



Uncommon
Solutions

**Greening Where We
Live and Work**

DESIGN COMPETITION
A sustainable approach to development



Greening

Where We Live and Work

Planning a sustainable approach to development

It used to be thought by many that “good for the environment” and “good for business” were opposite sides of the fence. Project owners in the private and public sectors continually found themselves facing the dilemma that successful commercial and residential development was “bad” for the environment.

There are, unfortunately, many examples in which this has been demonstrated. Yet we also know that our communities must continue to grow and evolve. Even in nature itself, growth an inevitable part of healthy ecosystems.

Today, we are embracing a new way of thinking about how we create the places where we live and work.

*"Meeting the needs of the present without compromising the ability of future generations to meet their own needs."
-- The World Commission on Environment and Development's definition of sustainability*



The call is coming straight from our communities. We all want green spaces, parks and clean air. We want to preserve what is unique and attractive about the regions where we live. We want to live in desirable places that feel good and that meet our real lifestyle needs, including today's practical needs of affordability and energy efficiency. Cities and towns across the country are now wrestling with how to integrate successful community development with environmental protection and conservation of natural resources. In municipalities and market sectors across the board, "going green" has become good business.

A smarter, more sustainable approach is possible. Our communities and businesses are being tasked with the challenge of planning, designing and building in ways that are not just environmentally and socially responsible, but economically viable and

also exciting and useful to the people who will live and work in these places.

Just a few years ago, "sustainable development" was solely the province of test projects. For many, it was desirable but not yet feasible. But now, much more than a buzz word, sustainability is fast becoming the desired standard of our mainstream marketplace.

Developers and project owners have a great business opportunity as well as the opportunity to create a legacy. By driving the growth of vibrant and healthy communities, we can proudly pass on to the coming generations a planet better than what we found. Forward-thinkers in this area will also benefit from clear differentiation and stronger reputations in the marketplace.

We believe that it all starts with thoughtful planning.



Growing a sustainable future: What's in our way?

The issues associated with climate change has captured public attention and left few to argue that the old rules of development are going to get us where we need to be in the future.

In our communities, however, we're not just looking at climate change. We're facing water shortages, skyrocketing energy prices, economic uncertainty, worldwide food shortages, and unplanned regional growth that has led to the sprawl of our cities into rural areas, leading to inefficient use of natural resources.

Among the news reports and the worries over filling commuter gas tanks, a shift is taking place. Leaders in the business community and in municipalities are expressing a desire to address these issues in the way we plan and develop our communities. Project by project, we're seeing more energy-efficient construction methods being used, more renewable energy technologies being developed, new green building standards being

adopted, and more use of native landscaping and site planning that replicates natural ecosystems.

However, in spite of all the recognized advantages, a few obstacles continue to prevent the majority of project owners and developers from fully embracing these new ways of doing business.

- They simply don't possess the breadth of knowledge or access to it regarding what's out there and what might be possible for their project.
- Many of the newer green technologies and alternative energies have initially come with high price tags, deterring genuine interest.
- Engineering and building standards and local regulations have not yet caught up with new, more sustainable practices.
- We're looking at a substantial change in the way we design and build—and even think about—projects. Change, by its very nature, can bring resistance.

Real solutions must be more than just “green”

For many in the business community, the safest route has been to hang back and watch what evolves in the marketplace, letting others take the risk. Fortunately, we've now reached a tipping point. Today, so-called “green design” is giving way to truly sustainable options that are not only affordable, but can actually save money when implemented effectively. We've also shifted our thinking from simply looking for ways to lessen negative impacts to implementing solutions that can actually improve the environment.

Although they are often used interchangeably, the terms “sustainable” and “green” differ in important ways. Sustainable development takes a leap beyond the norm in that it incorporates the natural resource, energy and land preservation issues we would consider “green,” but also addresses the practical realities of the end-user and the economic realities of building the design.

The benefits of sustainable designs and low-impact development solutions are easily summed up by the three “E”s. To be considered sustainable, a solution must address all areas of the sustainability triangle:

Environmental

The solution is environmentally responsible and energy efficient through careful consideration of building materials, construction methods, energy usage and sources, site and building design, and other relevant factors. It lessens negative impacts on the natural environment and may even improve environmental conditions on the site. It represents an improvement over traditional ways of solving the same problem.

End User (Social)

The solution demonstrates clear benefits for those who will ultimately live in and use the development, and the solution addresses important areas of quality of life, social interests and the sustainability of a community over time. When environmentally responsible solutions make life better for the end user and, in essence, all of society, this provides important points of differentiation for the project and creates a unique sense of place. It ultimately makes the project more marketable and desirable.

Economic

The solution can be implemented within practical budget constraints. It may even cost less than traditional solutions, and reduce or eliminate downstream costs such as maintenance, water treatment and impacts on public health.

Sustainable projects make good business sense in many ways:

- Sustainably built projects offer longer life spans
- Buildings with natural light, superior air quality and other healthy features are proven to improve personal satisfaction, health and productivity
- Sustainable building is increasingly affordable and may even save money over traditional methods in some cases
- Lower energy costs and potentially lower maintenance costs can be realized over time
- Permitting and entitlement processes can be streamlined, saving time and money
- Many related incentives and financing options are being developed
- Answers a clear market need and desire for more sustainable environments, adding brand value
- Raises the profile of the project owner within the community and provides a legacy
- Being environmentally and socially responsible is the right thing to do



What to look for when planning your own project

If you're interested in developing your site with minimal environmental impact, it's important to consider all three corners of the sustainability triangle equally. To protect your investment, be sure that your partners in the design and planning process bring these key attributes to the table:

An ability to tell you what you don't know.

When you hire a land planner, designer or engineer, you're not just buying a plan or a set of specific services. Part of what you're paying for is expertise in a complex discipline where technologies, standards and regulations are continually evolving. Your partners should be able to do much more than simply "green up" your project with surface add-ons such as solar roof panels or greener building materials. Seek out professionals who are capable of looking deeply at your site and taking a sustainable approach right from the beginning. You'll uncover far more possibilities with a partner who comes to the table with fresh recommendations and a desire to develop big-picture solutions that are tailored to your situation.

Integration of engineering and planning.

Often, designing a sustainable project can be more cost-effective than you think. The surest way to influence this cost is to have a breadth of technical knowledge and a variety of ideas present at the table from the start. By discussing and brainstorming potential solutions and conflicts before any drawing starts, your team can work collaboratively to ensure that the infrastructure, landscape and building on a site are all created in harmony. This is the stage at which you want to have a complete picture of the pros and cons of various options for sustainable design solutions on your site.

Vision and knowledge of what's possible.

Designing simply to meet standards and regulations is no longer adequate in today's business climate. A partner in building a truly sustainable design understands that. Be sure to look for partners who share your desire to differentiate your project and make it the best it can be, rather than simply aiming to make it less harmful. They should exhibit a depth of knowledge, creative



thinking and a passionate commitment to the principles of sustainability, along with specific recommendations to help you obtain any third-party green certifications you desire.

An eye on the real bottom line.

Adherents of low-impact development and sustainable design understand that for something to be sustainable, it must hold real value for the end user and must be economically sound to implement. Even the best green technology is useless if you can't make it work within your budget or use it in a way that makes sense for the end user of your project. Too often, those looking at green initiatives will present a price tag that focuses on upfront costs instead of adding in potential savings on later expenditures such as water treatment systems, energy and maintenance. Specialists who work within the principles of sustainability are knowledgeable and creative enough to guide you to the most applicable options and their real costs and benefits over time.

The assistance you need to communicate and protect your investment.

As you plan to build a sustainable development, you want to be sure that your commitment and leadership is clearly communicated to the community, to those working on your site and to those who will live or work there. Knowledgeable design partners will not only help you to maximize green space and lessen environmental impacts, but are able to guide you in practicing appropriate landscaping

techniques, fostering preservation and protection of environmentally sensitive site elements, encouraging and outlining responsible work practices for contractors, and ultimately taking on the role of model and educator within your community.

How we grew our commitment to sustainable design

We're proud to say that LandDesign has long been a leader in forward-thinking land planning. We know that answering the call for a new generation of sustainable design and low-impact development—one that is environmentally sensitive, makes economic sense and is responsive to the demands of regional growth—requires design firms to become learning organizations capable of passing on knowledge and expertise.

That's why we launched in December 2007 our first annual firm-wide design contest to re-imagine an existing site and create a new vision of sustainable development that goes even further. We used one of our most lauded projects, the Birkdale Village development in Huntersville, North Carolina, as a model site. We challenged our site planners, landscape architects, engineers, branding experts and other professional staff to take another look at what it means to create sustainable suburban areas, using technology and design knowledge that is continually evolving.

We brought in three outside experts to judge the resulting plans: **Todd Mansfield**, Chairman of the Urban Land Institute and CEO of Crosland, one of the Charlotte region's largest developers; **Ron Dodson**, president of Audubon

International and the International Sustainability Council; and **Leonard Rindner**, an independent environmental planning consultant based in Matthews, North Carolina

Birkdale Village is a 150-acre mixed-use development, master planned and entitled by LandDesign in conjunction with Pappas Properties, The Crosland Group and Forest City Communities. It received the National Association of Home Builders' 2003 Pillars of Industry Award for Best Mixed-Use Development and was a finalist in the Urban Land Institute's National Design Awards Competition.

Our contest participants were successful in improving upon this award-winning work. They offered an array of new ideas for what sustainability can look like. The judges were so impressed that they awarded two first prizes.

Specific solutions—from green roofs and porous pavement options to renewable energy implementation and smart layout of site plans along natural topography features—varied greatly.

The goal was to inspire our professionals to continue to uncover creative solutions for developers and public entities that want to incorporate practical, and even visionary, sustainable design thinking into their projects.

Thinking creatively about sustainable development

Four examples from the Birkdale plans

1. Comprehensive systems for treating storm water at its source. One design team created a multifaceted,



state-of-the-art system that was designed to replicate natural systems and treat storm water right at its source. In addition to saving costs on traditional piping and treatment options, their proprietary "H2Slo System" aimed to reduce potable water usage by capturing storm water for use in controlling indoor building temperatures, irrigating the landscape and toilet flushing. The team's innovative test housing cluster used sloped roofing to lead water runoff into storage cisterns built into the architecture and into attractive water fountains that keep shared courtyards cool. Designs were shaped to the site's existing hydrology patterns to naturally manage storm runoff, reducing construction cost and environmental impact.

2. Thoughtful planning for future growth. Contest judges were impressed with one team's foresight in planning the commercial and residential areas of the site in such a way that future growth can be incorporated into the overall design over time, instead of having to re-think the project 10 or 20 years down the road when needs change. By designing a commercial core that accommodates future expansion and parking needs as well as a variety of housing types arranged in clustered areas along a spine of connected green spaces, this design was intended to grow gracefully and cost-effectively with the community.

3. Creating a true closed-loop ecosystem. By starting with a goal to lessen environmental impacts as much as possible while creating an affordable, desirable and marketable community, one project team created a

closed-loop ecosystem on the site. Their plan accounted for mixed-use building, adding green spaces, incorporating community agricultural production, water treatment and conservation practices, efficient energy generation and maximizing use of the renewable resources available on-site. It also served as a real-life testing ground for exploring new approaches to sustainability.

4. Researching globally, implementing locally.

One large project team, incorporating several design disciplines, spent time investigating and evaluating the most innovative sustainable practices now in use across the globe before beginning the project. Having an array of professional disciplines on the team allowed for effective brainstorming to identify and further develop those possibilities that would be most viable on the Birkdale site. This resulted in a forward-thinking yet clearly practical site plan that is based on currently available and proven technologies and cutting-edge design thinking.

LandDesign's internal contest revealed that a new and more sustainable way of developing sites is not just possible, but is the new roadmap for the next evolution of our communities. Through creative thinking, continual learning, integrated project teams, and a desire to stretch beyond traditional approaches to design, planning and construction, we now have an opportunity to knock down the fence between environment and business to truly improve the places where we live and work.

LandDesign™

Founded in 1978 in Charlotte, North Carolina, LandDesign began offering site planning and landscape design services in the Southeastern United States. Now, with seven offices in the United States and Beijing, China, we distinguish ourselves by bringing innovative, buildable, sustainable, marketable and ecologically responsible projects to life worldwide.

Our comprehensive suite of urban design, planning, civil engineering, branding and landscape architecture solutions and our 30-year track record make us exceptionally equipped to help our public and private sector clients create the most sustainable projects possible.

Unprecedented talent. Superior solutions.

Learn more about LandDesign's solutions at:
www.landdesign.com

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