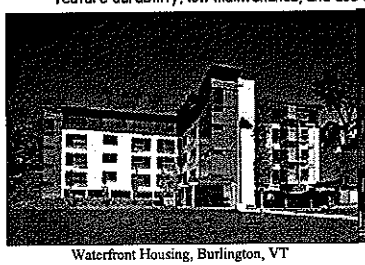
EcoVillage, Loudon County, VA



EcoVillage, Ithaca, NY

Multiple-Family Dwellings

In addition to energy and water efficiency, these LEED-certified buildings feature durability, low maintenance, and use of recycled materials.

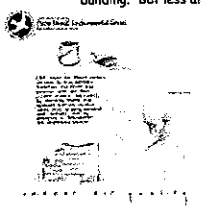


Waterfront Housing, Burlington, VT

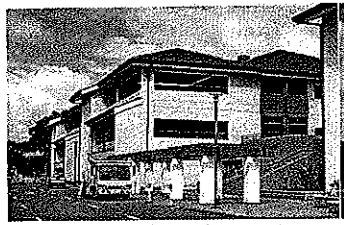
Affordable housing, Seattle

Nature Centers

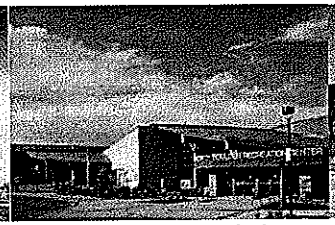
The Philip Merrill Nature Center in Annapolis, MD is the first Platinum-certified LEED building in the country, legitimately known as "the world's greenest building." But less ambitious facilities are also worthwhile!



Schools and Public Facilities



Middle school in Punahou, Hawai'i



North Boulder Recreation Facility

Vancouver Public Works Facility

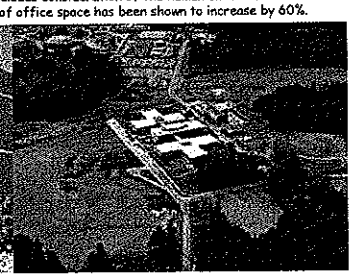
Colleges and Universities

The **Clemson University Master Plan 2002** adopts the use of LEED for new construction:
"*Campus architecture should support the University's commitment to optimize energy usage, protect air and water resources of the general environment, and conserve materials and resources associated with the construction of buildings. The LEED system is but one example of the type of standards that the University will consider for sustainable design.*"
Clemson is also renovating facilities to be certified by the new LEED EB (Existing building) program. Pictured here is Clemson's Fraternity Quad, renovated for LEED Silver Certification.

Offices

LEED certification includes consideration of the human environment. Productivity in this type of office space has been shown to increase by 60%.

LEED-certified office building, Pittsburgh



Vancouver Island Technology Park received LEED Gold certification.

Would you like to encourage this type of construction in Newark? Come to the workshop – October 18th, 7:30 pm!