

# **Sustainable Design Charrette for Murdock Village**

*January 28-29, 2004  
Port Charlotte, Florida*

*Sponsored by*

**Charlotte County, Florida  
U.S. Department of Energy  
Florida Energy Office**

## Table of Contents

	<u>Page</u>
Introduction.....	2
Murdock Village Charrette Process and Participants.....	4
Breakout #1 - Resource Conservation.....	6
Breakout #2 - Building Design and Community Planning.....	11
Breakout #3 - Energy Conservation.....	16
Breakout #4 - Community/Recreation.....	23
Charrette Recommendations.....	26

## Introduction

In 2001, the Board of Commissioners for Charlotte County, Florida invited the Urban Land Institute (ULI) to study the redevelopment of a 125-acre parcel in the Port Charlotte area that currently is platted as hundreds of small residential lots. Charlotte County is located on Florida's Gulf coast and includes Charlotte Harbor, where fresh water from the confluence of the Peace and Myakka rivers mixes with the salt water of the Gulf of Mexico. Much of Charlotte County was platted in the 1950s and 1960s, primarily by the General Development Corporation (GDC), and by 1983 the county had 263,597 lots on 75,642 acres. GDC marketed and sold Florida lots nationwide based on the attraction of the area as a place to live and retire, with water sports, beaches and temperate climate. However, while many investors purchased GDC lots, today most of the lots are unimproved and have no homes built on them. As a result, the County has not experienced the residential and commercial development found in the neighboring counties of Lee and Sarasota. Furthermore, the Charlotte County Commissioners realize that, if all the platted residential lots had homes, the cost to provide needed county services would outstrip the County's resources and tax revenue. To address this untenable "platted lands" problem, the County decided to investigate the concept of acquiring land in the affected area and partnering with a private developer to create a mixed use development that is not possible with the current ownership and restrictions of platted lands.

The ULI study presented several recommendations to the Board of Commissioners, including:

- Prepare a conceptual master plan for a mixed use development, followed by a more detailed plan
- Assemble existing lots in the site through appropriate acquisition strategies
- Develop the site in partnership with private developer(s)
- Develop and implement a financing strategy for the project

Since the ULI report, the Board has elected to expand the site, designated as Murdock Village, to 1100 acres and in 2003 commissioned the engineering and planning firm of WilsonMiller to create a conceptual master plan. The County, which already owns land within the site where it's building a county park, has begun acquiring other lots and researching ownership of all other land. As the County embarks on this significant redevelopment project, the Commissioners and staff desire to create a model mixed use

development that embodies a high degree of sustainability by maximizing efficient resource utilization and minimizing impact on the Port Charlotte environment. To achieve this goal, the County secured a grant from the U.S. Department of Energy and the Florida Energy Office to conduct a sustainable design charrette for the planned Murdock Village project.

The charrette was held on January 28-29, 2004 at the Charlotte County Cultural Center in Port Charlotte, where several groups convened to discuss the green design of Murdock Village, including:

- **Board of County Commissioners**
- **County Administrator**
- **Staff representing County departments, including**
  - **County Attorney**
  - **Budget**
  - **Communications & Marketing**
  - **Community Development**
  - **Economic Development**
  - **Environmental & Extension Services**
  - **Facilities Construction & Maintenance**
  - **Fire/EMS**
  - **Human Resources/Risk Management**
  - **Human Services/Housing & Transportation**
  - **Parks, Recreation & Cultural Resources**
  - **Public Works**
  - **Purchasing**
  - **Real Property**
  - **School Board**
- **Local business leaders**
- **Developers**
- **Representatives from the U.S. Department of Energy**
- **Representatives from the Florida Green Building Coalition**
- **University of Florida faculty with the Resource Efficient Communities program**

- Professional staff from the Miami-Dade Housing Authority
- Representative from Audubon International
- Individuals from the general public

### Murdock Village Charrette Process and Participants

A sustainable design charrette provides a forum in which to develop and discuss concepts for making a development or facility more efficient in the use of energy, land, and materials while minimizing its environmental impact. The Murdock Village charrette addressed four major topics:

1. **Resource Conservation** - Reduce the utilization of natural resources, environmental impacts and life cycle costs through strategies such as reusing existing site materials, using recycled and/or recyclable materials, employing low impact construction techniques, building to conserve energy and water, and use of locally produced products and materials.
2. **Building Design and Community Planning** – Create attractive, sustainable, user-friendly building and public spaces which complement and integrate with each other and the surrounding community through strategies such as energy and water efficient design and construction, sustainable building sites and green space, enhanced indoor environmental quality, creative lighting, enhanced accessibility for pedestrians, bicycles and mass transit users, encourage community use of public spaces, community education in sustainable features, and enhanced public security.
3. **Energy Conservation** – Reduce energy and operating costs, increase pollution prevention, and create healthy indoor environments through strategies such as use of energy efficient building materials, daylighting and efficient lighting, efficient mechanical and HVAC equipment, building automation systems and controls, renewable energy applications, and distributed energy options.

4. **Community/Recreation** - Foster a sense of community and cooperation within the development through strategies such as community sports fields, community and civic centers, mass transit options, community events, child and elderly-care facilities, public safety and public education.

On the first day of the charrette, Bruce Loucks, Charlotte County Administrator, made a presentation on the history and current status of the Murdock Village project to participants from outside the county. Mr. Loucks and Tom Cookingham, the County's Planning and Zoning Manager, summarized the findings of the ULI study and reviewed the WilsonMiller conceptual master plan, then answered questions from the charrette participants. Mr. Loucks later narrated a bus tour of the Murdock Village site that showed participants the current state of the parcel, which includes over 3,000 residential lots, with 80 homes built; several commercial establishments along U.S. 41 bordering the site on the north; and county owned facilities within the site.

The Florida Green Building Coalition (FGBC) also made a presentation on the Coalition's standards, including the Green Development Standard, Green Home Standard, and soon-to-be-released green small commercial building standard. The Coalition, a 501(c)(3) not-for-profit corporation created in 2000, has assembled working committees for each of the standards, comprised of developers, architects, engineers, planners, and academics. The standards are integral to an FGBC certification process that utilizes green design experts to evaluate the plans for a development or building. The evaluator assigns points to a number of green design/operation areas of the project being evaluated and achieving FGBC certification depends on accumulating a total of 200 points out of an allowable 400. See Attachment A for a checklist of the FGBC Green Development Standard.

In the afternoon of the first day the participants from the community, DOE, FGBC, University of Florida, and Miami-Dade Housing Authority were joined by thirty-five managers and staff from Charlotte County government departments. The group, numbering 55, heard a presentation from the charrette facilitator of how the breakout groups would conduct facilitated discussions of the major topical areas, and received a list of suggested sustainable design issues for each topic. The breakout groups then met for the rest of the afternoon and reconvened the next morning for a total of six hours of discussions, summarized in the following sections.

**Breakout Group #1 – Resource Conservation**

Participants included:

<b>Greg Andrews (Facilitator)</b>	<b>U.S. Dept. of Energy/Rebuild America</b>
<b>Valerie Weikel</b>	<b>Charlotte County Environmental &amp; Extension Services</b>
<b>Gabriole Van Bryce</b>	<b>U.S. Green Building Council</b>
<b>Jim Thomson</b>	<b>Charlotte County Environmental &amp; Extension Services</b>
<b>Marty Main</b>	<b>University of Florida</b>
<b>Bernie Milosky</b>	<b>Charlotte County Utilities</b>
<b>Mark Hostetler</b>	<b>University of Florida</b>
<b>Dennis Church</b>	<b>The Bonita Bay Group</b>
<b>Kevin McKyton</b>	<b>The Bonita Bay Group</b>
<b>Bob Gasper</b>	<b>Charlotte County Code Compliance</b>
<b>Michael Sheridan</b>	<b>Charlotte County Construction</b>
<b>Kraig Marquis</b>	<b>Audubon International</b>
<b>Elliot L. Kampert</b>	<b>Charlotte County Environmental Services/Nat. Resources</b>
<b>Jim Sweeney</b>	<b>Charlotte County Human Services</b>
<b>Richard Combes</b>	<b>U.S. Dept. of Energy/Rebuild America</b>

The group initially drafted the following Statement of Purpose, to define areas of emphasis for resource conservation in the Murdock Village project:

- **Development should proceed in harmony with wildlife.**
- **A long-range plan for education and management of natural resources should be integral to the Master Plan.**
- **Reduce nutrient loads to Charlotte Harbor and estuary through stormwater treatment structures and vegetation.**
- **Develop recommended construction standards that promote resource efficient construction, reduce environmental impacts and use of natural resources.**



**Resource Conservation Breakout Group**

**Group discussions yielded the following specific recommendations to the Board of Commissioners:**

- 1. Murdock Village development proposals should maximize the preservation of existing vegetation and wildlife habitat.**
  - Utilize the Florida Land Use, Land Cover Classification System (FLUCCS) to delineate habitat; identify existing trees that should be preserved.
  - Create design guidelines that clearly define allowable land clearing on all parcels.
  - Provide for Scrub Jay management plan.
  - Provide for connectivity of wildlife habitats.
  - Remove Brazilian Pepper from site.
- 2. Murdock Village development proposals should provide guidelines for landscaping .**
  - Incorporate Florida Yards and Neighborhoods (FY&N) guidelines with involvement from Charlotte County Cooperative Extension office.
  - Provide non-potable water utility (stormwater or reclaimed wastewater) for low volume landscape irrigation.
  - Minimize turf requirements and utilize native species in new plantings.
  - Utilize native aquatic vegetation and littoral shelf design for water ways to help treat runoff.
- 3. Murdock Village development proposals should address management of surface water, groundwater and stormwater.**

- Address plans to reduce impervious surfaces beyond current development standards.
  - Identify potential for groundwater recharge on the site.
  - Create water management strategy that utilizes site's natural topography, mimics natural functions, encourages natural habitats, and reduces nutrient loading beyond current development standards.
  - Investigate County's ability to provide reclaimed wastewater for irrigation and opportunities to utilize retained stormwater for irrigation. Provide a two-pipe water utility for potable and non-potable irrigation water.
  - County should establish a water quality monitoring program during and after construction, in conjunction with the SW Florida Water Management District and/or Florida Dept. of Environmental Protection. This program would provide a basis for comparison with traditional design communities.
4. Murdock Village development proposals should include education programs for builders and public that utilizes available County, extension and university resources.
- Establish an education center that presents the benefits of the project's sustainable features to homeowners, school groups, and general public.
  - Provide assistance and instruction to builders in the projects for achieving the intent of development guidelines.
  - Provide signage throughout the development that identifies sustainable features.
5. In partnership with the County, Murdock Village development proposals should provide for site development and construction waste recycling.
- Waste from land clearing, excavation should be reused on site, such as utilizing removed vegetation for mulch or compost, utilizing excavated soil as fill, etc. If not possible to recycle onsite, materials should be transported offsite for reuse in lieu of hauling to landfill.
  - Provide instruction for builders and enforce erosion and silt control measures during site development and construction.
  - Save desirable trees by relocating to onsite or offsite locations.
  - To facilitate recycling, implement guidelines for segregating and transporting waste clearing and construction materials.

- Establish community recycling programs in conjunction with solid waste collection programs for homes and businesses.
6. Murdock Village development proposals should provide guidelines for service installation of utilities.
- Provide plan to address electric service and the possible provision of natural gas service.
  - Address use of solar energy applications (e.g., pool heating, domestic water heating, photovoltaic-powered security and landscape lighting).
  - Install energy efficient community lighting (street lights, public building lights)
  - Utilize natural topography and swales, where possible, to collect and direct runoff
  - Electric utility should be installed underground.
  - Use common trenches for installation of utilities, where possible.
  - Consider use of vacuum sewers to minimize trenching and infiltration potential of gravity sewers.
  - Utilize energy efficient transformers.
  - Encourage purchase of green power from serving utilities.
  - If treating wastewater at the site, consider using treated effluent for irrigation, biogas to displace utility-supplied energy.
7. Murdock Village development proposals should address transportation options within the development and through linkages outside the site.
- Provide pedestrian-friendly system of walkways and greenways throughout the site.
  - Minimize road crossings of sensitive wildlife areas (e.g., scrub jay habitat) and provide wildlife crossings where roads cross wildlife areas.
  - Provide an onsite mixed-mode transportation system that reduces offsite trips and increases use of alternatives to automobile use within the community.
  - Provide linkages with public transportation systems that will offer community residents an attractive option for offsite trips, and for providing easy access for visitors to parks, recreation, businesses, and events within the community.

8. To accomplish the above, Murdock Village development proposals should provide for adoption of community standards and green covenants and deed restrictions.
- Utilize a third-party certification program for both the development and for buildings within the community. The Florida Green Building Coalition has point-based standards for developments, residences, and commercial buildings that are gaining wide acceptance in the state with owners, developers and builders. The Audubon International Institute also provides a consultation program that can help a development achieve a sustainable designation. These local programs offer flexibility in development while ensuring sustainable features are incorporated, and the designation of green or sustainable communities conferred on the development offers an excellent vehicle for dealing with the complex decision-making process of designing, building and maintaining a sustainable community.
  - To ensure the Murdock Village project is built to sustainable standards adopted at the master planning and development phases, covenants and deed restrictions that address the resource conservation goals of the project should be established and recorded.

**Breakout Group #2 – Building Design and Community Planning**

Participants included:

Kirk Bond (Facilitator)	U.S. Dept. of Energy/ Rebuild America
Dennis Church	The Bonita Bay Group
Robyn Maddock	Lennar (U.S. Homes)
Connie Kantor	Charlotte County School Board
Rob Vieira	Florida Green Building Coalition/Florida Solar Energy Center
Rich Weingarten	Charlotte County Transit
Andy Stevens	Charlotte County Parks, Recreation & Cultural Resources
Jim Cooper	GIBA
Brian Lichterman	Sarasota County Growth Management
Thomas Becker	U. of Florida/IFAS Extension
Glenn Acomb	U. of Florida/Landscape Architecture
C.S. Vaurina	U. of Florida/IFAS Extension
Julio Callo	Miami-Dade County
John Oda	
George Dahlke	Charlotte County Facilities
Mike Konefal	Charlotte County Community Development
Mark L. Gumula	Charlotte County MPO/Public Works
Paul Payette	Charlotte County Real Property Services
Pierce Jones	U. of Florida/Resource Efficient Communities
Richard Combes	U.S. Dept. of Energy/Rebuild America

This group, with representatives from the County staff, developers, and sustainable design practitioners, focused its discussions on the how the County might work with the developer of Murdock Village to assure that the anticipated mixed use buildings that will eventually populate the site incorporate sustainable design features. Further, the group addressed how the buildings and the people who use them can coalesce as a community that values the concept of sustainability and resource stewardship. Thus, integrating the buildings that are recognized as being sustainably designed with a community sharing

common goals and values will result in a model development that could be replicated throughout Charlotte County.



**Building Design & Community Planning**

After discussing approaches for designing, constructing and operating Murdock Village buildings, the group agreed that a sustainable design template would be an important tool to use in meeting desired goals. There was a general knowledge of the Leadership in Energy and Environmental Design (LEED) approach to sustainable design, developed by the U.S. Green Building Council. The LEED certification process calls accumulating points, up to a total of 66, for meeting design criteria that are primarily prescriptive. These criteria are grouped under six major topical headings:

- **Sustainable Sites** – includes criteria for erosion & sediment control, alternative transportation, reduced site disturbance, stormwater management, and landscape & exterior design to reduce heat islands
- **Water Efficiency** – includes criteria for water efficient landscaping, innovative wastewater technologies, and reduced water use.
- **Energy & Atmosphere** – includes criteria for improved energy efficiency relative to accepted standards, reduced use of CFC refrigerants, renewable energy applications, building commissioning, and green power purchased from utilities.

- **Materials & Resources** – includes criteria for recycling, building reuse, construction waste management, resource reuse, recycled content of materials, local/regional materials, rapidly renewable materials, and certified wood.
- **Indoor Environmental Quality** – includes criteria for tobacco smoke control, CO<sub>2</sub> monitoring, ventilation control, low-emitting materials, thermal comfort, and daylighting.
- **Innovation & Design Process** – includes criteria for unspecified innovations and LEED accredited professional.

The LEED checklist and process for certification have become well known and accepted by the U.S. building design community. However, when assessing its suitability for a project such as Murdock Village, LEED doesn't yet offer separate sustainable design standards for "horizontal" redevelopment of a site or for residential structures. For this reason, the group turned its attention to the Green Development Standard, Green Home Standard, and upcoming green standard for small commercial buildings that have all been established by the Florida Green Building Coalition (FGBC). Based on the FGBC presentation of its programs earlier in the day and on answers to questions put to Rob Vieira, the group decided to utilize the FGBC Green Development Designation Standard as a template to the Murdock Village project.

Within the context of the Green Development Standard (see [http://www.floridagreenbuilding.org/standard/pdf/DevVer2/Ver2\\_dev\\_checklist.pdf](http://www.floridagreenbuilding.org/standard/pdf/DevVer2/Ver2_dev_checklist.pdf)), the group developed the following recommendations for the Board of Commissioners:

1. The Murdock Village development can earn significant credit towards certification under the standard's "Protect Ecosystem and Conserve Natural Resources" category by:
  - Redeveloping the platted lands.
  - Surveying existing vegetation and conserving desirable trees and native species
  - The County park being developed in the site and planned additional green space.
  - Wildlife habitat preservation and conservation areas for specific species (i.e., protected areas for scrub jay).
  - Reusing/recycling materials on site.

- Managing stormwater onsite and utilizing land dedicated to stormwater management for amenities during dry periods.
2. Additional credit towards certification can be earned under the standard's "Create a Green Circulation System" category by:
    - Pedestrian walkways and greenways
    - Accessibility via roads and transportation linkages to outside destinations
    - Road/trail/parking construction materials (i.e. use of pervious materials)
    - Parking, street lights, orientation
  3. Credit can also be earned in the standard's "Green Utilities Practices" category by:
    - Minimizing disturbance due to utilities (i.e. underground utilities, single trench installation)
    - Deliver green power
    - Irrigation with retained stormwater or reclaimed wastewater
    - Metering irrigation water
  4. Additional credit can be earned in the standard's "Amenities" category by:
    - Parks and community pool
    - Compost/mulch facility for recycling yard waste
    - Landscape management for common areas and amenities
  5. Additional credit can be earned in the for green covenants and deed restrictions
  6. Finally, credit can be earned for providing educational programs that promote green practices, including community signage, green County buildings, onsite assistance for residents and builders.

The group recommends the County and developer adopt the FGBC Green Development Designation Standard for the development and offered additional specific recommendations that will help achieve FGBC certification:

- Minimize use of potable water for irrigation through use of retained stormwater or reclaimed wastewater.
- Provide an integrated system of trails for pedestrians and low-speed vehicles (bicycles, golf carts, etc.) throughout the site. Connectivity within the community will be important, as will access to neighboring destinations (i.e., Sports Complex, Fairgrounds). Waterways with access to Charlotte Harbor are desirable. Assure

community public safety in pedestrian and green space areas with security lighting and patrols, where needed.

- **Save existing large native trees. Utilize landscaping to reduce irrigation requirements, reduce heat islands, make roadways attractive, while maintaining community security. Adopt Florida Yard and Neighborhood program for resource efficient landscaping and maintenance practices, such as a community composting/mulching program.**
- **Consider offering incentives, such as reduced permit or impact fees, for buildings that are energy and water efficient. Provide educational programs for builders, sales staff, homeowners on benefits of sustainable design standards. Utilize available resources, such as Energy Star labeling and the FGBC Green Home Standard, to encourage residents to build and own resource efficient homes.**

**Breakout Group #3 – Energy Conservation**

Participants included:

Steve Hortin (Facilitator)	U.S. Dept. of Energy/Community Energy Initiatives
John Cross	Engineer
Ed Duffy	York Technical College
Patricia Gomez	Miami-Dade County
Ann Navan	Charlotte County Budget Office
Richard Allen	Charlotte County Environmental & Extension Services
Tom Cookingham	Charlotte County Community Development
Cynthia Caterham	The Bonita Bay Group
Dennis Church	The Bonita Bay Group
Dick Loftus	Charlotte Harbor CRA
Dale Armstrong	Charlotte County Public Works
Jim Evetts	Charlotte County Building Dept.
David Milligan	Charlotte County Parks, Recreation & Cultural Resources
Roy Bonnell	Florida Green Building Coalition
Charlie Vaurina	U. of Florida/IFAS Extension
Ed Duffy	York Technical College
Richard Combes	U.S. Dept. of Energy/Rebuild America



**Energy Conservation Group**

The group initially drafted the following Statement of Purpose:

“Develop strategies to reduce operating costs, prevent pollution, lower maintenance costs, and create healthy indoor environments by minimizing energy use.”

The group then had wide-ranging discussions to create a list of energy-saving strategies and each strategy was assigned a high, medium or low strategy by group consensus. The high priority strategies were then evaluated to determine what applications could be recommended for the Murdock Village project; what tools are available to help implement the applications; what barriers and challenges need to be addressed at the design stage; what costs are associated with implementation; and what resources are available to the County and developer to support recommended energy conservation measures. The discussions led to the following set of energy conservation strategies to implement in the development of Murdock Village:

### High Priority Strategies

1. Develop a comprehensive community-wide education program that promotes the benefits of energy conservation.
  - Program should target Murdock Village developer, builders, sales staff, media, students, residents, tenants, maintenance staff, general public and government officials.
  - Tools available to implement a program include:
    - Demonstration projects, extension services
    - Workshops, lectures
    - Signage in community
    - School curriculum, science fairs
    - Web site, brochures, CD-ROM
    - Press/media
    - Tours and community events (i.e., Earth Day celebration)
  - Barriers/challenges to implementation include:
    - Cost – new dollars will be needed
    - Long-term commitment of decision-makers
    - Assigning responsibility for implementation

- Keeping educational materials up to date
  - Measuring program effectiveness
  - Resources that should be explored to help implement program include:
    - Energy agencies – U.S. Dept. of Energy, Florida Energy Office
    - Energy extension services – Universities/colleges/tech school, Florida Green Building Coalition, Florida Solar Energy Center, Audubon International
    - Environmental agencies – SW Florida Water Management District, Florida Dept. of Environmental Protection, EPA, etc.
    - Grants for pilot and demonstration programs
    - Utilities – FP&L, Peoples Gas
    - Vendors/manufacturers of energy efficient materials, equipment
    - County’s Communications/Marketing Dept.
    - Student projects
    - Media/press
2. Establish a community energy performance standard for all buildings that exceeds the Florida Energy Code
- Strategies available to the County, developer and Village residents include energy- and water-conserving landscaping, reflective surfaces (e.g., roofs), solar systems, Energy Star program.
  - Barriers/challenges include:
    - Existing vegetation – will need to survey, preserve desirable trees, species, use low-impact construction techniques, etc,
    - Type of irrigation systems, source of irrigation water
    - Waste collection and recycling (compost/mulch, etc.)
    - Increased initial costs for solar, Energy Star appliances
    - Builder acceptance and commitment
    - Marketing energy efficiency – higher initial costs but lower operating costs
  - Tools available to implement energy and water efficiency standards include:
    - Florida Yard and Neighborhood landscaping standards

- Florida Green Home, commercial building standards
- LEED building standards
- U.S. Dept. of Energy, Florida Energy Office programs and grants
- Utility programs (e.g., FP&L Build it Smart program)
- Green web sites
- Resources available to the County, developer, builders, residents include:
  - County agent for Florida Yard & Neighborhood program
  - Florida Green Building Coalition, Florida Solar Energy Center
  - Utilities
  - Universities, colleges, e.g., U. of Florida Energy Extension
  - U.S. Dept. of Energy, EPA
  - Vendors, manufacturers, retailers (e.g., Home Depot)
  - Associations – National Home Builders Assn, ASHRAE, etc.
  - Proven energy & water efficiency features include:
    - Building orientation and overhangs for sun exposure, shading
    - Insulation – wall, attic, floor
    - High performance windows
    - Sealed duct work
    - Efficient lighting and controls
    - High efficiency air conditioners, heat pumps, thermostats
    - Ventilation and humidity control systems

**3. Establish a community design standard that promotes energy and water efficiency.**

- Tools available to the County and developer include:
  - Site orientation
  - Preserve existing vegetation, large trees, native species
  - Recycling development, construction, household waste materials
  - Waste reuse – composting/mulch for landscaping; reclaimed wastewater for irrigation
  - Community amenities, parks, dedicated green space, greenways, pedestrian-friendly
  - Solar thermal e.g., for pool heating

- Efficient community lighting standards
- Environmentally friendly landscaping & irrigation standards
- Green covenants and deed restrictions
- Roads, parking system that preserves wildlife habitat, pedestrian/bike access
- Disaster resistant
- **Barrier/challenges to implementation include:**
  - Higher development costs
  - Developer's requirement
  - Competition from other developments
  - Higher maintenance costs
- **Resources to help implement include:**
  - U.S. Dept. of Energy, Florida Energy Office
  - Florida Green Building Coalition, Florida Solar Energy Center
  - Paving companies

#### **Medium Priority Strategies**

#### **4. Identify/evaluate and offer appropriate incentives to encourage energy conservation.**

- **Tools available include:**
  - Tax incentives – federal/state/local
  - Streamline permitting process
  - Discounted permit fee
  - Utility rebate, lower energy conservation usage rate
  - Manufacturers' incentive programs
  - Mortgage incentives
  - Giveaway
  - Development credits
- **Barriers/challenges to implementation include:**
  - Cost to implement
  - Commitment from decision-makers
  - Legislative process to implement

- **Resources available to help implement include:**
    - **Government**
    - **Utilities**
    - **Businesses**
    - **Manufacturers**
- 5. Establish community transportation standards that will provide guidelines to developer for the system of roads, trails, greenways and waterways desired in Murdock Village.**
- **Tools available to the County and developer include:**
    - **Traffic management plan**
    - **Public parking plan**
    - **Neighborhood vehicles (loop system)**
    - **Alternative fuel vehicles and infrastructure for them**
    - **Community shuttle for offsite destinations**
    - **Pedestrian friendly system of walkways, bridges**
    - **Cycling lanes, bike loan program**
    - **Station cars**
    - **Alternative fuel maintenance vehicles**
    - **Support systems for telecommuting (broadband access)**
  - **Barriers/challenges include:**
    - **Higher initial costs**
    - **Commuter acceptance**
    - **Education and marketing efforts**
  - **Resources available to implement a community transportation plan include:**
    - **Dept. of Transportation, Federal Highway Administration**
    - **U.S. Dept. of Energy, Florida Energy Office**
    - **Miami Beach – Electro Wave**
    - **Chattanooga program**
    - **Bicycle organizations**
    - **Utilities**
    - **County public transportation agencies, contractors**

- International Council for Local Environmental Initiatives
- Collier County program

**Low Priority Strategy**

**6. Consider options for distributed energy (onsite generation) applications in Murdock Village.**

- **Applications for distributed energy include:**
  - Fuel cells
  - Solar – photovoltaics
  - Microturbines
  - Gas-powered generators
  - Security
  - Separate power authority
- **Barriers/challenges include:**
  - Initial cost is higher
  - Utilities and tie-ins to them
  - Operating and maintenance (technology is new and complex)
  - Resistance to change
- **Resources available include:**
  - U.S. Dept. of Energy, Florida Energy Office
  - Florida Solar Energy Center
  - Utilities
  - Equipment manufacturers

**Breakout Group #4 – Community/ Recreation**

Participants included:

Mel Powers (Facilitator)	U.S. Dept. of Energy/Rebuild America
Kent Carlyle	The Bonita Bay Group
Ray Cowan	Public
Kimberly Corbett	Charlotte County Purchasing
Laura Kleiss Hoeft	Charlotte County Parks, Recreation & Cultural Resources
Ralph Mitchell	Charlotte County Extension Service
Mark Gering	Charlotte County Community Development
Bob Pryor	Charlotte County Risk Management
Wes Millard	Charlotte County Public Works
Tom D'Aprile	Charlotte County Commissioner
Roger Baltz	Charlotte County Administration



**Community/Recreation Group**

This group, consisting of County officials and staff, developers, and sustainable design practitioners, discussed how the Murdock Village development plans should provide the community and the County with a model for a sustainable recreation facilities and programs, livability, and ease of access to the natural assets in and around the Village site. Discussions also addressed public education options and security/safety issues within the

community. The group established focus areas that will be important topics to address as the County and the developer proceed with plans for Murdock Village, including:

1. The site has excellent community recreation assets, including the regional park with playing fields within the site and the sports complex and fairgrounds across Route 776 from the southwest portion of the site. Areas to be addressed in the development include:

- Pedestrian walkways, including trails, greenways and sidewalks
- As the existing north-south drainage ditches are replaced with other waterways, consider connections within and offsite that allow use of canoes and other small water craft.
- Consider a pedestrian bridge across Route 776 to provide community access to facilities on the south side of this major highway.
- Specialized facilities or multiple use facilities that could accommodate a community education center, art exhibit area, gymnasium, etc. Incorporate energy and water efficiency features in community- or County-owned buildings to provide demonstrations and education on green buildings.
- Outdoor community areas for activities such as community gardens, farmers market, paw park, horse stable and trails should be considered.
- Special events venue, such as performance hall or outdoor amphitheatre, for concerts, community festivals, theater, etc. Consider other community events that highlight the uniqueness of Murdock Village, such as running races, sports tournaments, pet shows, street art fairs, poetry/storytelling festivals. Opportunities may exist for satellite events associated with events at the Fairgrounds.
- Integrated pest management program.
- Public library utilized for community outreach, lectures, art classes and exhibits, etc.
- Easily accessible neighborhood parks and green spaces.
- Clay tennis courts

2. Murdock Village should have a well-integrated network of transportation systems that encourage pedestrian traffic and minimize the need for auto trips.

- Public open-air shuttles
  - Multi-use trails that can safely accommodate pedestrians and low speed vehicles (golf carts, scooters)
  - Public transit options for offsite destinations (nearby shopping areas, Sarasota County, etc.)
  - Transit options for students from Murdock schools to downtown activities and for those participating in after school activities.
  - Energy efficient, environmentally friendly public transit vehicles
  - Pet friendly transit options.
3. For Murdock Village transportation planning, incorporate the concept of **linear connectivity**, wherever possible.
    - Trail/walkway system should make community accessible without the need for automobile. Utilize “5 minute” rule for access to amenities, businesses.
    - Integrate the community with the County’s pedestrian master plan, Master Plan, Comprehensive Plan, and 5-year School Plan.
  4. Planners should address **public education** options for Murdock Village, including whether a new school will be needed for the community and where it might be located. If Village students leave the community to walk to school, a pedestrian bridge over Route 776 may be justified.
  5. Planners should consider community access to **child & elderly care facilities**, both those that might be built within the Village and those located offsite. Consider intergenerational care and adaptive living facilities.
  6. Provide for innovative **community security** programs, such as community police patrols on bike or horseback. Design of walkways and road crossings should be pedestrian-friendly; automobile speed limits should be set to protect pedestrians, cyclists. Provide easy access by fire and emergency medical vehicles throughout the community. Murdock Village should not be known as “just another gated community” but rather should be inviting and accessible to offsite visitors.
  7. The County and developer should utilize existing design guidelines and standards, such as the Florida Green Building Coalition standards, LEED and DOE’s Rebuild America standards (e.g., High Performance Schools) in planning and building

Murdock Village. These standards embody the collective wisdom of the design community for both site development and energy/water efficient buildings. Achieving certification with these standards also provides credibility and national recognition as a sustainable community.

### Charrette Recommendations

Summarizing the specific strategies and actions resulting from the breakout group discussions and detailed in the above sections, the following recommendations are offered to the Charlotte County Board of Commissioners:

1. ***The County should adopt existing green certification standards for the Murdock Village project, such as***
  - ***The Green Development Designation Standard from the Florida Green Building Coalition,***
  - ***The Florida Yards and Neighborhood guidelines,***
  - ***The Audubon Signature Sustainable Development Standard, and***
  - ***The Leadership in Energy and Environmental Design (LEED) standard from the U.S. Green Building Council.***

These existing standards programs are gaining recognition in Florida and the U.S. as programs that embody the practicable sustainable design principles deemed necessary by the charrette participants. The terms “sustainable design” and “green design” require interpretation within the context of specific project characteristics and goals, and a certification standard offers a framework which can capture desired development criteria, limits, and standards, while allowing developers and builders flexibility in their approach to meeting the overall standard. Adopting a recognized green certification standard will also provide the Murdock Village project the “brand recognition” as a sustainable development desired by County.

2. ***Upon adopting a green certification program for Murdock Village, the County should further specify desired development characteristics, such as:***
  - Mixed use development,

- Preservation of existing trees and vegetation,
- Provisions for indigenous wildlife preservation,
- Provisions of erosion, sediment control during development phase,
- Minimizing or eliminating use of potable water for irrigation (County should indicate if it will provide reclaimed wastewater to site)
- Stormwater retention, treatment and reuse,
- Water features integrated with green space,
- Creating a pedestrian-friendly network of trails, walkways and greenways
- Transportation linkages to offsite destinations, e.g., pedestrian bridge across Route 776 for access to schools, sports complex & fairgrounds; public transportation shuttles to nearby schools and businesses,
- Adherence to existing green building design standards, such as FGBC or LEED standards, and landscaping guidelines, such as Florida Yard & Neighborhood guidelines,

**3. *The County should provide leadership in sustainable design by “setting the bar high” for county-owned facilities in Murdock Village, such as parks, libraries, schools, and other County-owned buildings.***

**4. *The County should provide sustainable integration of Murdock Village with the larger Charlotte County community by making the Village an attractive destination for recreation, shopping, and special events, and by providing safe and energy efficient access to offsite schools, recreation, and shopping venues.***

**5. *From project outset, the County should provide education/outreach programs on sustainable design concepts and standards for county officials and staff, developers, builders, and residents. County should take lead in incorporating sustainable standards into policies, regulations and plans addressing roads and transportation, water management, air & water quality protection, solid waste treatment/recycling, wildlife preservation, building standards, and security and public safety.***

**6. The County should establish partnerships with local, regional and national organizations promoting sustainability, and utilize the visibility and innovation of the Murdock Village project to supplement County resources with grant funding for sustainable concept demonstrations, environmental impact monitoring, workshops, and other opportunities to present the project as a model of sustainable design and living.**