



THE SUCCESS OF CHARRETTE

Evidence in Practice for Engaging in an Integrative Design Process

TABLE OF CONTENTS

1	Introduction
3	The Enterprise Green Communities Charrette Grant Program: Seeding an Integrative Design Process
6	What is a Charrette?
7	Charrettes and the Integrative Design Process
9	Highlights
10	Findings
12	CASE STUDY 1: Bishop Swing Community House
14	CASE STUDY 2: Miraflores
16	CASE STUDY 3: South Quarter Phase IV
18	CASE STUDY 4: Building Efficiency Charrette
20	CASE STUDY 5: Fox Courts
22	CASE STUDY 6: 1460 House
24	APPENDIX A: Project Information on 37 Survey Respondents
25	APPENDIX B: Charrette Toolkit
26	APPENDIX C: Sample Green Communities Goal-Setting Charrette Agenda
30	APPENDIX D: Green Development Plan
31	APPENDIX E: List of Resources

ACKNOWLEDGMENTS

Thank you to the affordable housing developers and charrette facilitators referenced in this report. They granted us the tremendous opportunity to share their stories of successfully executing an integrative design approach that has resulted in the delivery of green housing affordable to persons with low incomes. Our work would not be possible without their dedication and commitment.

We are also extremely thankful for the sustained support provided by our funders and partners who are joining us in the call to make all affordable housing green within this decade. It is through an intentional integrative design approach to development that all housing can meet and exceed the measures included within Enterprise's Green Communities Criteria. We know that by doing so we can provide significant health, economic and environmental benefits to residents and communities for all generations.

A special thanks to Landesberg Design and to the exceptional Enterprise Green Communities team and Enterprise Rose Architectural Fellows and National Design Initiative staff for their input and support over the years.

Any errors in this report are the sole responsibility of Enterprise Green Communities.

Copyright © 2011 Enterprise Community Partners, Inc. All rights reserved.

Introduction

Enterprise was advised early on by green building practitioners to bookend the Enterprise Green Communities Criteria with the requirement for a green development plan and an operations and maintenance manual. The first was to guide an integrative design and development process; the latter was to transfer the knowledge of the green features in the property over to the people who would be living in and maintaining the buildings and homes. We did not realize at the time how critical those two measures are to making green and affordable housing one and the same.

Since 2005, Enterprise has invested over \$860,000 in grant funding for charrettes to support affordable housing developers to establish an integrative design process. An integrative design and development process is a fluid one, which takes into consideration viewpoints and technical expertise from everyone involved in a particular project from schematic design to occupancy and beyond. It is our experience that an integrative design process can lead to optimal outcomes related to achieving a development project's green goals. This is because the process makes room for the project team to explore cost-effective trade-offs that come from considering the building as a whole system within the environmental and cultural context of the neighborhood and region. This is not a new concept but until recently was not, and arguably, still not widely practiced. For example, in *The Integrative Design Guide to Green Building*, Bill Reed shares how in 1997, he was able to reduce the number of lighting fixtures in a school by considering the light reflectance value (LRV) of the paint. And the practice of integrative design dates even further back to some of the earliest human settlements.

Engineers and architects are not the only ones influencing the integrative design process. Residents, property managers, funders and city officials are very important voices to include in the process — with residents very often leading the charge to deliver healthier living environments. In Portland, Central City Concern (CCC), an Oregon-based nonprofit that provides vital services to more than 15,000 Oregonians each year and oversees more than 1,500 units of affordable housing, wanted to achieve water independence in their next project. They soon realized this would be illegal and decided to implement an integrative design approach to addressing this challenge which included bringing in staff from all the relevant city departments. Eventually, this process led to significant changes in policy and perception that resulted in the allowance of indoor gray water use. The experience then led CCC to follow a similar integrative design approach to develop a road map that will guide

CCC toward systematically implementing green building strategies to increase efficiencies of their entire portfolio with a particular focus on reductions in energy, water and waste.

Much like ecosystems, integrative design is cyclical, whereas conventional development uses a rather linear design and development process. This integrative way of thinking is defining the green building movement. It suggests that we can take time in the beginning and throughout every project to discuss what might be possible to make the project perform better, to lower its environmental footprint, to be more affordable to operate and maintain over time and improve the overall fabric of the existing community. It suggests that we all have the opportunity to choose a different way of doing business at every decision point. It also suggests that everyone has a voice in creating our built environment so that it works better in a way that can nourish and grow people for generations to come.

After five years of providing grant support to over 170 developers to engage in an integrative design and development process, we have evidence to support the claim that integrative design can result in higher performing and cost-effective green affordable housing developments. This is in contrast to the many developments that chose to skip this important process and instead, chose to simply specify green alternatives to their conventional housing plans and development process, which often results in higher costs, missed opportunities and less than optimal performance. I came across a word recently that I was told comes from South Africa — *Ubuntu* — which refers to a philosophy that “I am what I am because of who we all are — the actions of one affect the outcome of all.” Integrative design allows us to explore those interdependencies — up front at the building scale (e.g., using a higher reflectivity value of paint may result in the need for fewer light fixtures) — to the community scale (e.g., rather than seeking a waiver for one project to achieve water independence collectively, we can change the rules of the game so this is allowable for everyone).

The following report seeks to highlight the emerging practice of integrative design within the affordable housing sector. We continue to learn from our development partners about how to most effectively apply the many possibilities that emerge from integrative design by unleashing the creativity, innovation and best thinking of all involved throughout the process. At Enterprise, we are also applying this framework to how we operate internally by looking for ways to integrate across initiatives, markets, policies, funding streams, and financial mechanisms so that we can meet Enterprise’s own environmental commitment. It is resulting in a contagious energy that demands the very best of all involved at every decision point to innovate, evaluate, collaborate and find new solutions while redefining old ones. We look forward to hearing your stories in helping us add to this growing body of knowledge that we seek to share across the industry. Our aim is for all affordable housing to be green within this decade.



DANA BOURLAND

Vice President, Green Initiatives
Enterprise Community Partners



THE ENTERPRISE GREEN COMMUNITIES CHARRETTE GRANT PROGRAM

Seeding an Integrative Design Process

Enterprise Green Communities is the first national green building program developed specifically for affordable housing. Enterprise's vision through Green Communities is to fundamentally transform the way we think about, design, build, rehabilitate and retrofit all affordable housing. We focus on the use of environmentally sustainable materials, reduction of negative environmental impacts and increased energy efficiency and water conservation. And we emphasize designs and materials that safeguard the health of residents and locations that facilitate access to community services and public transportation.

Enterprise Green Communities is designed to support developers, investors, policymakers and residents in making the transition to a greener future. Created in consultation with some of the nation's leading environmental, public health and green building experts, the Enterprise Green Communities Criteria (www.greencommunitiesonline.org/tools/criteria/index.asp), provides a framework for delivering healthy, efficient, environmentally smart affordable homes. In just five years, Enterprise invested over \$700 million to build and preserve nearly 17,000 green affordable homes—while transforming local, state and national policies. The number of homes and apartments built to meet the Enterprise Green Communities Criteria increases every day as developers make the decision to go green and public policies are changed to reflect a growing recognition of the many benefits that come from integrating green methods and materials into our housing stock (see Green Affordable Housing Policy Toolkit at www.greencommunitiesonline.org/tools/policy). These policies validate a national commitment to healthy, green affordable homes in the halls of the U.S. Congress—and in legislative chambers and communities across the United States.

Enterprise is continuing to lead and build on this important momentum through the next generation of Enterprise Green Communities. This exciting extension of our award-winning initiative includes new tools, services and products that put into practice our findings on the cost-effectiveness of meeting the Enterprise Green Communities Criteria (www.greencommunitiesonline.org) and other evaluation efforts gathering evidence that green and affordable housing can



and must be one and the same. We have already raised the bar on this initiative by releasing the 2011 version of the Criteria which includes higher performance standards for all construction types and greater technical resources to help teams successfully meet the Criteria. Enterprise has also launched an online certification pathway for projects and is purchasing additional carbon emissions reductions from projects through the Enterprise Green Communities Offset Fund™ (www.offsetfund.org), the first of its kind in the world.

A linchpin of our approach continues to be supporting the establishment of an integrative design process through the Enterprise Green Communities Charrette Grant program. A charrette is a critical first step in establishing an effective integrative design process which aims to incorporate sustainability into the property from the very beginning, using a holistic approach to promote smart locations, healthy living environs, resource conservation and green property maintenance throughout the development's life cycle.

By bringing together a diverse group of stakeholders to establish goals, identify strategies, discover synergies, and create a road map for ongoing implementation, the Charrette Grant is designed to set projects on the path to success.

The principles of the Charrette Grant program are to:

1. *Align the stakeholders around a common purpose.* This means that the project team and community stakeholders will become engaged and invested in the development of a set of guiding principles. Green goals and the needs of the residents should be incorporated into the very notion of project success, and all team members must understand their role in bringing that success to fruition.
2. *Create a common level of understanding.* In order to fulfill the project goals, project team members identify and understand a common set of green building strategies. The charrette offers an opportunity to educate the team on sustainability, green building and the Enterprise Green Communities Criteria, integrative design, and how those topics relate to the project.

So often, there are limited funds to support early design efforts, especially if a project is in a conceptual stage and has not been fully funded. By providing the grant, Enterprise has emphasized the significant role that such charrettes can play in affordable housing projects and has provided the needed incentive to encourage project teams to prioritize a charrette in the early stages of design for their project. RALPH DINOLA, GREEN BUILDING SERVICES

3. *Assign champions for implementation.* In some cases, the facilitator of the charrette will be a core member of the design team and will lead the charge for green throughout the design and development process. But in many cases, the facilitator will be brought in with the specific task of leading the charrette(s) and documenting the outcomes and next steps for the project team. Therefore, it is necessary to identify internal champions, leaders who will take responsibility for sustainability measures from beginning to end.
4. *Launch an integrative design process.* While early design charrettes are key to implementing sustainable design, they mark the start—and not the end—of the process. The initial charrette can be used to create a road map for how the project team and key stakeholders will collaborate, establish critical milestones to be reached, and determine how performance will be tracked and measured over time.

Within six years, Enterprise has provided \$860,000 in grant funds in the amount of \$5,000 per award to support 172 charrettes, which are resulting in the development or preservation of over 10,780 green affordable homes.

The Charrette Grant was first developed to meet the needs of development teams in places such as Seattle, Washington and Portland, Ore. that already had strong commitments to green building. Enterprise learned early on that in localities with green building policies and strong public sector incentives, development teams still required funding support during the early stages of design. There existed a need for predevelopment funds to engage the various professionals, including property managers and stakeholders in an integrative design process that would enhance the project's capacity to successfully meet the local green building standard and explore additional sustainability measures. Predevelopment funds for sufficient planning and design continue to be needed for all construction types. This was one of the findings from the Enterprise-supported evaluation by the National Center for Healthy Housing of Viking Terrace in Worthington, Minn., which involved the green rehabilitation of an existing multifamily development (www.practitionerresources.org/cache/documents/673/67334.pdf). Findings from the study cited a clear need for early formation of an integrative design team that includes housing, health, design and environmental professionals. The report also highlighted the need for funding to cover the pre-rehabilitation design testing of existing conditions that would be beneficial for project planning but are often prohibited from taking place due to cost issues that impede the work and predevelopment spending limits and soft cost restrictions for professional services.



Predevelopment funding for integrative design continues to be a need even as more localities adopt green building ordinances. Project teams are most successful at implementing the green requirements when they engage in an integrative design process. We are finding through our survey included later in this document that this integrative design process is more robust when external funds are available to cover costs for expert facilitation, participation by all the design, engineering, health and other professionals or residents, plus any additional costs that result from completing follow-up activities from the initial meetings. Anecdotally adequate predevelopment funding appears to be one of the barriers to meeting passive house standards because of the extensive predevelopment design and engineering work needed, that when executed, significantly reduces construction and operating costs.

WHAT IS A CHARRETTE?

A term commonly used by design professionals, the Draft ANSI Consensus *Integrative Design Standard*® for Design and Construction of Sustainable Buildings and Communities defines a charrette as follows: “A fast-paced intensive workshop with key client, design, engineering, and building participants ... Charrettes provide a framework for achieving significant production and meaningful agreement among participants in relatively brief amounts of time.”

Enterprise uses the term to describe an intense working session that brings together a diverse group of housing professionals as well as funders, policymakers, health practitioners and community stakeholders to integrate sustainable green design principles into affordable housing developments before schematic designs are complete. The initial charrette sets the stage for a clear vision of project goals and individual responsibilities, but not necessarily final design decisions. Enterprise encourages charrette participants to take into consideration the existing community context by using a holistic and total-systems approach to the development process to promote health and livability throughout the life cycle of the development.

Enterprise awards Green Communities Charrette Grants of \$5,000 to support affordable housing developers in integrating the Enterprise Green Communities Criteria into their developments. By supporting charrettes at the schematic design phase, Enterprise aims to help developers establish green goals as early as possible so that the most cost-effective green methods and materials can be incorporated in the building and site plans through the establishment of a Green Development Plan. Enterprise believes that a holistic and integrative approach to the design of affordable residential communities is essential to assuring that the development responds to its environment, the cultural context of the existing neighborhood, the needs of the residents, and the economic realities at play.





CHARRETTES AND THE INTEGRATIVE DESIGN PROCESS

Charrettes serve as a primary integrative design tool by:

- Revealing that all systems and components of building projects are connected and interrelated.
- Aligning all project team members around why and how these inter-relationships will be optimized for the purpose of improving performance and reducing costs—both construction costs and operations costs.

Working in a conventional way, one that isolates design and construction disciplines into silos (architects, mechanical engineers, landscape architects, builders, etc.) leads to fragmented solutions. When we work to integrate areas of practice, it becomes possible to find performance and cost synergies and benefits. Consequently, charrettes are critically important, because pursuing integrative design requires that all issues be addressed concurrently, with everyone present, at the earliest possible time.

One of the primary functions of a charrette is to help project teams generate and decide how to address the effects on social and environmental sustainability that the project will create; therefore, getting alignment around the team's and stakeholders' goals is essential. If this does not occur, the design process may fall back to the default mode of repeating the patterns of conventional design. Consequently, charrettes serve as a key opportunity for the project team to function as a unified organism and to break down barriers between disciplines.

Once goals are established, the project team can then identify and address the steps necessary to integrate green measures that will lead to healthy efficient housing developments that meet the predetermined green goals for the project. We strongly encourage the use of Enterprise's 2011 Green Communities Criteria, or other national and regional green building standards, as a guidance tool to anchor the discussion and exploration. We also encourage funds from the Charrette Grant to be used to cover testing, analysis and overall research gathering that will ultimately inform the decision-making process.

The Draft ANSI Consensus defines a charrette as follows:
“A fast-paced intensive workshop with key client, design, engineering, and building participants ... Charrettes provide a framework for achieving significant production and meaningful agreement among participants in relatively brief amounts of time.”



Ideally, the charrette is the first in a series of design meetings that will help guide the integration of green measures into an affordable housing development. As such, it is critical to implement the follow-up action items that grow out of the charrette meeting. These action items will influence the continued collaboration of the project team in exploring and incorporating green strategies. Throughout the development process, project teams should frequently review action items, possible strategies and outcomes that were identified at the charrette to ensure that each one is addressed by the responsible party or champion.

The establishment of an integrative design approach early in the process can greatly minimize costs. Through our evaluation efforts, we found that the project teams which established an integrated design approach early in the process were among the most successful in implementing measures within the Enterprise Green Communities Criteria at a very nominal cost. We also found that when a project team incorporated the Criteria late in the design process, they experienced higher development costs and variable outcomes in building performance. Focusing on the design elements, such as orientation of the housing, location of the windows and optimization of daylight into the housing, can lead to less expensive mechanical and electrical system purchases, allowing room in the budget for other measures such as healthier building materials.

A successful integrative design process delivers significant results as it ensures that all agreed-upon green measures are properly documented in a project's plans and specifications. Through Enterprise's evaluation efforts, in partnership with Advanced Energy, we found that when Criteria measures are clearly incorporated in the plans and specifications of a project, those measures are 95% more likely to appear within the property. However, if not properly documented, these measures appeared within the property only 37% of the time.

As background for this report, Enterprise surveyed recipients of the Charrette Grant Funds (see page 24 for more information). The purpose of the survey was to determine the effectiveness of this grant resource in helping project teams achieve their green goals and to assess what impact, if any, the charrette had on the success of meeting those goals and what additional tools are needed to enhance the effectiveness of the charrette in establishing an integrative design process.

The establishment of an integrative design approach early in the process can greatly minimize costs. Through our evaluation efforts, we found that the project teams which established an integrated design approach early in the process were among the most successful in implementing measures within the Enterprise Green Communities Criteria at a very nominal cost.

To that end, Enterprise highlighted three primary objectives for the survey:

1. To understand how the charrettes propelled project teams further in their green development process;
2. To understand which, if any of the Green Communities Criteria sections were the focal point of the charrettes; and
3. To determine if this funding stream was still necessary to defray the cost of future charrettes.

HIGHLIGHTS

Thirty-seven grantees from around the country, in 20 states, responded to our survey. From the information we gathered, it is clear that project teams found the charrette a worthwhile and helpful experience. It is also apparent that the grant funds encourage project teams, especially those with extremely restrictive budgets, to host the first charrette and initiate an integrative design process.

Highlights from the survey include:

- 97% clearly identified next steps or action items during the charrette;
- 60% of respondents were meeting the full Enterprise Green Communities Criteria;
- 69% of project teams found the charrette helpful in exploring how to meet the Criteria;
- 69% of respondents would find it cost prohibitive to engage in an extensive charrette without external funding; and
- 70% of project teams found the charrette facilitator helpful in meeting the goals for the charrette.

These responses indicate the importance of charrettes in the greening of affordable housing. Charrettes offer project teams the unique opportunity to convene all major parties of the development and construction process early. It is our belief that project teams that problem-solve together to resolve issues like building orientation, healthy living environments, mechanical systems, feasibility of green technologies and shading devices, often develop higher performing homes more cost-effectively.





FINDINGS

The proliferation of green building standards has propelled the real estate industry to better define a collective understanding of a green building label and has allowed us to now focus on performance outcomes related to including green methods and materials into projects. Enterprise has also found this to be true for retrofit projects and we have developed retrofit protocols allowing us to scale-up our efforts to address green improvements across all existing residential buildings (www.greencommunitiesonline.org/tools/funding/loans/retrofit_audit_protocols.asp) so that we can measure holistic outcomes. We recognize that there is now a need to help standardize charrettes to maximize the opportunities for establishing an integrative design process. The projects referenced in this report were not required to follow a particular format but rather were provided general guidance, funding and a registry of pre-qualified facilitators that we encouraged to be engaged by the charrettes we funded. Enterprise recently launched a Charrette Toolkit (see appendix) based on the findings from this report to better support more development teams than those to which we can provide grant funding. We will continue advocating and creating the appropriate financing mechanisms to support the establishment of an integrative design process during the schematic design phase of all affordable housing developments—new and existing.

A few of the benefits which grantees realized by engaging in a Green Communities Charrette:

- 1. Green measures were fully integrated throughout the design process.**
- 2. Rare and beneficial conditions on the project site were uncovered.**
- 3. Strategies that connect residents to the surrounding community were identified.**
- 4. Energy-efficiency improvements were addressed across an entire portfolio.**
- 5. The feasibility of integrating renewable technologies was explored.**
- 6. Funding opportunities for green measures were identified.**

1

CASE STUDY

Green measures were fully integrated throughout the design process.

Integrative design affords development teams the opportunity to consider best possibilities upfront and in an intentional manner. This results in the assignment of roles and responsibilities to ensure agreed upon measures are realized once construction is complete.

SPONSOR OVERVIEW

Episcopal Community Services of San Francisco (ECS) is dedicated to helping people who are homeless or with very low incomes move toward self-sufficiency by providing compassionate, individualized services with access to comprehensive resources. ECS has been active in San Francisco for almost 30 years, providing permanent housing and supportive services for nearly 1,000 men, women and children suffering from chronic homelessness at 10 sites around the city.

PROJECT DESCRIPTION

Bishop Swing Community House (formerly located at 275 Tenth Street) features 134 single-room occupancy supportive housing units for chronically homeless adults in San Francisco. ECS provides on-site voluntary support services to Bishop Swing residents in a safe community environment to help foster continued housing stability. Services include onsite health services, vocational training, crisis intervention and recreational activities. Bishop Swing Community House was developed with the assistance of Bernal Heights Neighborhood Center.

GREEN GOAL

The primary goal of this project was to fully integrate innovative green strategies within the development.

GREEN FEATURES

This property is located on a formerly underutilized light industrial site. Remediating such sites helps to conserve undeveloped land and provide residents priority access to transit and the surrounding neighborhood context. The property includes low-flow water fixtures in bathrooms and kitchen areas that help to conserve water, while ENERGY STAR appliances conserve energy and lower utility costs. Paints, sealants and other building materials were chosen based on their low levels of volatile organic compounds (VOC) and other harmful pollutants to ensure a healthy living environment. Finally, numerous steps were taken to prevent moisture from accumulating inside the building and leading to the formation of harmful mold which contribute to health and durability issues.

CHARRETTE ADVANTAGE

The project team implemented a fully integrative design approach in which all green features were incorporated throughout the schematic design phase. Both mandatory and optional measures

Project Name
Bishop Swing
Community House

Sponsor Name
Episcopal Community
Services of San Francisco

Location
San Francisco, Calif.

Number of Homes
134

Charrette Facilitator
Global Green



of the Enterprise Green Communities Criteria were addressed during each schematic design meeting and throughout the development process. As a result, the building was designed to maximize the use of passive heating and cooling to reduce energy loads. Additional support from Enterprise covered the cost of a HERS (Home Energy Rating System Index) rater who periodically monitored the project's energy-efficiency standards through the entire design and construction process.



“OUR EXPERIENCE IS THAT THE CHARRETTES ARE PROBABLY THE MOST TRANSFORMATIVE ASPECT OF THE ENTERPRISE GREEN COMMUNITIES PROGRAM. FOUR TO SIX HOURS OF TALKING THROUGH A PROJECT AND, IN THE PROCESS, DEMONSTRATING THAT GREEN MEASURES CAN BE ACHIEVED AT A REASONABLE COST, HAS PERSUADED NUMEROUS DEVELOPERS TO COMMIT TO GREEN CERTIFICATION.”

Walker Wells, Global Green

2

CASE STUDY

Rare and beneficial conditions on the project site were uncovered.

Taking the time early on in the schematic design phase to assess existing site conditions can uncover historical information that will inform design and development decisions. This can result in greatly enhancing the overall environmental impact of the project.

SPONSOR OVERVIEW

Hacienda CDC is a community development agency that focuses on developing affordable housing for working Latino families and others in the Pacific Northwest. Since 1992, Hacienda has rehabilitated or built 325 units of affordable housing, including multifamily and detached single-family houses.

PROJECT DESCRIPTION

Miraflores is a 32-unit project, a mix of two-, three-, and four-bedroom units, located in the Portsmouth neighborhood in North Portland with convenient access to shopping, services, mass transit and jobs. A wide greenbelt runs along the west side of the property with a 40-mile city-maintained biking and walking trail. This development sought to preserve existing mature trees as well as added landscape enhancements.

The community center of this property provides meeting space, a computer lab, a community laundry, and a manager's office. A grassy common area includes a large play structure for children, bike parking and a half-court basketball hoop for older kids that is in close proximity to all units and visible from most units. Outdoor spaces are connected to unit entries and the public sidewalk and walking trail by a well-developed system of accessible pedestrian paths. A parking space for each unit is located on the side of the buildings to effectively minimize internal car traffic and ensure safety for children at play.

GREEN GOALS

During the charrette, the team identified the following goals to facilitate positive social, environmental, and economic outcomes.

Social

- Foster partnerships
- Tenant education on sustainable features
- Practical strategies
- Capitalize on existing programs, especially those for children
- Reduce mold risk
- Design for longevity—60 years minimum
- Establish baselines for water use and compare to other projects
- Create a green team for residents
- Reveal natural landscape systems
- Foster equity
- Establish a connection with existing neighborhood
- Enhance resident security and safety
- Provide for livability indoor and out

Environmental

- Infiltrate 100% stormwater onsite 30–50%
- Reduction in energy (as compared to other Hacienda projects)
- Measure system performance (solar, water and more)
- Recycled content materials (trim, baseboards)
- Excellent indoor air quality (No VOCs)

Project Name
Miraflores

Sponsor Name
Hacienda CDC

Location
Portland, Ore.

Number of Homes
32

Charrette Facilitator
Green Building Services



- Healthy environment
- Fresh air ventilation
- Water use reduction
- Realistic understanding and design of landscape for current climate conditions
- Irrigate only for short term—eliminate potable water use
- Daylighting

Economic

- Durable materials (both green and low-maintenance)
- Reduce turnover costs
- Encourage transit options (bus, pedestrian, bike)
- Reduce maintenance long-term focus
- Consider life cycle costs

GREEN FEATURES

The sustainable and green features include: the addition of pedestrian-oriented streets and paths with easy access to public transportation; building orientation that allows natural daylight and ventilation in the units; roof overhangs to shade the summer sun, while allowing lower winter sun into the units; native, low-maintenance plantings to reduce water usage; double-glazed windows; exterior doors with an insulated core; paints, adhesives and sealants that contain low quantities of VOCs; a whole house ventilation system provides improved air quality, reducing mold and health issues; a ground

source heat pump provides heating and cooling as well as hot water; low-flow plumbing fixtures; and ENERGY STAR high-efficiency appliances.

THE CHARRETTE ADVANTAGE

Through green building charrettes, the development team learned that relatively rare conditions exist on the project site—an alluvial gravel aquifer (charged by the Willamette and Columbia rivers), that allowed for the installation of an open-loop shared earth heat exchanger in which groundwater is pumped from the aquifer, through a plate and frame heat exchanger, and then is re-injected into the same aquifer a distance away after providing heat transfer to or from the buildings' HVAC system. This open-loop system does not pollute or harm the water used in any way and provides heating, cooling, and hot water at a reduction of 50–75% of energy costs for tenants.

The Miraflores charrette provided an opportunity for property owner, architects and building operators to strategize sustainable design goals and identify specific actions in order to achieve them.

According to Hacienda CDC, “The charrette process fostered an environment in which members of the project team contributed ideas, expressed concerns and recommended actions for the project to follow. The process also created a foundation upon which to build relationships, strengthen communication and helped to define a project direction.”

3

CASE STUDY

Strategies that connect residents to the surrounding community were identified.

An integrative design approach includes considering the external context of the existing neighborhood fabric that can result in greater connectivity and more flourishable communities.

SPONSOR OVERVIEW

Aeon is a mission-driven organization committed to creating quality developments that strengthen lives and communities. It builds places where people are proud to make their homes, and manages the properties to ensure they remain valuable assets for generations. Since 1986, Aeon has built or renovated 1,706 apartments and townhomes, which provide stability to more than 3,000 people each year—including individuals and families with low to moderate incomes and formerly homeless individuals. According to Aeon, “Home is not simply four walls with a roof or a place to sleep. Home is a place that is stable, safe, secure, and healthy—shaped by the people who live there and the community around it.”

Hope Community is a catalyst for change, growth and safety. It is building a sustainable neighborhood model through community organization, active education, leadership and affordable housing development. They approach their core mission in two ways: the development of affordable housing and public spaces that include a community center, playgrounds and gardens; and through extensive community engagement that involves hundreds of youth, adults and families each year in learning, leadership and community opportunities.

PROJECT DESCRIPTION

Aeon, in partnership with Hope Community, seeks to completely transform the intersection of Franklin and Portland Avenues in Minneapolis to include 300 high-quality homes affordable to a mix of incomes by offering a blend of rental and home-ownership units, along with new commercial retail and community space. The South Quarter will provide housing to a diverse population of families and help stabilize an area long-suffered with poverty and disinvestment.

The South Quarter project will incorporate 30,000 square feet of community-based commercial space to provide amenities for members of the greater community. The neighborhood will be intentionally designed to promote social cohesion and walkability. The goal of this effort is to completely revitalize a vacant and underutilized site into a vibrant community hub.

Part of this large-scale development includes the creation of 90 apartments, 42 of which will be affordable to individuals and families earning between 30% AMI and 50% AMI, known as The Franklin-Portland South Quarter Phase IV (South Quarter IV). Twelve apartments will be for persons experiencing chronic homelessness. Residents will have ready access to transportation, employment and other services and amenities. The development will improve the livability and stabilize the safety of the area; increase market-rate housing choices; increase

Project Name
South Quarter Phase IV

Sponsor Name
Aeon and Hope Community

Location
Minneapolis, Minn.

Number of Homes
90

Charrette Facilitator
Center for Sustainable
Building Research (CSBR),
University of Minnesota



density; add pedestrian-friendly streets; and complete the vision of this four-phased development.

The South Quarter IV development grew out of an eight-year community-led planning effort to address safety concerns. Residents of this community came together to create a new vision for their neighborhood. To date, the overall South Quarter development has completed construction and rehabilitation of five properties, creating 9,000 square feet of commercial space and 160 mixed-income rental and homeownership units.

GREEN GOALS

The main priority of this project is to develop homes that are green, healthy and affordable and that also connect people to the opportunities within their immediate environment. It is Aeon's goal that this project will become the greenest, most sustainable development in the city of Minneapolis.

GREEN FEATURES

The inclusion of such a wide spectrum of participants lead to considerations that were very targeted to the comfort and livability of residents. Features such as scale of the buildings, green space, and relationship of homes-to-street, were all discussed at length. Photovoltaics and geo-thermal systems are being studied for feasibility, and both technologies were favored by charrette participants. Indoor air quality was of particular concern as building orientation,

windows, and shading were a focal point not only for designers, but residents as well.

Aeon and their residents were acutely aware of the building's impact cost to the environment. There was a commitment during the charrette by all participants to use recycled products, local products, recycle construction waste, as well as train and educate residents about more eco-friendly habits.

THE CHARRETTE ADVANTAGE

There were a series of three workshops composed of a variety of local experts and thought leaders. The final of the three workshops brought community members together with designers and trade professionals into small break-out design groups. Each break-out design group used blocks representing one residential unit and arranged them on a site plan to plan a myriad of configurations. These break-out groups gave residents a chance to have their voices heard and work directly with architects, engineers, and trades. Green roofs, photovoltaics, window arrangement, common space, and stairwell location and design were all topics grappled with by residents as they helped design the South Quarter IV project. Following the break-out groups, presentations were made and synergies between the proposals were discussed and recorded. Next steps in terms of design strategies and technologies for research were determined and assigned to the project team members.

4

CASE STUDY

Energy-efficiency improvements were addressed across an entire portfolio.

Integrative design approaches can be applied beyond individual buildings from the development of policy to a portfolio of buildings scattered across many sites.

SPONSOR OVERVIEW

Central City Concern (CCC) is a nonprofit agency serving single adults and families in the Portland metro area who are impacted by homelessness, poverty and addiction. Founded in 1979, the agency has developed a comprehensive continuum of affordable housing options integrated with direct social services including healthcare, recovery and employment. CCC provides vital support services to more than 15,000 individuals each year and oversees more than 1,500 units of affordable housing.

PROJECT DESCRIPTION

In 2009, Central City Concern initiated an extensive investigation of how to achieve net-zero energy, water, and waste across its 22-building portfolio. Currently, the organization spends a significant amount annually on utility costs. CCC believes strongly that strategies that substantially reduce utility costs can enable them the ability to redirect those cost savings to support services that are beneficial to residents. Through the Building Efficiency Charrette, CCC sought to develop a comprehensive action plan to identify and integrate energy and resource-efficiency strategies across the organization's entire portfolio of properties.

GREEN GOALS

The main goal of the charrette was to address two significant and immediate actionable objectives:

- Achieve 20% utility cost reductions, totaling \$200,000 in annual savings. The outcome of the charrette will help to inform strategies to address this objective.
- Develop a road map that will guide CCC toward net-zero energy, water, and waste by 2030.

GREEN FEATURES

During the charrette, the facilitator coordinated an interactive group design exercise, called "SLAM" (see Exhibit D in Green Building Service's charrette report found online at www.centralcityconcern.org/LiteratureRetrieve.aspx?ID=53405). The goal of this exercise is to move team members out of their comfort zone and assign them tasks outside of their professional expertise; present challenging goals; and develop strategies as a team to address. Attendees were put into design teams and were asked to propose a portfolio-wide strategy to achieve the goal of 100% social impact and zero environmental impact by 2030.

The teams were asked to meet the following green goals focused on social equity, financial performance, and environmental benefits:

Project Name
Building Efficiency Charrette

Sponsor Name
Central City Concern

Location
Portland, Ore.

Number of Homes
1,500 units

Charrette Facilitator
Green Building Services



- Net-zero energy and meeting the 2030 Challenge: Carbon neutral and fossil fuel-free by 2030
- Net-zero water use on-site
- Zero waste
- Occupant behavior transformation
- Preservation of affordability for a low-income population

THE CHARRETTE ADVANTAGE

The charrette brought together an extensive group of development and operations experts to brainstorm strategies to systematically implement increases in energy and resource efficiencies in CCC's buildings with a specific concentration on reductions in energy, water and waste. The session focused on clarifying CCC's building-efficiency vision, principles, and strategies to generate support and buy-in among staff. Also, the charrette helped to re-emphasize that dramatic improvements in building efficiencies is inextricably linked to CCC's mission of "providing pathways to self-sufficiency through active intervention in poverty and homelessness."

After this exercise, teams reported out their suggestions and key strategies. This then led to the scoping out of next steps, which included detailed timelines and strategies to address envelope

improvements, heating, lighting, water efficiencies and waste management.

The following initiatives were identified to provide focus for the continued efforts of CCC's Building Efficiency effort:

- Prioritize and commit to carrying out the program
- Build capacity within CCC to implement the program
- Identify funding opportunities and secure funds
- Continue efforts to audit resource use at all facilities
- Create/ implement action plan to achieve 20% utility cost savings by 2010
- Develop a Building Efficiency Roadmap to 2030 that identifies major efficiency measures, costs, and financing plan
- Provide training and feedback opportunities to support the program

An added benefit of the charrette was that participants learned more about available various energy-efficiency resources.

5

CASE STUDY

The feasibility of integrating renewable technologies was explored.

Setting green goals early during the integrative design process affords comprehensive development teams to explore all possibilities, some of which may prove to be infeasible for the given project but may be useful in applying to future projects.

SPONSOR OVERVIEW

Resources for Community Development creates and preserves affordable housing through partnerships with local governments, lenders, investors, funders, and donors to provide quality housing and support services to low-income individuals and families. RCD has developed over 1,700 units, many of which serve people with special needs for supportive housing so they can live independently in the community.

PROJECT DESCRIPTION

Fox Courts is an 80-unit green, mixed-use, infill, transit-oriented development located in Uptown Oakland. Part of a larger neighborhood redevelopment, Fox Courts sits on a former parking lot site. Completed in November 2008, the property encourages walkability via large public pedestrian sidewalks and also includes a playground and childcare center. Fox Courts also manages an onsite resident services program focused on building a sense of community and providing the necessary support services that individual households may require.

GREEN GOALS

The development team set out to engender a design team commitment to environmental sustainability for the project. This included developing a procedure for planning and implementing green design goals. The process led the team through productive discussions of the challenges and research needed to answer questions that were raised about how to implement major goals and develop a plan to address. An intentional integrative design process also allowed the team time to review green design options and to create a feasible timetable for decision-making on the proposed goals established during the initial charrette meetings.

GREEN FEATURES

This property includes solar thermal panels for hot water and hydronic radiant space heating, ENERGY STAR appliances, double glazed, low-emissivity (low-E) windows as well as floor plans that maximize natural light and ventilation. The energy performance of this property is projected to exceed California Building Standards Code by more than 15%. Interior features of the property include recycled content carpet, ground concrete and linoleum flooring,

Project Name
Fox Courts

Sponsor Name
Resources for Community
Development (RCD)

Location
Oakland, Calif..

Number of Homes
80

Charrette Facilitator
KEMA



formaldehyde-free cabinet boxes, countertop substrates and building insulation, and no- and low-VOC paints. The landscaping surrounding the property is drought tolerant.

THE CHARRETTE ADVANTAGE

The Enterprise Green Communities Charrette helped the developer solidify the vision and planning of Fox Courts. Specifically, the charrette helped to coordinate a plan of engagement with local green building experts. The meeting also identified the need to conduct a solar shadow study to inform the placement of photovoltaic panels and the design of a system to power common areas in pursuit of achieving the green goal to use renewable technologies in the project. Following the charrette, the design team met every two weeks to coordinate progress toward meeting the Criteria and integrating the methods and materials needed to achieve the project's green goals.

“GREEN BUILDING AND SUSTAINABILITY REQUIRES A HOLISTIC APPROACH TO DESIGN, CONSTRUCTION AND OPERATIONS AND MAINTENANCE. IT CAN BE CHALLENGING TO ISOLATE A TOPIC WITHOUT DISCUSSING RELATED SUBJECT AREA ... IF THE FOCUS IS ENERGY, THEN DISCUSSIONS ABOUT SITE PLANNING, BUILDING ORIENTATION AND OCCUPANT BEHAVIOR AND EXPECTATIONS NECESSARILY BECOME A PART OF THE DISCUSSION.”

Ralph DiNola, Green Building Services

6

CASE STUDY

Funding opportunities for green measures were identified.

Setting early green goals adds more time to explore, not only how to technically achieve goals, but also to garner the resources needed to cover any additional costs by involving funders, financial institutions and utility companies in the design and decision-making process.

SPONSOR OVERVIEW

The Vietnamese American Initiative for Development (Viet-AID) was founded in 1994 by community leaders and residents who believed that a community development corporation would provide comprehensive economic development programs and services to alleviate poverty and advance civic participation in the Fields Corner Vietnamese community of Dorchester. Viet-AID's mission is to build a strong Vietnamese community and a vibrant Fields Corner through the following measures: promoting civic engagement and community building; developing affordable housing and commercial space; providing small business technical assistance and micro-enterprise development; and offering high quality childcare services.

PROJECT DESCRIPTION

1460 House is a mixed-use property that consists of 43 units of healthy and resource-efficient affordable housing in the Fields Corner neighborhood of Dorchester, Mass. Completed in November 2008, this transit-oriented development is located directly across the street from a rapid rail line. Developed on a grayfield site in a dense urban community, this property includes commercial retail space on the

ground level as well as community space for residents. One of the most impressive features of this property is that it was intentionally designed to provide no additional parking on the site.

GREEN GOALS

The goal of the charrette was to make 1460 House a green project. The developer engaged the assistance of New Ecology, Inc., a sustainability consulting firm that provides extensive green technical assistance toward the development of green properties. The focus of the charrette was addressing energy-efficiency in the project, as this element had the most significant design opportunities. In early planning stages, it was apparent that this project had the potential to significantly reduce the energy required to heat the building by focusing on a tight and energy-efficient building envelope.

GREEN FEATURES

This property was designed and built to the highest level of energy-efficiency and includes a highly insulated and air-sealed building envelope, ENERGY STAR appliances and lighting scheme as well as high-efficiency condensing boilers.

This project achieved a HERS score of 53. Further green features include low-flow shower heads and faucet aerators, pressure assisted 1.1 gpf toilets, low-VOC paints, adhesives and sealants, and Green Label-certified carpet. A white roof was installed

Project Name
1460 House

Sponsor Name
Viet-AID

Location
Dorchester, Mass.

Number of Homes
43

Charrette Facilitator
New Ecology, Inc.



to minimize heat transfer through the roof and to mitigate the urban heat island effect. Additionally, the site was previously completely impervious and a native landscaped outdoor space has been installed as an additional amenity for building residents.

THE CHARRETTE ADVANTAGE

In October 2006, green design consultants, New Ecology, facilitated an integrated design charrette early in the design process to ensure that green elements were incorporated within the project's design from the very beginning. Property management staff participated in the charrette, providing valuable insight about how the property would be operated and maintained. The charrette also helped to coordinate the identification of financial resources to support the incorporation of green measures. Early planning helped the project team identify and secure a \$400,000 grant from the City of Boston's Department of Neighborhood Development to fully fund the installation of a photovoltaic system that is used not only to offset the building's common load, but also to offset a portion of the electric bills of the building's nine lowest income occupants. City officials noted the strength of the project being its integrated green design strategy and prior incorporation of the green items due to the help of Enterprise's Green Design Charrette Grant support.

“WE SET THE STAGE FOR PARTICIPATION EARLY — WE’RE TALKING ABOUT REAL BUILDING ISSUES WITH REAL CONSEQUENCES FOR RESIDENTS AND FOR BUILDERS. OUR [CHARRETTE] RESULTS NEED TO BE TANGIBLE AND OUR SOLUTIONS NEED TO BE PRACTICAL.”

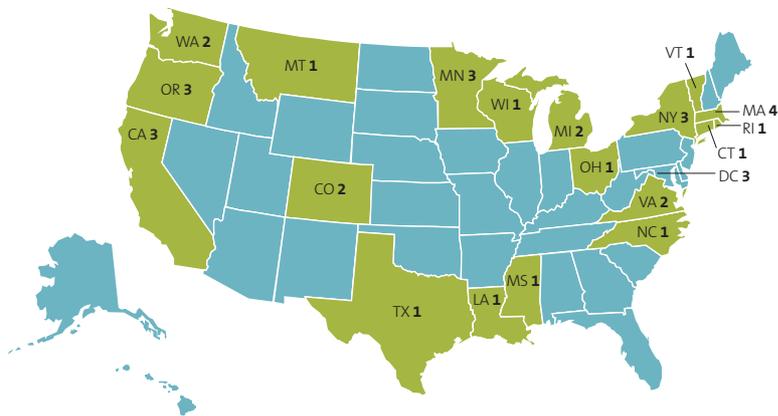
Lauren Baumann, New Ecology

APPENDIX A

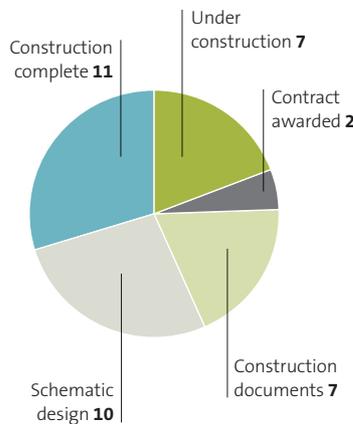
Project Information on 37 Survey Respondents

Enterprise conducted a desktop evaluation of our Green Communities Charrette Grant resource to assess the effectiveness of this grant funding in supporting project teams to successfully incorporate green strategies through the establishment of an Integrative Design Process. The following graphics provide basic information on the grantees that responded to our survey.

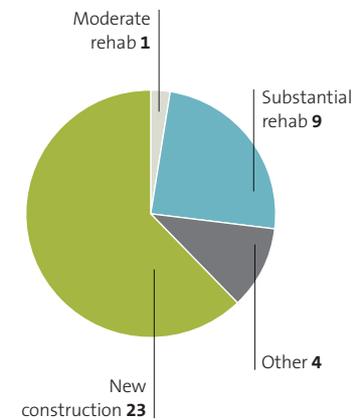
Location and Number of Projects by State



Status of Projects (at time of survey)



Construction Type



Charrette Toolkit

This Green Charrette Toolkit provides a series of online resources to help project teams and facilitators design and implement successful Enterprise Green Communities Charrettes. The toolkit offers background information, guides, checklists, sample exercises and agendas. These flexible tools are templates that can be used “as-is” or modified to fit the team and facilitator’s resources and experience. This toolkit can also be found online at www.greencommunitiesonline.org/tools/toolkits/charrette_toolkit.asp.

Facilitator’s Guide

An introduction to the charrette process, with essential information about implementing and facilitating an Enterprise Green Communities Charrette.

Preparation Checklist

A checklist for facilitators to prepare in advance of the charrette.

Sample and Annotated Agendas

A suggested structure and flow for the charrette, demonstrating how to establish goals, organize topics for the day, set a structure and schedule.

Green Development Plan

A matrix based on the Enterprise Green Communities Criteria, which is designed to help the project team discuss green strategies and assign responsibilities for meeting the Criteria in design and development.

Powerpoint Presentation

A basic introductory PowerPoint presentation provides important background information, defines key issues based on the Enterprise Green Communities Criteria, offers basic education on integrative design, and helps structure charrette activities and discussion among the project team.

Guidance for Facilitating the Touchstones Exercise and Touchstones Results Example

A valuable tool for setting green goals and the team’s ownership of the project’s objectives. The companion Touchstones Results Example file illustrates how to engage this exercise, and a “blank” version of this file can be used to implement this exercise during the charrette.

Guidance for Facilitating Breakout Group Exercises and Breakout Sessions Worksheets

A helpful guide for facilitating the small group exercises identified in the charrette agenda, which are most effective in groups of five to eight people to allow everyone to be involved. The Guidance document outlines an approach focused on the following breakout group topics: site, building, and operations. The companion Breakout Sessions Worksheets are designed for these small groups to use to record their findings.

Resources Checklist

Provides additional links to information on charrettes, green affordable housing, and related incentives.

APPENDIX C

Sample Green Communities Goal-Setting Charrette Agenda

Project Name: _____

Date of Charrette: _____

NOTE TO FACILITATOR: Including this description as a brief introduction to the agenda can be helpful to those unfamiliar with charrettes. It should be noted that a primary role of the facilitator is time management. Therefore, the times indicated in this agenda are intended to assist in keeping activities on schedule. The order of this agenda can be changed, if needed, depending on the group.

CHARRETTE OBJECTIVES

1. Gain an understanding of the process required to realize Green Communities goals.
2. Establish preliminary performance goals.
3. Familiarize participants with the importance of this approach.
4. Establish next steps.

CHARRETTE AGENDA

Location of Charrette: _____

Date and Time of Charrette: _____

8:30 WELCOME & INTRODUCTIONS

a. Introduction of participants

NOTE TO FACILITATOR: Facilitator/Host will present a brief welcome, then circle around the room for each individual to introduce themselves. Format will depend on number of participants, but each participant should state their name, discipline, role on project, and what they are hoping to gain from the charrette/main questions they may have.

b. Overview of the day and anticipated outcomes for the charrette

NOTE TO FACILITATOR: Facilitator will review the Agenda and format for the day's events, including Ground Rules and Logistics (restroom location, cell phones off, lunch/breaks, etc.). This brief overview should introduce the concept of "Co-Learning" (there are no experts) and Discovery (question assumptions) in order to set the tone for the day. Also, anticipated outcomes should be identified. This can take the form of a brief set of comments in most circumstances; for charrettes longer than one day, this can become a facilitated discussion, or a brainstorming exercise in the form of soliciting responses from attendees and recording them on flip charts.

8:45 INTEGRATIVE DESIGN OVERVIEW

- a. Introduction to integrative design
- b. Case study examples

NOTE TO FACILITATOR: How this educational PowerPoint is presented should be adjusted to the group's level of green building knowledge, but it should focus on the integrative process as the key to producing high performance green buildings within budget; accordingly, it is important to become very familiar with the examples, concepts, and principles.

9:45 TOUCHSTONES EXERCISE—ALIGNMENT AROUND GOALS

- a. Brainstorm goals and guiding principles
- b. Prioritize key issues to address, then integrate

NOTE TO FACILITATOR: This exercise is facilitated with the entire group. Please see the description of the Touchstones Exercise in the “Facilitators Guide,” and carefully review the “Guidance for Facilitating the Touchstones Exercise” document in order to implement this exercise accordingly.

10:25 BREAK

10:40 GREEN COMMUNITIES OVERVIEW

- a. Introduction to Green Communities Criteria & requirements
- b. Case study examples

NOTE TO FACILITATOR: This educational PowerPoint presentation is intended to provide only an overview of the structure of the Green Communities Criteria and a brief presentation followed by a few examples of integrative strategies that address multiple criteria. This section concludes with four case studies that are intended to be presented very quickly, simply to reinforce that this can and has been done for dozens of projects across the country.

11:40 PROJECT PARAMETERS OVERVIEW

- a. Presentation of project status
- b. Review of pre-charrette research and analysis

NOTE TO FACILITATOR: Before the charrette, obtain from the project team a site plan to insert into the PowerPoint presentation (Project Parameters Overview slide) or insert a Google Earth aerial photo of the site to project on the screen while the project team presents project issues and status. This presentation should be very brief. Therefore, allow 20 minutes for the client and design team to present their primary concerns and any specific parameters, constraints, opportunities, etc. particularly specific site issues that the team will need to address during the breakout sessions. Be sure to remind the presenters that their presentation is to be kept brief and “to-the-point.”

12:00 LUNCH**12:45 REVIEW TOUCHSTONES EXERCISE RESULTS — IDENTIFY INTER-RELATIONSHIPS**

NOTE TO FACILITATOR: Again, please see the description of the Touchstones Exercise in the “Facilitators Guide,” and review the results of the Exercise as described in the “Guidance for Facilitating the Touchstones Exercise” document by identifying inter-relationships accordingly.

1:00 BREAKOUT GROUP EXERCISE — IDENTIFY POTENTIAL STRATEGIES

- a. Focused small group sessions to explore specific design strategies regarding:
 1. Site Issues
 2. Building Issues
 3. Operations Issues

NOTE TO FACILITATOR: Exercises should take part in groups of five to seven people, depending upon the overall group size, to allow for everyone to be involved. Try to compose the small groups with participants from a variety of backgrounds / experience in order to gain a diverse set of opinions and perspectives from each breakout team. Please see the description of the Breakout Group Exercise in the “Facilitators Guide,” and carefully review the “Guidance for Facilitating Breakout Groups” document in order to implement this exercise accordingly.

2:15 INTEGRATE FINDINGS FROM BREAKOUTS — ALIGNMENT AROUND STRATEGIES

- a. Report results from small group breakout sessions to larger group
- b. Identify key integrated strategies
- c. Record what to keep and what to avoid

NOTE TO FACILITATOR: Assuming three breakout groups, each should be given 20 minutes to present their findings and answer questions from the other participants, while the facilitator records salient points on flip charts. Then facilitate a 20–30 minute discussion on finding synergies between the three groups’ findings and record key points on flip charts. This discussion should be focused on targeting holistic solutions. Consider budget, environmental efficacy, performance goals, achievability, touchstones, and project mission. It also is helpful to generate a discussion that identifies “What to Keep” and “What to Avoid” from the small group’s ideas, and again, record the results on flip charts. Be sure to have someone photograph the flip charts and any accompanying sketches, so that these can be transcribed for inclusion in a charrette report.

3:45 BREAK

4:00 REVIEW GREEN COMMUNITIES CRITERIA

a. Initial pass at scorecard status

NOTE TO FACILITATOR: The Green Communities Checklist can either play a central role in the charrette or it can take a back seat to other discussions. For example, if a team is able to have a productive conversation around massing, passive design, energy, daylight, ventilation, etc. then it may make sense to *not* focus on the checklist. In these instances, it is useful to have someone keep track of the scorecard in the background during the day, and use it as a backstop to make sure there aren't any items that are relevant for a given design phase that the team may be overlooking (e.g., mold protection). For other projects where the level of experience with green building is minimal, or the team may not be comfortable conducting holistic conversations about the building design, then the checklist can serve as a great way to frame the conversation by simply going through each mandatory requirement and credit and allowing discussion around each criteria. In the case of a one-day charrette, use this 75-minute period to review the most critical criteria and mandatory requirements.

5:15 NEXT STEPS

NOTE TO FACILITATOR: Facilitate a discussion around key next steps that need to occur by identifying schedule and responsibilities for these primary tasks, and record the results on flip charts. See also the "Next Steps" section of the "Facilitators Guide."

5:30 ADJOURN — POST-CHARRETTE ACTIVITY (SOCIAL, HAPPY HOUR, ETC.)

APPENDIX D

Green Development Plan

The Green Development Plan template provides a teaching tool—a guide for the developer to utilize the integrated design process and gain an understanding of all that is involved in preparing a Charrette and satisfying the Green Communities Criteria. The plan, which is shown below, can be found at www.greencommunitiesonline.org/tools/funding/grants/documents/green_development_plan_template.xls

GREEN DEVELOPMENT PLAN



Developer Name: -----
 Project Name: -----
 Address (Street/City/State): -----

Description of Process
 A description of the process that was used to select the green building strategies, systems and materials that will be incorporated into the project.

Goals
 A statement of the overall green development goals of the project and the expected intended outcomes from addressing those goals.

Design & Development Team Members

Name	Role

This page should be completed as the first page of the Green Development Plan

Title Page

GREEN DEVELOPMENT PLAN



Developer Name: -----
 Project Name: -----
 Address (Street/City/State): -----

2011 Enterprise Green Communities Criteria

Mandatory Measures

Max Pts.	Exp. Pts.	Green Communities Criteria	Champion	
			name	role
1. Integrative Design				
Mandatory	1-15	Green Development Plan: Integrative Design Meeting(s)		
Mandatory	1-15	Green Development Plan: Criteria Documentation		
2. Location & Neighborhood Fabric				
Mandatory	2-1	Smart Site Location (New Construction only)		
Mandatory	2-2	Connections to Existing Development and Infrastructure (New Construction only, except for located on rural (trial) lands, in colonies communities or in communities of population less than 10,000)		
Mandatory	2-3	Compact Development (New Construction only)		

This matrix should be completed, certified and included as the body of the Green Development Plan Page 10

www.GreenCommunitiesOnline.org
Enterprise Community Partners

List of Resources

ENTERPRISE GREEN COMMUNITIES CHARRETTE GRANTS

www.greencommunitiesonline.org/tools/funding/grants/charrette.asp

Enterprise Green Communities offers Charrette Grants of \$5,000 per project for affordable housing developers to engage in integrative design. An integrative design and development process takes into consideration viewpoints and technical expertise from everyone involved in an affordable housing project—from schematic design to occupancy and beyond. It is Enterprise’s experience that an integrative design process can lead to optimal outcomes related to achieving a development project’s green goals and integrating green building systems.

FACILITATOR REGISTRY

www.greencommunitiesonline.org/tools/funding/grants/documents/charrette_facilitator_registry.xls

Enterprise manages a Pre-Qualified Facilitator Registry which enables project teams to choose an experienced consultant to facilitate their Charrette.

WHOLE BUILDING DESIGN GUIDE

www.wbdg.org/wbdg_approach.php

This website describes the core elements of “whole building design,” which includes the combination of an integrative design approach and an integrative team process. This site helps users identify design objectives and organize their processes to meet those objectives.



Enterprise Green Communities

American City Building

10227 Wincopin Circle

Columbia, MD 21044

800.624.4298

www.greencommunitiesonline.org

www.enterprisecommunity.org