



# THE GREEN GUIDE

Increasing Sustainable Development in  
Jersey City's Redevelopment Areas

Prepared for the Jersey City Redevelopment Agency  
*DRAFT September 24, 2012*



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# **THE GREEN GUIDE**

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### **JCRA Board of Commissioners**

To be provided.

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# THE GREEN GUIDE

## Increasing Sustainable Development in Jersey City's Redevelopment Areas

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# PART 1: FOUNDATION



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**INCREASING SUSTAINABLE DEVELOPMENT IN JERSEY CITY REDEVELOPMENT AREAS**

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## **INTRODUCTION**

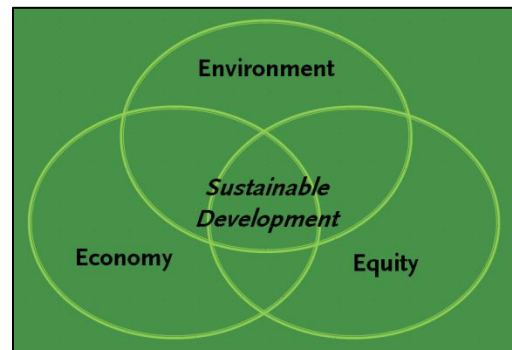
This *Green Guide* provides strategies for increasing sustainable development in Jersey City's redevelopment areas. The strategies are the culmination of best practice research, stakeholder outreach and analysis. Prepared for the Jersey City Redevelopment Agency (the "JCRA"), the project is funded by the Jersey City Federal Energy Efficiency Conservation Block Grant. The strategies are intended to be implemented by the JCRA in Jersey City's redevelopment areas, which comprise approximately 42% of the City's land area and the majority of its development activity.

Sustainability is an incredibly broad topic and is subject to many different interpretations. However, one of the most widely used definitions establishes a solid foundation from which to assess sustainable development principles. This definition was introduced 25 years ago in the 1987 report, *Our Common Future*, published by the United Nation's World Commission on the Environment and Development – better known as the "*Brundtland Report*", for Chairman of the Commission, Ms. Gro Harlem Brundtland:

*"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

The goals and strategies in this handbook reflect the sustainability "triple bottom line" framework – **environment**, **economy** and **equity** – to the extent that the JCRA has influence and jurisdiction over these aspects of redevelopment in the City.

The need for sustainable development has been well documented by numerous authoritative sources and levels of



**ENVIRONMENTAL SUSTAINABILITY** is the ability to maintain diverse, healthy and access to natural resources.

**ECONOMIC SUSTAINABILITY** is the ability to maintain a vibrant economy and prosperity for our cities, households and businesses.

**EQUITABLE SUSTAINABILITY** is the ability for policies to have a positive impact on communities through citizens' equal access those things that are required for quality of life and through equal meaningful input in the governing process.

**SUSTAINABLE DEVELOPMENT** is where these three concepts intersect and sustainable development is where each can be achieved without sacrificing one of the others.

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government, including the United Nations, United States Government, State of New Jersey and Hudson County. Cities, because of their concentration of people, jobs and services, have greater infrastructure efficiency than suburban areas and, as a result, have a much lower the carbon footprint. In fact, in 2005 despite housing 67% of the nation's population and 75% of its economic activity, the nation's 100 largest metropolitan areas emitted just 56% of the nation's carbon emissions<sup>1</sup>. With demographic trends showing that urban areas are becoming more desirable and that they will be called upon to house a greater portion of the nation's population, it is ever more essential that urban areas, such as Jersey City, enhance their sustainability.

Devising measures to induce sustainable development within Jersey City's redevelopment areas is challenging due to varying factors, including the type and scale of redevelopment permitted, the status of redevelopment activities and the age and level of detail in the respective redevelopment plans. For this reason, there is no one-size-fits-all approach which can be applied to all redevelopment areas.

There are generally two approaches for municipalities to increase the level of sustainability in the private development sector: provide incentives or enact mandates. As discussed in greater detail later in this report, the JCRA has elected to encourage and incentivize redevelopment to incorporate sustainable development techniques rather than mandate them.

Incentivizing sustainable development by the private sector is consistent with prior actions taken by Jersey City and the JCRA. The City has engaged in a comprehensive effort to become more sustainable with activities focused on both its built and natural environment. Its effort began in earnest in 2009 with the adoption of four "green" ordinances that call for the City "to purchase green, to use energy efficient vehicles, to build green municipal buildings and to offer incentives to developers who build green."<sup>2</sup> One such ordinance encourages private development applications to satisfy the United States Green Building Council's Leadership in Energy and Environmental Design ("LEED") criteria by providing expedited review and application fee refunds. Similarly, the City passed an ordinance that requires new municipal buildings and projects to achieve a minimum LEED New Construction Silver rating and earn the US EPA's ENERGY STAR building label. More recently, the City amended its Land Development

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<sup>1</sup> Blueprint for American Prosperity, Unleashing the Potential of a Metropolitan Nation. Brookings Institute. May 2008.

<sup>2</sup> Jersey City Mayor's Office Press Release, *Mayor Healy Announces "365 Days of Green" Campaign to Celebrate Earth Day Every Day*, (April 13, 2011), [www.sustainablejersey.com/munusr/folder\\_b/folder/m9o61!2o.PDF?o9o842](http://www.sustainablejersey.com/munusr/folder_b/folder/m9o61!2o.PDF?o9o842)



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Ordinance to permit certain urban agricultural practices, such as community gardening and roof top gardens and adopted a “Complete Streets” resolution that states street projects for both design and new construction should incorporate Complete Streets policies whenever feasible.<sup>3</sup> The City has undertaken many of these green initiatives as part of its effort to become certified under the Sustainable Jersey Program. (See Part 2 of *The Green Guide* for a full review of City, County, State and Federal programs which encourage sustainable development in Jersey City, including financial incentives. Additionally, Appendix C. consists of an assessment of those programs promoting sustainable development in New Jersey and Jersey City.)

The preparation of this *Green Guide* is another step to achieve the City’s vision of becoming a national leader in municipal sustainability.

*The Green Guide* is organized in three parts: Part 1. *Foundation*, Part 2. *Program Design Strategies* and Part 3, *Developer’s Green Guide*. Part 1 presents an assessment of the City’s development trends, which provides the context for the type and scale of redevelopment occurring in the City. It includes an analysis of the 48 redevelopment areas which *The Green Guide* addresses and categorizes them based on predominant development characteristics (additional information on these redevelopment areas can be found in Appendix B). Lastly, Part 1 explains the process for preparing *The Green Guide*, including stakeholder meetings, best practice research and guiding goals.

Part 2, *Program Design Strategies*, sets forth strategies the JCRA and/or City Government can implement to foster sustainable development, along with strategies that will support the program’s administration and enforcement. These *Program Design Strategies* are intended to be implemented in one of two ways: through a sustainable development certification program, referred to as the “Jersey City Green” (JC Green) program or through integrating sustainable development techniques into the JCRA’s redevelopment agreements. These two approaches are not mutually exclusive. Both implementation approaches reward the developer with project publicizing and other incentives. Many strategies applicable to a JC Green certification program can also be implemented by the JCRA as part of working with redevelopers to integrate sustainable design techniques into projects.

Part 3, *Developer’s Green Guide*, inventories existing programs and standards which regulate or promote sustainable development in Jersey City and provides new Strategies

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<sup>3</sup> Complete streets are defined as roadways that enable safe and convenient access for all users, including children, persons with disabilities, bicyclist, motorists, seniors, movers of commercial goods, pedestrians and users of public transport.

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for creating sustainable development in Jersey City's redevelopment areas. The Strategies can be incorporated into the JCRA's redevelopment plans as well as into redevelopment plans between the JCRA and developers.

## Jersey City Development Trends

The City's development trends were analyzed in order to understand the impact a sustainable development could have on the City's redevelopment progress. Jersey City is growing and has been for the last few decades.

Since 1980, the City's population has increased by approximately 10%. Hudson County as a whole has experienced a stronger, but more recent surge in population; however the County's growth since 1990 is comparable to Jersey City.

POPULATION CHANGE				
	Jersey City		Hudson County	
		Percent Change	Population	Percent Change
<b>1970</b>	260,353	-6%	607,839	0%
<b>1980</b>	223,532	-14%	556,972	-9%
<b>1990</b>	228,537	2%	553,099	-1%
<b>2000</b>	240,055	5%	608,978	10%
<b>2010</b>	247,597	3%	634,266	4%

*Source: US Census, 1960, 1970, 1980, 1990, 2000, 2010*

The majority of growth has occurred in the City's downtown, generally defined as the area east of the NJ Turnpike. This area offers excellent mass transit access as well as access to waterfront development along the Hudson River. In recent history, the downtown experienced tremendous growth in residential



*Jersey City Waterfront*

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housing units and office and retail space. The City's redevelopment plans and zoning offer significant opportunities for more growth in this area.

The North Jersey Transportation and Planning Authority (NJTPA), the region's metropolitan Planning Organization, is forecasting significant amounts of growth for Jersey City and Hudson County by 2035.<sup>4</sup> During the 25 year period, NJTPA forecasts an additional 60,529 persons (23% increase), 35,145 households (35%) and 34,100 jobs (29%). The percent increase in population and households in Jersey City exceed those for the County; however, the percent increase in employment for the City and the County is nearly equal.

Forecasted Growth 2010-2035 (NJTPA)						
	Population Growth		Household Growth		Employment Growth	
	Number	Percent	Number	Percent	Number	Percent
<b>Jersey City</b>	60,529	23%	35,145	35%	34,100	29%
<b>Hudson County</b>	114,118	17%	62,099	24%	79,879	30%

*Source: North Jersey Transportation Authority Municipal Forecasts (August 24, 2009)*

Housing units in the downtown which are proposed, approved but not yet built or under construction represent approximately half of the new households forecasted by NJTPA for 2035; the units currently under construction represent approximately 3% of those forecasted. The retail and office space proposed, approved but not yet built or under construction in the downtown area represents approximately one-third of the NJTPA employment forecasts for the City with office space accounting for approximately 30% and retail accounting for approximately 2% of the total; the projects currently under construction represent less than one percent of forecasted jobs.<sup>5</sup> If the NJTPA projections are correct, proposed and approved projects represent development that will satisfy residential demand through approximately 2022 and commercial and office demand through approximately 2018. Additionally, if they are correct and consistent with times of economic recovery, the rate of construction will continue to increase in the coming years to keep pace with forecasts.

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<sup>4</sup> Forecast and projection data was requested from a variety of regional organization, including NJTPA, the NJ Economic Development Authority, Hudson County and Port Authority of New York & New Jersey and the Regional Plan Association. However, NJTPA was the only organization with the information available.

<sup>5</sup> Energy Information Administration. (June 2006). 2003 Commercial Buildings Energy Consumption Survey: Building Characteristics Table B1.

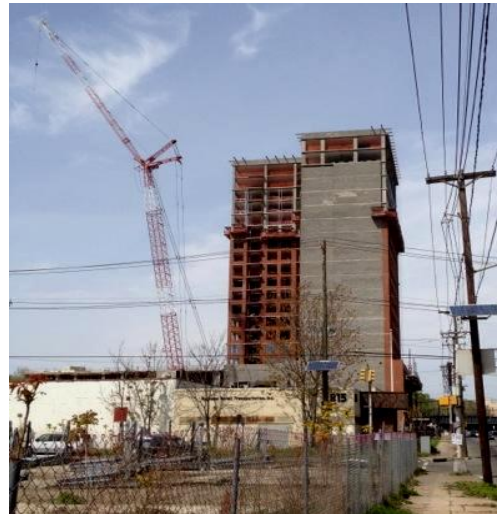
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<b>DOWNTOWN DEVELOPMENT SUMMARY (MARCH 2012)</b>				
	<b>Units</b>	<b>Office</b>	<b>Retail</b>	<b>Parking</b>
<b>Development Proposals</b>	5,140	1,458,000 s.f.	107,500 s.f.	834
<b>Approved, But Unbuilt, Projects</b>	11,018	3,000,936 s.f.	412,116 s.f.	12,257
<b>Projects Under Construction</b>	1,027	0 s.f.	57,559 s.f.	793
<b>Subtotal</b>	<b>17,185</b>	<b>4,458,936 s.f.</b>	<b>577,175 s.f.</b>	<b>13,884</b>
<b>Recently Completed Projects</b>	11,690	7,247,053 s.f.	995,464 s.f.	19,822
<b>Total</b>	<b>28,875</b>	<b>11,705,989 s.f.</b>	<b>1,572,639 s.f.</b>	<b>33,706</b>

*Source: City of Jersey City Downtown Development Map, dated March 2, 2012*

Given the recent development trends, quantity of approved projects and development proposals, and the State's slow emergence from the recent recession, it appears that Jersey City will experience positive growth in the coming decade. This growth offers opportunities to invite and encourage sustainable development and enhance sustainability throughout the City.



*Construction of Cast Iron Lofts*

## **ANALYSIS OF REDEVELOPMENT AREAS**

*The Green Guide* addresses 48 of Jersey City's most active redevelopment areas and their respective redevelopment plans (see Redevelopment Areas map at the end of this section). These 48 redevelopment areas constitute 39% of the City's land area and host most of the City's development activity. Each of the plans was categorized as to its predominant development characteristics, then those characteristics were assessed for their importance in creating context sensitive and cost effective strategies to increasing sustainable development. In addition to this categorization, each of the 48 redevelopment areas were analyzed to determine if or how sustainable development is being encouraged or required.

Jersey City's redevelopment areas are diverse in many respects. Their sizes range from the Columbus Corner Redevelopment Area at .43 acres to the Liberty Harbor Redevelopment Area at 1,161 acres. The vision for the type of redevelopment, as set forth in the plans, is equally varied. For instance, the Greenville Industrial Park Redevelopment Plan calls for a low-rise industrial and retail development, while a few miles north the Exchange Place North Redevelopment Area is envisioned as an urban mixed-use downtown with buildings up to 50 stories tall. All of the redevelopment plans supersede the zoning ordinance, although many plans include development options and/or references to the City's zoning code.

In light of this tremendous diversity the redevelopment areas must be categorized to ensure that the Green Guide's sustainable development strategies reflect the opportunities and constraints of each area. Accordingly, each redevelopment area was evaluated based on its Redevelopment Area Configuration, Redevelopment Scale and Redevelopment Land Use Type.

### **Category 1: Redevelopment Area Configuration**

Each redevelopment area was analyzed for its configuration and categorized as either a "block", "neighborhood" or "corridor". The categories are described as follows:

**Block.** Redevelopment areas consisting of all or a portion of one block. The majority of those in this category have areas defined by building footprints and associated parking on a portion of one block or portions of two blocks. Redevelopment areas of this size are inherently limited in their ability to accommodate certain site improvements such as stormwater management, sustainable landscapes and community amenities.

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**Neighborhood.** Redevelopment areas consisting of more than one block. Redevelopment Areas of this size and configuration offer greater opportunity for incorporating sustainable site improvements which may require reconfiguration of lots and/or new infrastructure.

**Corridor.** Redevelopment areas consisting primarily of frontage lots along a street corridor. Sustainable development strategies in these redevelopment areas must be sensitive to maintaining or enhancing a vibrant streetscape and to neighborhood context since the corridors are flanked by residential neighborhoods.

**Category 2:    Redevelopment Land Use Scale**

The scale of permitted redevelopment is important in assessing the financial capacity of development projects to incorporate the up-front cost of sustainable development strategies. The 48 redevelopment plans regulate development intensity in a variety of ways, ranging from maximum floor area of a particular use(s), to maximum dwelling units in particular buildings or across the entire area, to maximum floor area ratio and maximum residential density for all or a portion of the redevelopment area. These measurements of intensity are not always comparable; however, nearly every redevelopment plan regulates maximum building height. Consequently, building height is used as a surrogate indicator for development scale permitted by the respective redevelopment plans.

In addition to using the maximum height as an indicator of scale, it also provides insight as to the anticipated building costs (per square foot) since the Uniform Construction Code requires additional building safety features based on height with demarcations at four stories (buildings are permitted to be stick-built) and at 75 feet<sup>6</sup> (buildings require additional fire safety features such as sprinklers). The majority of the City's redevelopment areas permit multiple maximum building heights, based on location and/or use. As such, many redevelopment areas include more than one Redevelopment Land Use Scale category.

**Low-rise.** Redevelopment areas with a maximum building height of 4 stories or less.

**Mid-rise.** Redevelopment areas with a maximum building height of between 5 and 7 stories.

**High-rise.** Redevelopment areas with a maximum building height of 8 stories or more.

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<sup>6</sup> As defined by Section 403 of the International Building Code, adopted by New Jersey as part of the Uniform Construction Code.

**Category 3:    Redevelopment Land Use Type**

Regardless of the redevelopment scale permitted by a redevelopment area, whether existing buildings will be rehabilitated or built new will be a defining characterization for determining what types of sustainable development features are feasible, particularly as they relate to building systems. Additionally, redevelopment plans which envision rehabilitation of existing buildings are primarily located in or in close proximity to historic areas and/or areas with a defined neighborhood character, and the incorporation of sustainable development strategies must be sensitive not to diminish any historic or defined neighborhood character. Many of the City’s redevelopment areas require both rehabilitation of certain existing structures and new construction.

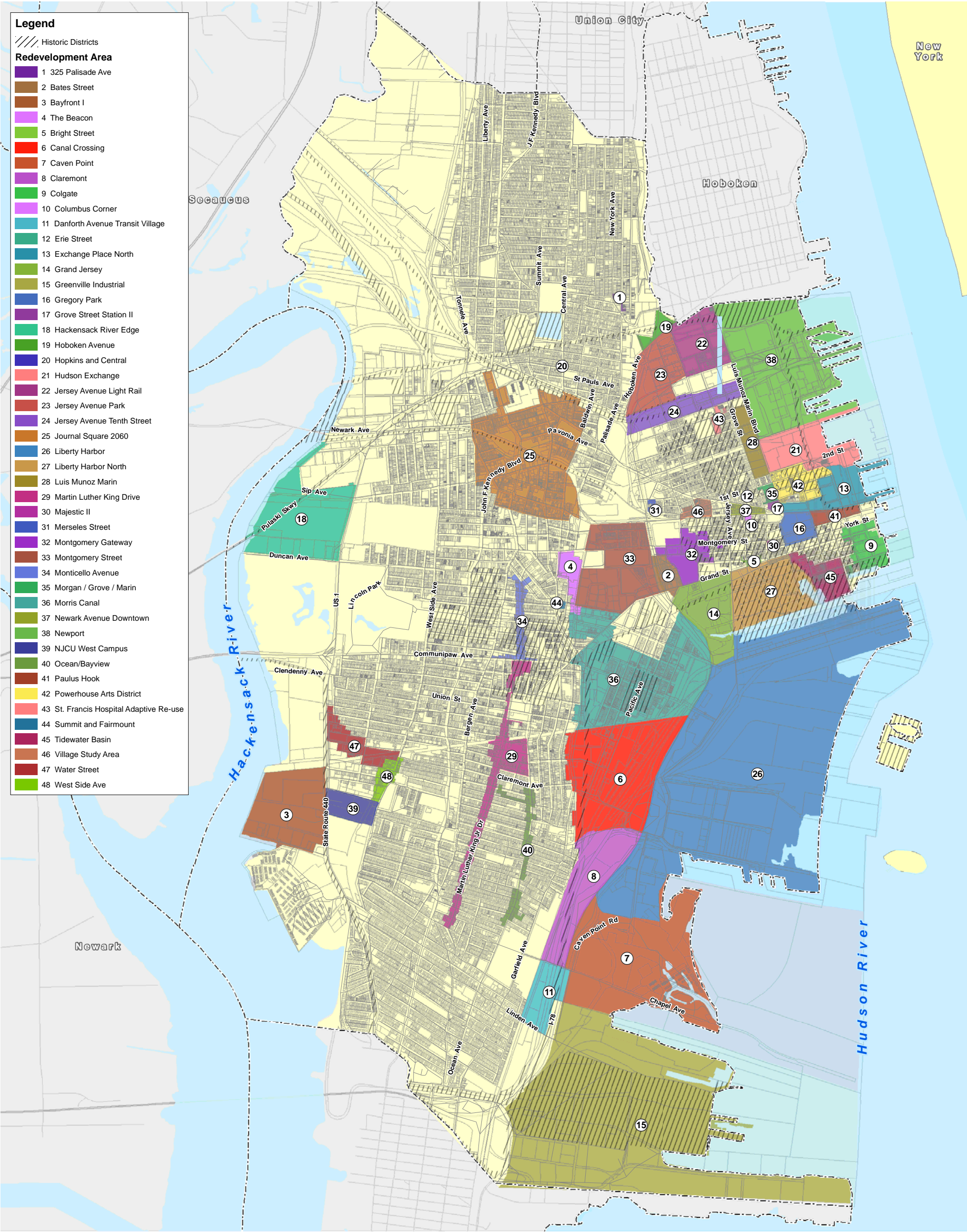
**Rehabilitation.** Redevelopment areas where a significant amount of rehabilitation of existing buildings is anticipated.

**New Construction.** Redevelopment areas where a significant amount of new construction is anticipated.

**Redevelopment Areas**

The following table lists each of the 48 redevelopment areas and indicates how each has been categorized, as well as if the redevelopment plan requires or encourages sustainable development. The full analysis can be found in Appendix B.





REDEVELOPMENT AREA SUMMARY TABLE

Redevelopment Area		Redevelopment Area Configuration			Redevelopment Land Use Scale		Redevelopment Land Use Type			Sustainable Development Requirements and/or Recommendations
		Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction	
1	325 Palisade Avenue									
2	Bates Street									
3	Bayfront I									
4	The Beacon									
5	Bright Street									
6	Canal Crossing									
7	Caven Point									
8	Claremont									
9	Colgate									
10	Columbus Corner									
11	Danforth Avenue Transit Village									
12	Erie Street									
13	Exchange Place North									
14	Grand Jersey									
15	Greenville Industrial									
16	Gregory Project Area									
17	Grove Street Station II									
18	Hackensack River Edge									
19	Hoboken Avenue									
20	Hopkins and Central Avenue									
21	Hudson Exchange									
22	Jersey Avenue Light Rail									
23	Jersey Avenue Park									
24	Jersey Avenue Tenth Street									
25	Journal Square									

REDEVELOPMENT AREA SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale		Redevelopment Land Use Type			
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction	Recommendations
26 Liberty Harbor									
27 Liberty Harbor North									
28 Luis Munoz Marin									
29 Martin Luther King Drive									
30 Majestic II									
31 Merseles Street									
32 Montgomery Gateway									
33 Montgomery Street									
34 Monticello Avenue									
35 Morgan/Grove/Marin									
36 Morris Canal									
37 Newark Avenue Downtown									
38 Newport									
39 NJCU West Campus									
40 Ocean/Bayview									
41 Paulus Hook									
42 Powerhouse Arts District									
43 Saint Francis Hospital Adaptive Reuse									
44 Summit and Fairmount									
45 Tidewater Basin									
46 Village Study Area									
47 Water Street									
48 West Side Avenue									



## PROCESS & METHODOLOGY

### Stakeholder Participation

Strategy formulation began with stakeholder meetings involving Clarke Caton Hintz, the Land Use Law Center at Pace Law School and an array of stakeholders to discuss the challenges and opportunities to redevelopment in Jersey City using sustainable development techniques. There were three stakeholder meetings held for this purpose: the first consisted of large scale developers, the second was with medium and affordable housing developers and the final session was with City staff from more than a half dozen departments.

The attendees provided valuable input on the challenges facing sustainable development not only in Jersey City but in the region, what components of sustainable development were most easily integrated into Jersey City projects and how the JCRA can best induce sustainable development in its redevelopment areas. The stakeholders also described

#### Stakeholder Meeting Attendees

##### Large Scale Developers

Attendee	Company
Kiva Bartik	Kushner Real Estate
Steven Craig	Ironstate Development
John Faltings	G&S Investors / G&S Solar
	Dresdner Robin
George L. Garcia	Garcia & Turula, LLC
Tom Graham	K Hovanian
Len Savino	Langan Engineering
Eric Silverman	Silverman Buildings
David Thom	LeFrak Org.
Larry Traub	G&S Investors
Fred Worstell	Dresdner Robin
Gregg Woodruff	Langan Engineering

##### Medium and Affordable Housing Developers

Attendee	Company
Daniel Gans	Hoboken Brownstone Co.
Rob Richardi	Franklin Development
John Winckelmann	LWDMR Architects

##### Jersey City Staff

Attendee	City Department
Cliff Adams	JC EDC
Bob Antonicello	JCRA
Maryann Bucci-Carter	Planning
Carl Czaplicki	HEDC
Ben Delisle	JCRA
Chris Fiore	JCRA
Ivan Freire	Mayor's Office
Heather Kumer	JCRA
Chuck Lee	Engineering
Sharon Pagano	HEDC-Zoning
Rajiv Prakash	MUA
Tanya Marione Stanton	Planning
Nick Taylor	Zoning

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how project applications proceed through the various municipal departments and the JCRA. The minutes for all stakeholder meetings can be found in Appendix A. The highlights of the stakeholder meeting follow:

- Incentives were viewed as superior to mandates so as not to undermine the City's redevelopment progress.
- Performance measures were viewed as superior to prescriptive measures as they allow programs, regulations and incentives to be more flexible, cost-effective and to remain relevant as new technologies emerge.
- Publicizing projects which exhibit sustainable development features would be valuable to developers, provided such publicizing was widely promoted throughout Jersey City and the region.
- Some of the most traditional incentives – residential density, building height and floor area ratio – have limited value in many of Jersey City's redevelopment areas because the optimal intensity of development has already been calibrated and provided for in the respective redevelopment plans. Notwithstanding, there may be opportunities in some redevelopment areas to incentivize sustainable development with additional development intensity.
- Due to current economic conditions, the City may be limited in its ability to offer the powerful tool of financial incentives, such as but not limited to grants, loans and tax abatements.
- Expedited application processing, another common incentive for sustainable development, has limited value in Jersey City because the current processing time is viewed as satisfactory by the development community.
- Any sustainable development program should account for staff capacity to administer the program.

The JCRA echoed much of the stakeholder input, including for example, that incentives are preferable to mandates and that many of the traditional incentives for sustainable development are unlikely to be utilized by developers. They also expressed a willingness and desire to promote those projects which best embody sustainable development principles.

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**Green Guide Goals**

The goals developed for this handbook reflect input from stakeholders as well as from the JCRA. The Goals are presented in two parts: *Program Design Goals* and *Sustainable Development Goals*. The *Program Design Goals* reflect the JCRA's intentions in undertaking this project, as well as provides a framework to address the challenges to sustainable development identified by the stakeholders. *The Sustainable Development Goals* sets forth sustainability principles that can be integrated into projects and redevelopment plans.

**Program Design Goals**

Goal A. Increase sustainable development in Jersey City's Redevelopment Areas using cost-effective strategies

Goal B. Increase Jersey City's prominence & reputation as a sustainable community

Goal C. Employ best practices in program implementation

Goal D. Employ best practices in program enforcement

**Sustainable Development Goals**

Goal 1. Ensure that strategies are sensitive to the context of the City's redevelopment areas, including but not limited to, affordable housing components, historic fabric, neighborhood character and density

Goal 2. Increase energy efficiency of buildings

Goal 3. Increase the use of renewable energy

Goal 4. Reduce the rate of water consumption

Goal 5. Reduce stormwater runoff and combined sewer overflow events

Goal 6. Reduce the rate of consumption of construction materials and generation of construction waste

Goal 7. Encourage reuse of previously developed sites and structures

Goal 8. Encourage a mix of uses and housing types when appropriate

Goal 9. Encourage access to on-site and off-site community amenities

Goal 10. Encourage healthy and equitable neighborhoods

Goal 11. Improve mobility and the use of alternative forms of transportation, including mass transit

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**Green Guide Best Practices**

Following the stakeholder meetings and articulation of the *Green Guide Goals*, “best practice” examples for increasing sustainable development were gathered from three dozen cities around the country. These cities have adopted strategies to foster sustainable development using incentives (such as development intensity and financial), mandates, publicizing, education, and flexibility from regulation. The practices included in the *Best Practices Report*, which is Appendix E to this Guide, resonate with the input received during the stakeholder meetings, are relative to the *Green Guide Goals* and are able to be scaled for success in Jersey City. Like the sustainable development strategies contained in Part 3, these *Best Practices* have been organized according to the *Green Guide Goals*.

Based on the peer research, it seems the most successful and innovative green building programs employ a range of options, combining a minimum requirement with incentive programs to either encourage projects to go beyond that minimum or encourage additional project types to adhere to the standards of the program.

There are a broad range of incentive strategies available for green development. Potential financial incentives include: tax credits or abatements/exemptions (such as property tax exemptions and sales tax exemptions); loans; grants; and fee rebates, reductions or waivers. Process incentives include: providing for expedited review / streamlined permitting processes; floor area ratio and height bonuses; flexibility in setback requirements; and counting green roofs toward open space requirements. Finally, many programs provide incentives related to assistance, education

**Best Practice Cities**

Anchorage, Alaska  
Asheville, North Carolina  
Austin, Texas  
Belmar, New Jersey  
Boston, Massachusetts  
Boulder, Colorado  
  
Burbank, California  
Catawba, North Carolina  
Chandler, Arizona  
Chapel Hill, North Carolina  
Charlotte, Florida  
Chicago, Illinois  
Cleveland, Ohio  
Cranford, New Jersey  
Denver, Colorado  
Greenburgh, New York  
Millburn, New Jersey  
New York, New York  
New Rochelle, New York  
Oakland, California  
Pittsburgh, Pennsylvania  
Portland, Maine  
Portland, Oregon  
Rohnert Park, California  
Sacramento, California  
San Diego, California  
San Francisco, California  
Santa Fe, New Mexico  
Scottsdale, Arizona  
Seattle, Washington  
Summit, New Jersey  
Tampa Florida  
Vancouver, BC, Canada  
Washington, D.C.  
West Windsor, New Jersey

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and publicizing, such as: workshops, educational programs and communication networks; monitoring and direct assistance (whether technical assistance or non-technical); information dissemination (i.e. indirect assistance such as free resource lists or green building product information made available on the municipal website); award programs; and publicizing assistance (free site signage, website / directory listing, etc.). These alternatives are particularly valuable to Jersey City since the development community already looks favorably upon the permitted zoning density and expedited approval process that the City has to offer.

The most careful and well-orchestrated green building programs, whether mandatory or incentive-based, typically take two approaches to implementation. They start with a phased approach involving either a minimal green building standard or a limited scope of applicability, which gradually increases over time. Second, they establish a schedule for periodic reevaluation of the program, to note successes and make necessary adjustments.





# PART 2: PROGRAM DESIGN STRATEGIES



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## **INTRODUCTION**

The *Program Design Strategies* draw on the input received from developers and City staff during the stakeholder interviews as well as the *Best Practices*, filtered for their applicability to New Jersey laws and conditions pertinent to Jersey City. Additionally, they are shaped by the *Program Design Goals*.

The *Program Design Strategies* include incentives and programs appropriate for implementation by the JCRA or by the City. Example strategies include publicizing green projects, providing flexibility from regulation, educating the public and developers about sustainability and awarding development intensity and financial bonuses. While current economic conditions make it difficult for the City to offer financial incentives, they are addressed in the strategies because of their power to induce sustainable development should economic conditions improve or their use is warranted in particular circumstances.

These strategies also include those for the City's consideration with respect to implementation, administration and enforcement of any sustainable development program that may be adopted. They provide the necessary tools for ensuring that the sustainable development program will be easy to understand by developers, City staff and the public and able to be implemented by the JCRA. Additionally, the use and benefit of sustainable development strategies must be ensured during project construction and beyond. As such, critical enforcement strategies are presented to ensure that projects remain sustainable over the long-term. Lastly, the strategies address information submittal and feedback, both of which will be beneficial for strategy evaluation and improvement.

### **Program Design Goals**

Goal A. Increase sustainable development in Jersey City's Redevelopment Areas using cost-effective strategies

Goal B. Increase Jersey City's prominence & reputation as a sustainable community

Goal C. Employ best practices in program implementation

Goal D. Employ best practices in program enforcement

## **STRATEGY IMPLEMENTATION APPROACH**

Many of *Program Design Strategies* are intended to be implemented in one of two ways:

- Creation of a sustainable development certification program, a “**Jersey City Green**” (**JC Green**), for projects which meet specified sustainable development criteria; or
- Incorporate sustainable development strategies into **redevelopment agreements**.

Both of these approaches result in developers incorporating sustainable development strategies into their projects and the JCRA rewarding those developers through project publicizing and perhaps other incentives. The *Sustainable Development Strategies* in Part 3 of *The Green Guide* are intended for use as the framework for a certification program or as the basis for discussions with developers regarding incorporating sustainability into the project design.

### **Jersey City Green (JC Green) Certification**

Projects meeting specific sustainability criteria would be certified and publicized by the JCRA, thereby creating additional market value for the developer. Accordingly, a **JC Green certification program would serve as a developer incentive for sustainable development while also fulfilling the goal of enhancing Jersey City’s prominence and reputation as a sustainable community**. Additional incentives, identified herein, may also be tied to the certification for enhanced benefit.

The JC Green program should be a point based system where a point value is tied to each sustainable development strategy in a menu of strategies which a developer may choose from. Those projects which obtain a minimum number of points would be certified as “Jersey City Green” by the JCRA. In addition to a minimum number of points, certification may also require fulfillment of certain specified strategies, which may be referred to as prerequisites. The prerequisites should reflect the principles of sustainability that are most important in Jersey City. **The Sustainable Development Strategies in Part 3 may be used as the framework for developing the point system and criteria.**

**The use of clear and objective criteria for each certification point is critical.** Doing so will ensure that the criteria are applied equally to all projects and that developers and the JCRA are provided with program predictability. Such predictability is necessary for developers to establish anticipated project costs and timelines. Additionally, clear and

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objective criteria will facilitate process transparency, an important characteristics when any incentive is offered.

The agreed upon strategies, as well as administration of any performance measures and enforcement, should be reflected in an executed redevelopment agreement. Detail on administration and enforcement of the JC Green program can be found below and in the *Program Design Strategies*.

Each certification point may apply to all buildings within a project, only certain building types (e.g. residential only), or only buildings over certain height or square footage thresholds. See Part 2 for an assessment of how these sustainable development strategies may be applied to the redevelopment area categories. Nonetheless, the program can be designed to encourage all building types and project sizes to seek certification. Due to the variety of redevelopment areas, a tiered system based on project size, proposed uses, and nature of redevelopment area may be appropriate in order to effectively encourage developers in all redevelopment areas to participate.

Multiple certification levels, such as Certified, Silver, Gold and Platinum, as used in the LEED rating system, should be considered in order to recognize those projects that incorporate the most sustainable development strategies. Where multiple levels are offered, it is important that incentives be scaled to the level of JC Green certification obtained.

The JCRA should also consider taking a phased approach to implementation. Gradually increasing the requirements to become JC Green certified over the course of two to three years (or other reasonable timeframe) would allow program support to build during its early phase and provide opportunities to test various strategies, and demonstrate feasibility and early program success.

It is important that program participation, relevance and success be reviewed annually so that the program may be adjusted where needed. Additionally, the strategies that program participants select as well as those not chosen should be tracked to gauge which are most easily implemented in Jersey City and which may not be feasible without additional incentives or other changed conditions. As part of the annual review conducted for the early phase of project implementation, the JCRA should consider meeting with developers to engage them about their experience with the program. In addition to an annual review, the following program monitoring should be considered:

- Review and assess the program after the first five projects that have gone through the JC Green certification process are completed.

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- Review and update the program at least every two years to align with applicable codes, standards, and technologies.

Municipal projects should be encouraged to seek JC Green certification in addition to the requirement that such projects receive LEED Silver certification as required by City Ordinance 09-001 (Municipal Green Building Ordinance). Not only will this showcase the program, but it will give the JCRA and City staff an opportunity to better understand the practical aspects of program implementation.

In order to incentivize the program, certification rewards must be identified. The JCRA can create market value for project certification through publicizing the project to the City and region as “JC Green” certified and providing assistance to the developer for their own marketing efforts. The JCRA can publicly commit to incentives offered over a long term in order to provide developers with a sense of predictability of the program’s value. Further detail on these incentives can be found in the *Program Design Strategies*.

A JC Green logo would also enhance the program’s recognition in the City and region – adding value to the program. Any signage or promotional materials should include the program logo to reinforce its branding.

The JCRA should consider the following ideas for awarding points in a JC Green certification program. These items are intended to be supplemental to the *Program Design Strategies* discussed herein:

- 1.0 Award points for innovation (to be pre-approved by JCRA staff) in a given JC Green goal category.
  - 1.1 This recognizes there may be techniques a project can utilize to enhance sustainability that are not covered in the established JC Green strategies.
- 2.0 Award points for exceptional performance.
  - 2.1 For exceeding the requirements of a particular JC Green standard.
    - A. Set an established minimum for what qualifies as “exceeding” (e.g., LEED requires that a developer double the requirements of a given point).
  - 2.2 For exceeding a certain number of JC Green standards in a given category (e.g., “exceptional energy efficiency”, “exceptional water efficiency”, etc.).

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- B.** Set an established minimum for what qualifies as “exceptional” in each category (e.g., implementing 5 strategies related to water consumption).

Additional administration, compliance and enforcement guidance for a JC Green program are found in the *Program Design Strategies* discussed below.

## Add Sustainable Development Strategies to Redevelopment Agreements

As an alternative to the JC Green program, the JCRA could work with developers to integrate sustainable development strategies into redevelopment projects and/or new or amended redevelopment plans. The agreed upon techniques, as well as administration of any performance measures and enforcement, would be reflected in the executed redevelopment agreement. The *Sustainable Development Strategies* in Part 3 of *The Green Guide* should be used as the menu of techniques to be considered.

The JCRA can reward developers whose projects incorporate sustainable development strategies through publicizing the project as one which reflects sustainability principles.

## Application of the Program Design Strategies

The *Program Design Strategies* provide incentives, education, program administration and enforcement strategies that can be implemented as part of both approaches described above, unless otherwise noted.

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The seed of sustainable development, and JC Green program if applicable, should be planted with developers at the earliest possible opportunity during project design. The City's and JCRA's sustainability efforts should be reviewed during the first meeting with developers, as well as through every project phase, encouraging them to incorporate sustainability strategies into their project, minimizing any necessary design revision costs. The City may also encourage use of an integrated design process, which is an iterative approach to building design that includes all design team members at the outset in a collaborative process; in contrast, a conventional design process relies on team members as needed to complete their portion of the building or site.

Under both approaches, it is beneficial for the JCRA and City Staff tasked with working with developers on this program, to understand the process and principles of sustainable development. As such, redevelopment authority, planning and building departments staff should be encouraged to attend sustainable design education offerings and become proficient in any certification system adopted by the JCRA.



## **PROGRAM DESIGN STRATEGIES**

The following program design strategies include incentives as well as administration, compliance and enforcement strategies that should be considered by the JCRA in creation of any sustainable design program.

### **Publicize Sustainable Projects**

- 1.0** Issue **press releases** highlighting sustainable projects and the sustainable development strategies utilized.
  - 1.1** Once the developer has indicated a commitment to sustainable development, press releases should be issued at the conceptual stage, at site plan approval, at ground breaking and project completion. Additional or alternative stages may be appropriate given the scale of the particular project.
  - 1.2** If applicable, press releases should announce the project's intended level of JC Green certification or other green building certification.
- 2.0** Provide developers with **promotional materials** for potential tenants demonstrating the benefits of green building and highlighting the JC Green program.
- 3.0** Expand the JCRA **Greenie Awards** (as a city sponsored recognition program for innovative green building projects) to include new categories so as to reward a wider range individuals and organizations contributing to sustainable development and to publicize the JC Green program.
  - 3.1** Provide participants of the JC Green program with preferential consideration for a Jersey City Green Award.
  - 3.2** Additional award categories may include the following:
    - A.** Green Designer of the Year (awarded to an architect, urban designer or engineer);
    - B.** Helping Hands (awarded to organizations who donate substantial amounts of sustainable [recycled, reused, or otherwise sustainable] materials to non-profit building organizations and/or organizations who donate substantial time to non-profit organizations whose mission is to advance one or more aspects of sustainability);
    - C.** Most innovative project;

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- D. Most energy efficient project; and
  - E. Most water efficient project.
- 4.0 Create a **Sustainable Development Participant Directory** to promote developers, designers and contractors responsible for sustainable development in Jersey City. Consider also promoting tenants of sustainable buildings as a way to reward those tenants for choosing a sustainable building space.
  - 4.1 Highlight projects seeking green building certification, such as JC Green certification or LEED, on the JCRA website and Green Guide website and include hyperlinks to the businesses involved in the project.
  - 4.2 Highlight past and present recipients of the JCRA Greenie Awards.
  - 4.3 Include JC Green certified projects on a certification list (which may include information such as project name, description, points achieved, developer, and professionals) and post the list on the City's website, the Green Guide website and make them available at the JCRA office.
- 5.0 Provide **signage** to JC Green certified projects.
  - 5.1 Create a JC Green sign for temporary display prior to and during construction.
  - 5.2 Create a JC Green sign for permanent display on the finished building.
- 1.0 Create an **on-line resource** for sustainable development in Jersey City using the JCRA and/or Green Guide website. Features to consider include:
  - 1.1 JC Green program, including certification process, point system, and incentives.
  - 1.2 JCRA and Jersey City sustainable development initiatives (regulations, incentives and other promotional programs).
  - 1.3 County, state and federal initiatives (regulations, incentives and other promotional programs).
  - 1.4 Sustainable Development Participant Directory (see publicizing strategies for additional information).
  - 1.5 Sustainable development resources – online tools and information regarding the benefits of sustainable development and the “how-to” of

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- incorporating sustainability principles into new and existing development.
- 1.6 Finance toolkit listing existing local, state and federal finance (grants, loans, tax abatements, etc.) opportunities for sustainable development.
- 1.7 Local providers of sustainable products and services.
- 2.0 Provide **sustainable development handouts**, available for pick-up, at the JCRA offices, Jersey City municipal building and other community facilities and at community events. This information should duplicate what is available in the on-line resource (see above); however, providing paper copies will expand its reach into the community.
- 3.0 Provide **public education opportunities** on sustainable development practices and the JC Green program.
  - 3.1 Hold an annual Green Building Expo to educate the general public and developers (spearheaded by the JCRA in cooperation with the building department, economic development office, planning office, local utility, and other relevant departments / agencies). Consider partnering with area non-profit organizations and government organizations to expand event resources and community outreach.
    - A. Feature experts in all areas of environmental design and construction.
    - B. Feature Jersey City developers and business owners specializing in sustainable development.
    - C. Feature City and community efforts to enhance sustainability.
  - 3.2 Advertise relevant sustainable development events scheduled in the region and organized by others.
  - 3.3 Encourage JC Green program participants to attend JCRA sustainable development educational events.
- 4.0 Provide staff assistance to developers with questions regarding the JC Green certification process and point criteria.

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**Establish Targets & Track Performance**

- 1.0 Establish **targets** by which the performance of the *Sustainable Development Strategies* to achieve the *Green Guide Goals* can be measured. **Metrics**, or sustainability indicators, must also be used to create a standard for measuring that success. A program of targets and associated metrics will enable performance of the strategies to be tracked and for the City to document its enhanced sustainability. Doing so will also provide the policy guidance necessary to support specific changes to redevelopment plans and other regulations. Redevelopment area- or City-wide targets are a necessary first step to establishing building targets for enhanced sustainability, such as increased energy efficiency or reduced water consumption. The following are *sample* targets for consideration. Subsequent to developing targets, one or more metrics for each target should be identified.
  - 1.1 Increase building energy efficiency:
    - A. Reduce energy use in existing and future buildings by X% over 20XX levels.
    - B. Reduce energy use in buildings constructed after 20XX by X%.
  - 1.2 Increase the use of renewable energy:
    - A. Increase use of on-site renewable energy production to X% of Jersey City properties.
  - 1.3 Reduce the rate of water consumption:
    - A. Reduce per capita water consumption by X% from 20XX levels.
    - B. Reduce average daily demand by X% below 20XX levels.
    - C. Reduce peak demand by X% below 20XX levels.
  - 1.4 Reduce stormwater runoff and combined sewer overflow events:
    - A. Manage X% of stormwater and building water discharge onsite.
  - 1.5 Reduce the consumption of construction materials and generation of construction waste:

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- A. Reduce solid waste going to the landfill or incinerator by X% from 20XX levels
- 1.6 Increase reuse of previously developed site and structures.
  - A. Increase the number of closed sites with remediated contamination by X% from 20XX levels.
- 1.7 Increase the mix of uses and housing types.
  - A. Increase the number of affordable housing units located within mixed income developments by X% over 20XX levels.
  - B. Increase the number of households within an X-minute walk or ¼ mile of retail sales and services by X% over 20XX levels.
- 1.8 Increase access to community amenities.
  - A. Increase the number of households within an X-minute walk or ¼ mile of community amenities (library, community center, day care, etc.) by X% over 20XX levels.
- 1.9 Encourage healthy and equitable neighborhoods:
  - A. Increase the number of households within an X-minute walk or ¼ mile from public open space by X% over 20XX levels.
  - B. Increase the number of households within an X-minute walk or ¼ mile from publicly accessible active recreation facilities by X% over 20XX levels.
  - C. Plant X new trees by 20XX
  - D. Increase city-wide and neighborhood food assets (community gardens, farmers markets etc.) by a minimum of X% over 20XX levels.
- 1.10 Improve mobility and the use of alternative transportation:
  - B. Increase the number of trips made by foot, bicycle, or public transit by X% over 20XX levels.
  - C. Increase the number of residents who access essential services by walking or bicycling by X% over 20XX levels.

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- D.** Increase the number of households who are within an X-minute walk or  $\frac{1}{4}$  mile from a public transit stop by X% over 20XX levels.
  - E.** Increase the number of road miles with adequate sidewalks and bicycle facilities by X% over 20XX levels.
- 2.0** **Track progress through an annual report** which identifies actions taken over the last year, anticipated/recommended actions and measures program successes and setbacks. The annual review may also be used to analyze effectiveness and practical implications of each target and metric and make adjustments as necessary.

**Provide Development Intensity Incentives**

- 1.0** Provide **development intensity bonuses** for projects that feature sustainable development strategies.
  - 1.1** Sample development intensity incentives include permitted floor area ratio, residential density and building height.
  - 1.2** Any bonus granted should be consistent with the findings of the Context Sensitivity Assessment (CSA) (see Sustainable Development Goal 1 Strategies below for additional information on this strategy).
  - 1.3** Scale bonuses to the project's total accumulation of JC Green certification points / extent of sustainable development strategies incorporated into the project design.
  - 1.4** Relax standards for building setback and dimensions where necessary to enable use of development intensity bonuses. Such relaxed standards should be consistent with the findings of the Context Sensitivity Assessment (CSA).
- 2.0** Provide **flexibility from standards** to enable use of sustainable development strategies without a loss in development intensity. Redevelopment plans, as well as zoning regulations, may not anticipate certain green technologies and as a result, use of those technologies in a compliant manner may require reduced development intensity. As an example of this flexibility which the City has already provided, ancillary green roof equipment and structures are subject to the maximum height for exceptions for roof appurtenances. Note however, that conditions or limitations on the flexibility may be warranted given character of the surrounding area. Any flexibility granted should be consistent with the

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findings of the Context Sensitivity Assessment (CSA) (see Goal 5 strategies below for additional information on this strategy). Additional areas which may warrant flexibility include, but may not be limited to, the following list:

- 2.1 Building height exceptions to accommodate renewable energy, daylighting (skylights) devices, and mechanical equipment intended to enhance energy efficiency.
- 2.2 Building height exceptions to accommodate stormwater management facilities (blue roofs).
- 2.3 Building setback exceptions to accommodate sun control devices (awnings, etc.) and wall thickness added to existing buildings to enhance energy efficiency.
- 2.4 Permit green roofs to contribute toward open space requirements.
- 3.0 Reduce or waive off-street parking requirements.
  - 3.1 Provide a reduction in off-street parking requirements, where applicable, if certain sustainable development strategies related to mobility, affordability and car sharing services are implemented and if Jersey City's traffic engineer and planning director determine that adequate on-street parking is available within a specified radius to off-set the balance of spaces needed.

**Provide Financial Incentives**

- 1.0 Reduce application fees.
  - 1.1 Expand the current City program that permits a tiered refund of application fees for LEED certified projects. Such a "fee-bate" program would provide permit and application fees refunds for projects that implement sustainable development strategies and/or obtain JC Green Certification. The tiered structure would reflect the extent of sustainable development strategies incorporated into the project or the level of JC Green certification achieved.
    - A. Consistent with the existing Jersey City program, base the level of the rebate upon the level of certification attained.
  - 1.2 Charge a fee for projects seeking JC Green certification, but offer a rebate once certification is granted.
    - A. Scale fee rebate based upon level of JC Green compliance.

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- 1.3 Collaborate with the Hudson County Planning Board to expand their fee reduction program for LEED projects also provide for reductions for projects that incorporate JCRA sustainable development strategies or achieve JC Green Certification.
- 2.0 Create a **financial program** for projects that incorporate sustainable developments strategies into their project or achieve JC Green certification. The JCRA can capitalize on the existing success and recognition of the *Jersey City Leaf* program by expanding its range of eligible projects and type of available financial support. However, in order to expand this program, the federal government's American Recovery and Reinvestment Act (ARRA) funding, available for energy efficiency measures, will need to be supplemented with sources which are more flexible and long term. Alternatively, a supplemental program may be created to encompass a wider range of projects and funding types than currently offered by the *Jersey City Leaf* program.
  - 2.1 In addition to energy conservation and water heaters, expand the *Jersey City Leaf* program to include other sustainable development strategies, as described in Part 3 of the *Green Guide*. Examples may include:
    - A. Water conservation measures, such as EPA WaterSense fixtures and appliance retrofits
    - B. Stormwater management, such as green roofs
    - C. Electric vehicle charging stations
    - D. Renewable energy, particularly solar, should be considered in context to existing state and federal incentives offered for this technology.
  - 2.2 In addition to revolving loans for specific measures, expand the type of financial support offered by the *Jersey City Leaf* program to include tax abatements, and revolving loans for predevelopment financing and/or capital costs.
  - 2.3 Offer expanded incentives for those projects which obtain JC Green certification, such as a larger loan amount, lower interest rate or longer term.
- 3.0 Offer **tax increment financing (TIF)** for projects that incorporate sustainable development strategies or achieve JC Green certification. TIF involves using future gains in tax revenue to finance current improvements, which is intended to create the conditions leading to those future gains in tax revenues.



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- 4.o Offer **loan guarantees** for projects that incorporate sustainable development strategies or achieve JC Green certification.
- 5.o Employ liability and risk-reducing strategies for such projects as stormwater management (green infrastructure), open space / recreation or district renewable energy technologies. Consider the following techniques:
  - 5.1 Public loan guarantees to reduce project capital costs.
  - 5.2 Assume public responsibility for maintenance and operations infrastructure.
- 6.o Use **public-private partnerships** to fund construction and/or operations of sustainable development projects such as stormwater management (green infrastructure), open space / recreation or district energy technologies.
- 7.o Consider financial incentives for those projects that have **longer payback periods**, such as but not limited to building retrofits.

**Employ Compliance & Enforcement Measures**

- 1.o **Encourage developer expertise** in sustainable development.
  - 1.1 Encourage developers to employ criteria for choosing designers, architects, construction managers, and consulting teams that include demonstrated knowledge of sustainable development practices in their specific fields, a familiarity and experience with life cycle cost analysis and green building rating systems.
- 2.o Require **communication** between JCRA staff and applicants to the JC Green program.
  - 2.1 Require JC Green program applicants to attend a conceptual pre-application meeting to allow for early feedback regarding project proposals, provide opportunity to identify important stakeholders in the community, review process, and enable staff to identify issues for the project applicant prior to formal design and submittal.
- 3.o Require submittal of a **sustainable development strategies checklist** for application to the JC Green program. The checklist should require information such as the following:
  - 3.1 Indication of those strategies proposed for project and the technique(s) used to satisfy the strategy. Documentation necessary to demonstrate compliance with point criteria, available at that time, such as but not

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- limited to specifications for building materials and building systems, energy and water modeling and site plan sheets, should also be submitted.
- 3.2 Indication of those strategies not selected for the project and an explanation supporting the decision. The explanation shall provide moderate detail and shall not be as simplistic as “cost prohibitive”. This feature of the checklist will be important for annual program evaluation.
- 3.3 If applicable, indication of the level of JC Green certification anticipated.
- 4.0 Consider also expanding the **Planning Board completeness checklist** to include the sustainable development strategies checklist. This will enhance transparency, accountability and enable Planning Board members and professionals to better understand the design intention of the project and consider the benefits of the proposed sustainable development strategies. Additionally, this will create a level of oversight by City staff to ensure that the site and building plans reflect the strategies proposed to be incorporated into the project, as cited in the sustainable development strategies checklist.
- 4.1 Require Periodic Submittals prior to obtaining JC Green certification:
- A. Require submittals during the various stages of the JC Green review process or biannually, whichever comes first, to document continued satisfactory progress towards achieving anticipated points. These submittals should also include any building or site plan revisions which impact the points anticipated for achievement or the manner in which they shall be achieved. Submittals shall include an updated checklist (see above) and updated supporting documentation.
- B. Stages might include:
- Conceptual Plan
  - Site Plan Application
  - Pre-Permitting
  - Building Permit
  - Prior to issuance of a Certificate of Occupancy
- 5.0 Require **post-occupation information** to be submitted at two points in time, such as one year and five years, after the building is occupied. Post-occupation

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information should include energy and water usage and a comparison to all relevant sustainable development strategies incorporated into the project design.

- 6.o Prepare a **JC Green operating manual** which provides detail on all aspects of the certification program, process and enforcement measures. The intended audience for the manual should include not only developers but also reviewers of certification applications. The manual may include the following components:
  - 6.1 Application process;
  - 6.2 Review process and timeline;
  - 6.3 Incentives offered, including publicizing;
  - 6.4 Application costs or refunds associated with the program; and
  - 6.5 Documentation necessary to fulfill the criteria of each point.
- 7.o Create a **clear and transparent JC Green certification process**.
  - 7.1 Create clear and objective submittal requirements for each JC Green certification point.
  - 7.2 Final submittals and requests for certification should be permitted no sooner than the time of temporary certificate of occupancy to ensure limited future site and building plan revisions which may impact point eligibility.
  - 7.3 JC Green certification may only be granted after all submittal requirements have been received by the reviewing authority.
  - 7.4 Provide a summary of anticipated and awarded JC Green certification points online at the JCRA and/or Green Guide website.
- 8.o Provide **enforcement measures**.
  - 8.1 Require a certification by all professionals that the portion of the site and building plans for which they are responsible satisfies the requirements of applicable sustainable development strategies / JC Green points.
  - 8.2 Perform random inspection audits of the site and building to ensure compliance with JC Green certification.
    - A. Inspect the development prior to issuance of a certificate of occupancy to ensure compliance with the Sustainable Development Strategies checklist, and that those points applied

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for have in fact been incorporated into the development as proposed.

- B.** Review the implementation of the JC Green strategies (as approved in the submittal documentation) at three points during the development process:
- During the foundation inspection,
  - During the framing inspection, and
  - Before the issuance of a certificate of occupancy.

**9.0** Allow **waivers** where appropriate.

**9.1** Equivalency Waiver: If agreements have been made or incentives granted that obligate a developer to meet certain JC Green certification points and the developer is not able to meet those minimum standards, consider satisfaction of this obligation where:

- A.** The project is deemed of critical importance to the implementation of a JCRA redevelopment plan or Jersey City's Master Plan; and
- B.** The developer has achieved or made a financial or in-kind contribution toward the achieving the lost JC Green certification points on another development project in one of Jersey City's designated redevelopment areas.

**10.0** Provide **penalties** where compliance is not met and/or agreements are not fulfilled.

**10.1** Impose a penalty for failure to fulfill JC Green certification submittal requirements in a timely manner:

- A.** \$X per day from the date the submittal requirement is due to the day report is submitted; and/or
- B.** Reduced fee rebates, as may be applicable.
- A.** Allow some time for developers to attempt to cure shortcomings by granting an extension upon a showing of good cause.
- B.** Impose a penalty if the project cannot meet JC Green or other agreed upon standards such as within six months (or 180 days)

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of receiving the final Certificate of Occupancy (or such later date as may be allowed for good cause).

- 10.3** The penalty for failure to fulfill JC Green certification requirements should consider the following approaches:
- A.** A fine equal to a percent of the construction costs; and/or
  - B.** Calculate penalty using a formula that bases the amount of the penalty on the number of additional points the project would have needed to meet for JC Green certification.





# PART 3: DEVELOPER'S GREEN GUIDE

Implementing Sustainable Development  
in Jersey City's Redevelopment Areas





## INTRODUCTION

Part 3 has three components intended to assist the JCRA and developers to integrate sustainable development techniques in the City's redevelopment areas. First it provides an inventory of existing programs which include incentives for sustainable development or require or permit sustainable development techniques. The second component provides sustainable development strategies that can be incorporated into redevelopment projects and redevelopment plans. Lastly, each strategy is applied to the 48 redevelopment areas.

The strategies are organized by the *Sustainable Development Goals*. A number of strategies to achieve each Goal are provided. In many cases there are options available for how to address or achieve each Goal, essentially creating a menu of options.

Note that the sustainable development strategies do not recommend specific targets, such as a particular energy efficiency level or percentage reduction in water consumption, since the corresponding incentives associated with the program have not been established. In order to successfully incentivize sustainable development, the value of the incentives to the developer must relate to cost of the strategy. Moreover, it is important to note that the diversity of Jersey City's redevelopment areas in terms of type and scale of development permitted presents a further challenge to creating appropriate incentives. For example, an incentive such as bonus development intensity in the form of four additional stories may be appropriate in areas where there is a concentration of skyscrapers; however, an

### **Sustainable Development Goals**

Goal 1. Ensure that strategies are sensitive to the context of the City's redevelopment areas, including but not limited to, affordable housing components, historic fabric, neighborhood character and density

Goal 2. Increase energy efficiency of buildings

Goal 3. Increase the use of renewable energy

Goal 4. Reduce the rate of water consumption

Goal 5. Reduce stormwater runoff and combined sewer overflow events

Goal 6. Reduce the rate of consumption of construction materials and generation of construction waste

Goal 7. Encourage reuse of previously developed sites and structures

Goal 8. Encourage a mix of uses and housing types when appropriate

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additional four stories is likely to be out of character if located in an historic district or neighborhood with mid-rise buildings.

Targets for particular projects are appropriate where City-wide targets for sustainable development have been adopted since those City-wide targets provide the necessary policy guidance and support. For example, a City goal for a particular reduction in energy consumption can easily provide the foundation and reasoning for incentives or mandates that buildings reduce their energy consumption in a proportionate manner.

Goal 9. Encourage access to on-site and off-site community amenities

Goal 10. Encourage healthy and equitable neighborhoods

Goal 11. Improve mobility and the use of alternative forms of transportation, including mass transit

Until sustainable development targets are adopted or incentives are established, the sustainable development strategies are best used as tools for use with the program design strategies. The sustainable development strategies do not recommend specific targets (such as particular energy efficiency), but instead provides metrics for measuring any energy efficiency techniques.

## **INVENTORY OF PROGRAMS IMPACTING JERSEY CITY'S REDEVELOPMENT AREAS**

This section sets for an inventory and assessment of the green building and sustainability programs that impact Jersey City's redevelopment areas. This inventory includes a review of Jersey City Redevelopment Agency initiatives, the City of Jersey City initiatives, Hudson County initiatives, State of New Jersey initiatives, as well as federal initiatives.

### **Jersey City Green Initiatives**

The City of Jersey City has engaged in a comprehensive effort to become more sustainable with its activities focused on both its built and natural environment. Its effort began in earnest in 2009 with the adoption of four "green" ordinances that call for the City "to purchase green, to use energy efficient vehicles, to build green municipal buildings and to offer incentives to developers who build green."<sup>7</sup> More recently, the City has undertaken many of its green initiatives as part of its effort to become certified under the Sustainable Jersey Program. The following information below describes these initiatives with particular emphasis on green construction and sustainable land use.

#### **Green Building Ordinance**

On January 14, 2009, Jersey City adopted City Ordinance 09-001, which creates sustainable green building standards for city-owned buildings and municipal projects.<sup>8</sup> New municipal buildings and projects must achieve a minimum rating of LEED-NC Silver and must, in design and construction, earn the US EPA's ENERGY STAR building label. The ordinance includes a waiver for these standards if the City's Chief Architect reviews the project and determines that the Silver Rating and ENERGY STAR building label will force the project to exceed 20 percent of anticipated costs absent these requirements. Following this determination, the Chief Architect must ascertain any project modifications that would help the costs remain within the appropriated amount and recommend these modifications to the Business Administrator. The Business Administrator then may waive application of either or both requirements for the entire project or a portion of it, and a LEED Accredited Professional (LEED-AP) must certify that the project achieved, at a minimum, the LEED-NC Certified Rating. Separately, the

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<sup>7</sup> Jersey City Mayor's Office Press Release, Mayor Healy Announces "365 Days of Green" Campaign to Celebrate Earth Day Every day, (April 13, 2011), [www.sustainablejersey.com/munusr/folder\\_b/folder/m906120.PDF?090842](http://www.sustainablejersey.com/munusr/folder_b/folder/m906120.PDF?090842)

<sup>8</sup> Jersey City, NJ, Ordinance No. 09-001 (Jan 14, 2011), [www.cityofjerseycity.com/uploadedFiles/JC\\_Green/Green%20Buildings%20Ordinance%2009-001.pdf](http://www.cityofjerseycity.com/uploadedFiles/JC_Green/Green%20Buildings%20Ordinance%2009-001.pdf).

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Business Administrator must select one of the next three municipal projects to be built according to LEED-NC Platinum Rating and ENERGY STAR building requirement. The Chief Architect will study this pilot project and determine feasibility of applying the Platinum rating to future projects.

Further, the Ordinance requires all existing municipal buildings to achieve a LEED-EB Silver Rating, and a LEED-AP must evaluate all existing municipal buildings to determine whether this is possible. For each existing building, the Chief Architect, in consultation with the Building Administrator, must determine the costs of meeting this requirement. The Building Administrator may waive this requirement for existing buildings where (1) the cost of meeting the Silver Rating exceeds either one percent of the building's current market value or \$20,000 or (2) meeting the Silver Rating would be impracticable, or compromising to the health, safety, or general welfare of the public. Where the Building Administrator waives this requirement for an existing municipal building, a LEED-AP must evaluate whether this building could achieve the LEED-EB Certified Rating. Again, the Business Administrator may waive this Certified Rating requirement if the above waiver test is met. The Ordinance exempts historic buildings from these requirements but urges the City to employ green building strategies where possible.

### **Green Development Incentives**

#### ***1. Green Development Incentives Ordinance***

Jersey City also adopted City Ordinance 09-002 on January 14, 2009.<sup>9</sup> This Ordinance establishes incentives for voluntary compliance with the City's sustainable green building standards. The ordinance encourages applications for development to comply with LEED criteria by providing expedited review and application fee refunds. Eligible developments include those that earn the greater of (1) a minimum of 26 points under the LEED-NC rating system or a minimum of 32 points under the LEED-EB rating system or (2) the minimum rating that is designated a LEED Certified development. The Ordinance awards eligible developments priority review before other applications, except those involving affordable or workforce housing. It also awards refunds for building permit and land development application fees upon submission of a written request and proof that a development has met the eligibility requirements. The fee refund amount varies by certification level.

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<sup>9</sup> Jersey City, NJ, Ordinance No. 09-002 (Jan 14, 2011).

[www.cityofjerseycity.com/uploadedFiles/JC\\_Green/Green%20Incentives%20Ordinance%2009-002.pdf](http://www.cityofjerseycity.com/uploadedFiles/JC_Green/Green%20Incentives%20Ordinance%2009-002.pdf).

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**2. *Jersey City Leaf Program***

The Jersey City LEAF (Loan Energy Assistance Fund) Program is a grant-funded program administered by JCRA. This program provides low-interest loans, rebates, and other incentives to help Jersey City residents and businesses save money and invest in “green” products and technology. Currently, there are two available initiatives under the Leaf Program, which are described below.

- **Water Heater Replacement/Sustainable Water Heater Rebate** - The JCRA’s Water Heater Replacement Program<sup>10</sup> offers up to \$3,000.00 cash back to Jersey City home owners, as well as commercial and industrial businesses, for installing qualifying energy efficient or solar water heaters. Rebate recipients must purchase a qualifying ENERGY STAR system. Within 90 days of a Building Department inspection, applicants must submit a completed rebate application form, a copy of the sales receipt showing proof of purchase, and proof of the Building Department inspection. Homeowners may receive between \$350 and \$1,500 cash back, depending on system type. Businesses may receive up to 50 percent of the purchase price, with a maximum of \$3,000 for each qualified heating unit.
- **Energy Efficient Revolving Loan Fund** - The Energy Efficient Revolving Loan Fund<sup>11</sup> offers small and mid-sized businesses low-interest loans up to \$75,000.00 at 2.5 percent for installing certain energy-efficient technologies that reduce energy consumption and expenses. These include weatherization projects (insulation, window treatments, etc.) and high efficient equipment (refrigeration, lighting, air conditioning upgrades, etc.).

**3. *JCRA Green Awards***

For the last four years the JCRA has selected applicants to receive its Green Awards, called the Greenies. The JCRA honors several categories to recognize efforts of individuals, business and governmental entities to create a more sustainable city. Current award categories include Development, Residential, Business and Government

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<sup>10</sup> JCRA Leaf Program, Sustainable Water Heater Rebate, Application for Residential Products, [www.thejcra.org/jcra\\_files/File/resources/leaf\\_program/ResidentRebate\\_v1.pdf](http://www.thejcra.org/jcra_files/File/resources/leaf_program/ResidentRebate_v1.pdf); JCRA Leaf Program, Sustainable Water Heater Rebate, Application for Commercial and Industrial Products, [www.thejcra.org/jcra\\_files/File/resources/leaf\\_program/CommercialRebate\\_v1.pdf](http://www.thejcra.org/jcra_files/File/resources/leaf_program/CommercialRebate_v1.pdf).

<sup>11</sup> JCRA Leaf Program, Revolving Loan Fund, [www.thejcra.org/jcra\\_files/File/resources/leaf\\_program/Leaf\\_Loan\\_Application.pdf](http://www.thejcra.org/jcra_files/File/resources/leaf_program/Leaf_Loan_Application.pdf).

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Entities. The JCRA most recently issued Green Awards in October 2011.<sup>12</sup> For each year of the awards, the JCRA has announced the recipients in a press release and then held a public awards ceremony.

**Resolution Pledging Support and Implementation of Sustainable Land Use Practices**

On March 23, 2011, the City Council passed Resolution 11-168 in which the City resolves to become a model sustainable community.<sup>13</sup> The resolution sets forth several sustainability principles and pledges to include these principles in the next master plan revision and reexamination report, zoning ordinance update, natural resource inventory, and other appropriate ordinances. First, the City promises to take regional impacts into consideration when making land use decisions. Next, the City pledges to provide transportation choices with a Complete Streets approach by considering all modes of transportation when planning transportation projects and reviewing development applications. The City then pledges to protect natural resources and complete a Natural Resources Inventory in collaboration with the Environmental Commission and Planning Department. The inventory will help generate recommendations for land use boards and the Land Development Ordinance Master Plan. Further, the City will amend its zoning to facilitate urban agriculture. Additionally, the City promises to amend zoning regulations to allow for a mixed uses in appropriate districts and foster a diverse mix of housing types and locations. Further, the City pledges to incorporate the principles of green design and renewable energy generation into municipal buildings to the extent feasible and when updating site plan and subdivision requirements for residential and commercial buildings. When amending zoning, the City will incorporate new design and construction practices that reduce or eliminate the negative impacts of buildings and development on the environment and occupants. Finally, the City pledges to consider walkability, bikability, transit access, and proximity to mixed uses and open space when siting new or relocated municipal facilities.

**Adopted Sustainable Zoning Initiatives**

Following up on the above pledge, Jersey City adopted several sustainable zoning initiatives in the spring of 2011. Each of these initiatives is described below.

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<sup>12</sup> Jersey City Redevelopment Agency Green Awards Application 2009; Jon Whiten, "Jersey City Announces Winners of 4th Annual 'Green Awards,'" *The Jersey City Independent* (Oct. 14, 2011) [www.jerseycityindependent.com/2011/10/14/jersey-city-announces-winners-of-4th-annual-green-awards/](http://www.jerseycityindependent.com/2011/10/14/jersey-city-announces-winners-of-4th-annual-green-awards/)

<sup>13</sup> Jersey City, NJ, Resolution 11-168 [www.cityofjerseycity.com/uploadedFiles/JC\\_Green/Sustainable%20Land%20Use%20Reso.pdf](http://www.cityofjerseycity.com/uploadedFiles/JC_Green/Sustainable%20Land%20Use%20Reso.pdf).

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**1. *Urban Agriculture***

On April 13, 2011, the Municipal Council adopted amendments to the Land Development Ordinance that enable urban agricultural practices. These amendments permit community gardening, rooftop gardens and raised planters in all zones and redevelopment plan areas of the city, and exempt these uses from site plan approval. They amendments also exempt rooftop gardens and raised planters from setback requirements. The amendments authorize commercial agriculture in commercial, industrial, and mixed use redevelopment plan area zones, exempt certain commercial greenhouses from site plan approval, subject them to the maximum, but not the minimum, height regulations of their zone, and require them to meet specific setback requirements (2 feet for each side yard, and 5 feet for front and rear yards).

Importantly, the amendments allow green roofs. The municipal ordinance defines green roofs as “vegetated roof system used in place of a conventional roof which typically involves a water proof membrane and root repellant system, a drainage system, filter cloth, a lightweight growing medium and species appropriate plants.” These roofs are exempt from the rooftop area limit of 20% for rooftop appurtenances and, in certain circumstances, are exempt from site plan approval.

**2. *Complete Streets***

The Municipal Council adopted Resolution 11-317 on May 25, 2011, establishing a policy that “all public street projects, for both new construction and reconstruction, shall be designed and constructed as ‘Complete Streets’ whenever feasible to do so in order to safely accommodate travel by pedestrians, bicyclists, public transit, and motorized vehicles and their passengers . . . .”<sup>14</sup> Complete Streets are defined as roadways that enable safe and convenient access for all users, including children, persons with disabilities, bicyclists, motorists, seniors, movers of commercial goods, pedestrians and users of public transport.<sup>15</sup>

**3. *Parking Requirements in the Land Development Ordinance***

Both the Jersey City Land Development Ordinance and the redevelopment plans contain parking restrictions.<sup>16</sup> Some of these restrictions include maximum parking limitations for new development (as opposed to minimum parking standards), permitting, shared parking usage (sometimes even between properties with different owners),

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<sup>14</sup> Jersey City, NJ, Resolution 11-317.

<sup>15</sup> Id.

<sup>16</sup> Discussion taken from Jersey City, NJ, Resolution 11-168.

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accommodating and sometimes even requiring the use of car sharing services (like Zip Car or Hertz), requiring bike parking and storage, and structures parking. In some districts throughout Jersey City, surface parking is prohibited and the garage structure must be completely ringed with and hidden by the principal use.

**4. *Form Based Zoning & New Urbanism in New Zoning Districts***

Zoning districts and redevelopment plans in Jersey City utilize Form Based Zoning and principles from New Urbanism. The zoning permits issued by the city allow flexibility by allowing a variety of land uses to be mixed within a single zone. Also, new development in certain locations is required to incorporate ground floor retail, public streets, and public open spaces.<sup>17</sup>

**5. *Stormwater Control Provisions of Land Development Ordinance***

The effects of stormwater are sought to be mitigated through the adoption of the stormwater control provisions in the City's Land Development Ordinance.<sup>18</sup> These provisions implement aspects of the City's Stormwater Management Plan, which the City most recently amended in August 2008.<sup>19</sup> These provisions are applicable to all site plans and subdivisions for all major developments (as defined by NJ DEP) that require preliminary or final site plan or subdivision review, including any such projects undertaken by Jersey City.<sup>20</sup>

Section 4 of the provisions establishes the stormwater management requirements for major development. These requirements include nonstructural stormwater management strategies and institute erosion control, groundwater recharge and runoff quantity standards that must be satisfied for any covered development. Importantly, the stormwater control provisions seek to reduce stormwater impact first through non-structural or low impact development techniques before a covered project relies on structural best management practices. Non-structural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed at the site or from being exposed to stormwater.<sup>21</sup>

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<sup>17</sup> Jersey City, NJ, Resolution 11-168.

<sup>18</sup> Jersey City, NJ, Code, Section 345-74 (§ 374-74 et seq.).

<sup>19</sup> Jersey City Stormwater Management Plan, Amended August 2008.

<sup>20</sup> Jersey City, NJ, Code, Section § 374-74.4(E)(i).



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**Sustainable Zoning Initiatives in Progress**

***1. Partnership with Rutgers Center for Green Building***

The Rutgers Center for Green Building<sup>22</sup> recently produced a Green Building Manual.<sup>23</sup> The Jersey City Resolution Pledging Support and Implementation of Sustainable Land Use Practices (March, 2011) expressed the intent of Jersey City to seek a partnership with the Rutgers Center for Green Building, in order to test the manual on new privately developed waterfront mixed-used projects.

***2. Transfer of Development Rights (TDR) Ordinance***

Jersey City Resolution 11-168 also outlines the plan for a TDR Ordinance. TDR is a sustainable zoning tool that will relieve some of the development pressure on the municipality by restricting development potential in some areas of the City while allowing that development potential to be transferred to other locations in the City known as receiving zones. The City is investigating several different areas as potential receiving zones, but the City has not selected the specific areas yet. As part of the planning process, the City has made great strides to research and prepare a draft TDR ordinance, but the ordinance is still under development.<sup>24</sup> Jersey City actively pursued and was awarded a TDR Smart Growth Grant from the former New Jersey Office of Smart Growth and will soon become the first large-scale urban center in New Jersey to adopt a TDR Ordinance.

***3. Building Design & Construction***

Jersey City also plans to focus on sustainable building design and construction in the future. As zoning standards are revised for existing zones or redevelopment areas, the codes will incorporate new design and construction practices that reduce or eliminate the negative impacts of buildings and development on the environment and occupants.<sup>25</sup>

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<sup>22</sup> Rutgers Center for Green Building at <http://rcgb.rutgers.edu/>.

<sup>24</sup> The city provides an overview and FAQ for TDR on their official website: [www.cityofjerseycity.com/hedc.aspx?id=6876](http://www.cityofjerseycity.com/hedc.aspx?id=6876).

<sup>25</sup> *Id.*

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#### Other Sustainability Efforts

##### *1. Jersey City Green Committee*

In July 2009, Mayor Healy signed Executive Order 09-005, creating the Jersey City Green Committee.<sup>26</sup> The committee registered for and submitted the City's application to Sustainable Jersey to achieve Silver certification. In 2011, the committee received the Governor's Environmental Excellence Award in the "Healthy and Sustainable Communities" category for its "comprehensive sustainable redevelopment planning initiatives, incorporating green design, transportation, urban agriculture and open space preservation. The committee developed many sustainability policies resulting in reduced energy and resource consumption, enabling healthier lifestyles and advancing environmental stewardship."<sup>27</sup>

##### *2. Jersey City Environmental Commission*

On January 31, 2011, Jersey City passed Ordinance 11-002, reestablishing the City's dormant Environmental Commission (EC).<sup>28</sup> The EC advises the City's government and land use boards and informs residents about environmental issues, laws, and programs. The EC is charged with studying and making recommendations concerning open space preservation, water resources management, air pollution control, solid waste management, noise control, environmental appearance, marine resources, protection of flora and fauna and any other environmental concerns that affect the enjoyment and health of the public.

In particular, the EC promotes long-range environmental planning based on the capacity of the land and natural resources. The EC researches potential land uses in Jersey City and makes recommendations to the planning board based on these findings. These recommendations include programmatic suggestions for inclusion in the City's Master Plan and land development ordinance. For example, the EC has recently made recommendations to the City concerning the adoption of green infrastructure provisions like green parking lots, green streets, pervious pavement, and rain gardens, in the

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<sup>26</sup> Jersey City, NJ, Ordinance No. 09-005.

<sup>27</sup> New Jersey Environmental Digital Library, NJ's Environmental Leaders Honored, available at [njedl.rutgers.edu/news/njs-environmental-leaders-honored](http://njedl.rutgers.edu/news/njs-environmental-leaders-honored).

<sup>28</sup> Jersey City, NJ, Ordinance No. 11-002 (Jan 26, 2011).

[www.cityofjerseycity.com/uploadedFiles/City\\_Government/Boards\\_and\\_Commissions/Ord%2011-002%20-%20Amending%20Chapter%2031%20-%20Environmental%20Commission.pdf](http://www.cityofjerseycity.com/uploadedFiles/City_Government/Boards_and_Commissions/Ord%2011-002%20-%20Amending%20Chapter%2031%20-%20Environmental%20Commission.pdf).

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municipal land development ordinance to reduce the ecological impact of stormwater.<sup>29</sup> The EC also researches energy audits and reviews development proposals.

In addition, the EC works with concerned citizens and neighborhood organizations, directs them to appropriate municipal agencies, and holds informational meetings to educate them. The EC may advertise, prepare, print and distribute books, maps, charts, plans and pamphlets that it deems necessary for its purposes. Finally, the EC helps formulate funding plans submitted to the Green Acres/Green Trust program of the N.J. Department of Environmental Protection.

#### ***3. Green Purchasing Ordinance***

Jersey City's Green Purchasing Ordinance (Ordinance No. 09-003) amends Chapter 3, Article Vi to promote the purchase of green products and benefit human health, reduce CO<sup>2</sup> emissions, and encourage reuse and recycling. The Ordinance requires the City to purchase green products whenever feasible.<sup>30</sup> This Ordinance mandates the evaluation of certain products to determine whether they are "green" by having a reduced effect on human health and the environment when compared to other products. The ordinance further requires the purchase of certain green products when their cost does not exceed 25 percent of the cost of conventional products. If a green product's cost exceeds this, the purchasing agent still may purchase it if the cost does not exceed the conventional alternatives by 75 percent. This requirement applies to a number of product categories, including electronic devices (the ordinance considers certain ENERGY STAR appliances as green products), as well as carpet products, paint, insulation products, lights and light bulbs, recycled plastic products and recycled rubber products.

#### ***4. Green Vehicles Ordinance***

Jersey City's Green Fleet Vehicle Initiative ordinance (Ordinance No. 09-004) directs the City's purchase of only alternative fuel or hybrid electric vehicles if these vehicles are available.<sup>31</sup> In addition, the Ordinance requires the use of a recycled-content or Bio-based automotive lubricant and recycled oil for maintenance, as well as a conversion plan for all diesel vehicles currently owned by the City.

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<sup>29</sup> Jersey City Environmental Commission, Recommendations to Address Stormwater Impacts (November 2011), [http://www.cityofjerseycity.com/uploadedFiles/City\\_Government/Boards\\_and\\_Commissions/Storm%20Water%20Management%20-%20JCEC%2011-2011.pdf](http://www.cityofjerseycity.com/uploadedFiles/City_Government/Boards_and_Commissions/Storm%20Water%20Management%20-%20JCEC%2011-2011.pdf)

<sup>30</sup> Jersey City, NJ, Ordinance No. 09-003 (Jan 14, 2011), [www.cityofjerseycity.com/uploadedFiles/JC\\_Green/Green%20Purchasing%20Ordinance%2009-003.pdf](http://www.cityofjerseycity.com/uploadedFiles/JC_Green/Green%20Purchasing%20Ordinance%2009-003.pdf).

<sup>31</sup> Jersey City, NJ, Ordinance No. 09-004 (Jan. 14, 2011) [www.cityofjerseycity.com/uploadedFiles/JC\\_Green/Green%20Vehicles%20Ordinance%2009-004.pdf](http://www.cityofjerseycity.com/uploadedFiles/JC_Green/Green%20Vehicles%20Ordinance%2009-004.pdf).

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#### 5. *Energy Audits for Municipally-Owned Buildings*

In 2011, Jersey City conducted energy efficiency audits of 26 selected City owned buildings. The results of this auditing program detailed many areas where building energy efficiency can be improved and provided a list of recommended energy conservation measures to be implemented.<sup>32</sup>

#### 6. *City-wide Agricultural Initiative*

This initiative incorporates community gardens, school gardens and environmental clubs, local colleges, food cooperatives, community supported agriculture, and farmers markets. The goal is a cohesive network of partners working for equalized food security and food access for all Jersey City residents. Other goals include environmental education, health education, community building, and economic and environmental revitalization.<sup>33</sup>

Jersey City uses a tool called “Green Map” to connect the partners in the Agricultural Initiative. This Google Maps-based community allows participants and the public to access and share program information.<sup>34</sup>

#### 7. *Adopt-a-Lot Community Gardening Program*

Jersey City established the Adopt-a-Lot Program upon enactment of Ordinance 96-123, and has subsequently amended that ordinance in 2001 (Ordinance 01-109) and in 2011.<sup>35</sup> With the most recent amendments, the Adopt-a-Lot Program allows community and non-profit organizations to lease City-owned vacant lots and City-owned open space in need of improvement for \$1 per year to develop and maintain community gardens.

#### 8. *Hydroponic Greenhouses & Grow Boxes*

In 2011, Jersey City applied for funding to construct and operate two hydroponic greenhouses (operated by Garden State Urban Farms, Inc.) and 250 grow boxes.<sup>36</sup> The project will be built in one of Jersey City’s most food-insecure neighborhoods, near a

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<sup>32</sup> Summary of Jersey City Municipal Building Energy Audits, conducted by EMG (2011); see also Energy Audit Report of City Hall, Jersey City, New Jersey, conducted by EMG (July 8, 2011).

<sup>33</sup> Goals from Jersey City, NJ, Resolution 11-168.

<sup>34</sup> The Green Map app can be accessed and used at <http://www.greenmap.org/greenhouse/en/node/8623>.

<sup>35</sup> Jersey City, NJ Ordinance 11-019 (Jan. 31, 2011).

<sup>36</sup> Jersey City, NJ, Resolution 11-168; see also Matt Hunger, Jersey City Unveils Ambitious ‘365 Days of Green’ Blueprint for Sustainability Initiatives, available at [www.jerseycityindependent.com/2011/04/13/jersey-city-unveils-ambitious-365-days-of-green-blueprint-for-sustainability-initiatives/](http://www.jerseycityindependent.com/2011/04/13/jersey-city-unveils-ambitious-365-days-of-green-blueprint-for-sustainability-initiatives/) (press release based on statements by Jersey City Mayor Healey).

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shopping center and light rail station. A local food cooperative will distribute the produced food, focusing on food banks, senior centers, and low-income housing projects. The greenhouses will also be used to provide educational opportunities and employment training.

This initiative will coordinate with a municipal chapter of “Buy Fresh, Buy Local.” Buy Fresh, Buy Local is part of the national non-profit FoodRoutes Network, headquartered in Pennsylvania.<sup>37</sup> Jersey City will be the first municipality in New Jersey to participate in this program, which allows local restaurants, schools, food banks and hospitals to buy local, fresh food at wholesale rates.

**9. *Urban Environmental Degree Program***

Jersey City works with local colleges that offer urban environmental degree programs, to provide internships in the municipal agricultural and environmental initiatives. Students in GIS classes will assist with the Open Space Element of the Master Plan, in partnership with the Planning Department and Environmental Commission.<sup>38</sup>

**Hudson County Initiatives**

**Land Development Regulations**

The Hudson County Board of Chosen Freeholders approved the county’s Land Development Regulations on October 23, 2008 (“Regulations”). The Regulations were adopted pursuant to the County Planning Act, N.J.S.A. 40:27-1 et seq. and are administered by the Hudson County Planning Board. The Regulations govern the County’s review and approval of all applicable subdivision and site plans within Hudson County.

With respect to sustainable development, the Regulations have two important elements. First, they require that all subdivisions and site plans subject to County approval to include the use of green infrastructure and non-structural best management practice (BMPs) to the maximum extent possible to address site stormwater issues.<sup>39</sup> Specifically, the Regulations mandate that each application for development implement a minimum of two (2) infrastructure or nonstructural BMP techniques.

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<sup>37</sup> Buy Fresh, Buy Local, <http://www.buylocalpa.org/>.

<sup>38</sup> Jersey City, NJ, Resolution 11-168.

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Additionally, the Regulations establish certain policies and performance requirements that applicants must satisfy with respect to incorporating green infrastructure into their projects. These policies and performance requirements include:

- To the maximum extent possible, site design or techniques should incorporate on-site storage and infiltration, and reduce the amount of directly connected impervious surfaces.
- The selected on-site BMP techniques should address three (3) main factors: flow control, runoff pollution prevention and stormwater treatment.
- Best Management Practices (BMPs) shall be selected, designed and implemented so that the post-development peak discharge rate, volume and pollutant loading to receiving waters must meet the requirements listed herein.
- The applicant shall identify how each of the nine (9) nonstructural strategies identified in Subchapter 5 of the NJ Stormwater Management Rules (N.J.A.C. 7:8-5) and set forth in these regulations will be incorporated into the design of the project to the maximum extent practicable.
- If the applicant contends that it is not practical for engineering, environmental or safety reasons to incorporate any of the nine (9) nonstructural strategies into the design of a particular project, the applicant shall provide a detailed rationale establishing a basis for the contention that use of the strategy is not practical on the site.
- Where available, the design of the selected BMPs shall comply with standards in the NJDEP Stormwater Best Practices Manual.

The Regulations also provide that the selected green infrastructure or stormwater Best Management Practices (BMPs) can include, but are not limited to the use of land compatible design, natural landscaping, better parking lot design, bioretention swales, permeable pavers, rain barrels and cisterns, and green roofs, as outlined in Appendix G, Green Infrastructure/BMP Methods.

The second element relating to green development provided in the Regulations is a reduction in application fees for those projects receiving LEED certification. Platinum certified projects pay no application fee. Silver certified projects receive a 50% fee discount. And, Gold certified projects receive a 25% discount on the application fee.

Finally, as part of its site plan and subdivision review requirements, the Hudson County Planning Department requires subject projects to implement Low Impact Development requirements. These requirements are set forth in Section VIII, Design Standards:

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Stormwater Management of the county's Land Development Regulations. The purpose of these requirements is to reduce the stormwater and other environmental impact generated by the proposed development. The requirements include minimizing site disturbance, reducing the amount of impervious surface, and even lessening the potential heat island effect of the proposed development. The county provides a Low Impact Development Checklist that must be signed and sealed by the project engineer as part of the application process.

### State of New Jersey Initiatives

#### Board of Public Utilities (BPU) Programs

##### **1. *Renewable Incentive Energy Program (RIEP)***

The RIEP provides rebates to municipalities, developers and property managers that reduce the upfront cost of installing renewable energy wind<sup>40</sup> and sustainable biomass projects in New Jersey.<sup>41</sup>

##### **2. *Solar Renewable Energy Certificates (SRECs)***

New solar projects can register for SRECs through the SREC Registration program (SRP), which offers rebates at various levels depending upon technology, system size, and customer type. Typically every 1,000 kw/h produced will result in 1 SREC. Each SREC can be sold to electricity suppliers providing revenue for first 15 years of a projects life. Electricity suppliers do this to meet RPS requirements.<sup>42</sup>

##### **3. *New Jersey SmartStart Buildings Program***

Design and financial incentives are available for commercial, industrial and local government large and small projects. The incentives offset the added cost of purchasing qualifying energy-efficient equipment. The range of incentives available varies depending on type, size and efficiency. Annual financial incentives may be limited to a maximum of \$500,000 per customer utility account, and are available while funds last.<sup>43</sup>

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<sup>40</sup> The Wind Program is currently on hold.

<sup>41</sup> [www.njcleanenergy.com/renewable-energy/programs/renewable-energy-incentive-program](http://www.njcleanenergy.com/renewable-energy/programs/renewable-energy-incentive-program).

<sup>43</sup> [www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/nj-smartstart-buildings](http://www.njcleanenergy.com/commercial-industrial/programs/nj-smartstart-buildings/nj-smartstart-buildings)

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**4. *Solar Energy Systems Sales Tax Exemption***

The state offers a full exemption to all New Jersey taxpayers from the 7% state sales tax for all equipment purchases directly associated with photovoltaic systems.<sup>44</sup>

**5. *Renewable Energy Systems Property Tax Exemption***

Residential, commercial, industrial, and local government renewable energy systems used to meet on-site energy needs are exempt from local property taxes. Eligible renewable energy systems include: Solar Photovoltaic, wind, fuel cells, sustainable biomass, geothermal electric, landfill gas, hydroelectric, resource recovery, wave, and tidal systems that produce electricity.<sup>45</sup>

**6. *Home Performance with Energy Star***

This program provides incentives to developers and property managers that lower the ultimate cost to consumers for the installation of energy efficiency measures identified in a comprehensive home assessment. Initially available only for 1-4 family homes, dwellings of 5 or more units, that are under 3 stories, and have a single ownership was added in 2011.<sup>46</sup>

CoolAdvantage's objective is to improve the energy efficiency of electric air conditioners and heat pumps. Rebates are offered for properly sized and installed high efficiency systems that meet a minimum energy efficiency standard.<sup>47</sup>

**8. *WarmAdvantage Program***

WarmAdvantage's objective is to improve the energy efficiency of space-heating systems and water heaters. Rebates are available on furnaces, boilers and water heaters. The level of rebate is determined by the level of efficiency.<sup>48</sup>

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<sup>44</sup> [www.njcleanenergy.com/renewable-energy/technologies/solar/costs-incentives-and-savings/costs-incentives-and-savings](http://www.njcleanenergy.com/renewable-energy/technologies/solar/costs-incentives-and-savings/costs-incentives-and-savings)

<sup>45</sup> N.J. Stat. § 54:4-3.113a et seq.

<sup>46</sup> [www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r](http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r)

<sup>47</sup> [www.njcleanenergy.com/cool](http://www.njcleanenergy.com/cool)

<sup>48</sup> [www.njcleanenergy.com/residential/programs/warmadvantage](http://www.njcleanenergy.com/residential/programs/warmadvantage)



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**9. *New Jersey Comfort Partners***

A free program that offers assistance in energy efficiency to residential customers whose household demonstrates a significant energy usage and their income level is at or below 225% of the federal poverty guidelines.<sup>49</sup>

**10. *ENERGY STAR Homes Program***

The program provides incentives available to builders who construct homes that are 15% more efficient than homes built to the 2006 International Energy Conservation Code (IECC 2006). In order to achieve this classification, a home must score 85 or less out of a possible 100 points on the Home Energy Rating Scale (HERS).<sup>50</sup>

**11. *Pay for Performance Program***

The NJ Clean Energy Program offers this incentive program for energy efficiency improvements. In order to qualify, existing buildings must have an annual peak electricity demand greater than 100 kilowatts (kW). Originally the program was only available for existing buildings, but has since been expanded to include new construction projects with a minimum of 50,000 square feet of conditioned space. New construction projects must be located within a NJ Smart Growth Area, unless stated otherwise. The program works by calculating the performance incentive (Payments II or III) as a variable \$/kWh, \$/therm, or \$/sq. ft. incentive based on projected energy savings.<sup>51</sup>

**Board of Public Utilities (BPU) & Economic Development Authority (EDA) Programs**

**1. *Energy Efficiency Revolving Loan Fund (EERLF)***

Under Revolving Loan Fund (EERLF), the New Jersey Economic Development Authority (EDA) offers loans to commercial, institutional, and industrial entities to finance improvements that receive support under the New Jersey Office of Clean Energy (OCE) Pay for Performance energy efficiency incentive program. The Pay for Performance program supports a variety of different types of energy efficiency improvements under a whole-building approach that offers incentives based on projected annual reductions in electricity and natural gas consumption (i.e., \$/kWh, \$/therm, or \$/sq. ft for new

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<sup>50</sup> [www.njcleanenergy.com/residential/programs/nj-energy-star-homes/nj-energy-star-homes](http://www.njcleanenergy.com/residential/programs/nj-energy-star-homes/nj-energy-star-homes).

<sup>51</sup> [www.njcleanenergy.com/commercial-industrial/programs/pay-performance](http://www.njcleanenergy.com/commercial-industrial/programs/pay-performance).

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construction). Projects should create or maintain jobs in New Jersey. Loan amounts range from \$250,000 to \$2.5 million, limited to 80% of the cost of the project. The collective incentives received by a participant, which includes Pay for Performance incentives, may not exceed 100% of the cost of the project. Interest rates under the program vary from 2% - 4% according to the amortization period of the loan (3, 5, or, 7 years).<sup>52</sup>

**2. *Edison Innovation Clean Energy manufacturing Fund (CEMF)***

The CEMF is administered jointly by the NJBPU and the New Jersey Economic Development Authority. The fund supports the commercialization and development of Class 1 renewable energy and energy efficiency technologies in New Jersey. In January 2009, CEMF was launched to support the commercialization and development of Class 1 renewable energy and energy efficiency technologies in New Jersey. Qualified manufacturing projects in New Jersey may be eligible for up to \$3.3 million in grants and low-interest loans through a rolling solicitation.

**3. *Edison Innovation Green Growth Fund***

The Green Growth Fund offers loans up to \$1 million with a performance grant component to support technology companies with Class 1 renewable energy or energy efficiency products or systems that have achieved "proof of concept" and successful independent beta results, have begun generating commercial revenues, and will receive 1:1 match by time of loan closing.<sup>53</sup>

**4. *Clean Energy Solutions Capital Investment Loan/Grant***

The EDA offers up to \$5 million in interest-free loans and grants to ensure that entities are "going green" in NJ. Under this program, scoring criteria based on the project's environmental and economic development impact determines the percentage split of loan and grant awarded. Funding can be used to purchase fixed assets, including real

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<sup>52</sup> [www.njeda.com/web/Aspx\\_pg/Templates/Npic\\_Text.aspx?Doc\\_Id=1465&menuid=1514&topid=718&levelid=6&midid=1175](http://www.njeda.com/web/Aspx_pg/Templates/Npic_Text.aspx?Doc_Id=1465&menuid=1514&topid=718&levelid=6&midid=1175)

<sup>53</sup> N.J.S. § 48:3-51:

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estate and equipment, for an end-use energy efficiency project, combined heat and power (CHP or cogeneration) production facility, or new state-of-the-art efficient electric generation facility, including Class I and Class II renewable Energy.<sup>54</sup>

**Economic Development Authority (EDA) Programs**

***1. Urban Transit Hub Tax Credit Program***

Qualified businesses located in Urban Transit Hubs may qualify for tax credits equal to 100% of the qualified capital investment and developers are allowed a credit of up to 35% of its capital investment. \$100 million and \$200 million have been reserved for Offshore Wind Projects and the new Grow NJ Program respectively.

It should be noted, however, that the Urban Transit Hub program is nearly out of money and it remains very unclear as to whether it will be refunded and the EDA is no longer be accepting any new applications for residential projects.<sup>55</sup>

***2. Economic Redevelopment and Growth Program***

**New Jersey Department of Environmental Protection (NJDEP) Programs**

***1. Site Remediation Program***

Brownfields Development Area (BDA) Initiative: Language in the program criteria allocates extra points to applicants whose project identifies 'green building' elements consistent with those adopted by the U.S. Green Building Council's LEED program. Applications must include an ordinance or a resolution of support from the host

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<sup>54</sup> [www.njeda.com/web/Aspx\\_pg/Templates/ Npic\\_Text.aspx?Doc\\_Id=1078&menuid=1360&topid=722&levelid=6&midid=1357](http://www.njeda.com/web/Aspx_pg/Templates/ Npic_Text.aspx?Doc_Id=1078&menuid=1360&topid=722&levelid=6&midid=1357)

<sup>55</sup> [www.njeda.com/web/Aspx\\_pg/Templates/ Pic\\_Text.aspx?Doc\\_Id=799&menuid=1188&topid=718&levelid=5&midid=1175](http://www.njeda.com/web/Aspx_pg/Templates/ Pic_Text.aspx?Doc_Id=799&menuid=1188&topid=718&levelid=5&midid=1175)

<sup>56</sup> [www.njeda.com/web/Aspx\\_pg/Templates/ Pic\\_Text.aspx?Doc\\_Id=799&menuid=1188&topid=718&levelid=5&midid=1175](http://www.njeda.com/web/Aspx_pg/Templates/ Pic_Text.aspx?Doc_Id=799&menuid=1188&topid=718&levelid=5&midid=1175)

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municipality to partner with the applicant Steering Committee and to adhere to the terms of the Memorandum of Understanding governing the BDA project.<sup>57</sup>

**2. Streamlined DEP Permitting**

DEP reaches out to developers of green building projects to investigate how the department can facilitate their projects through the DEP permitting process.<sup>58</sup>

**3. New Jersey Infrastructure Financing Program- Financing for Green Roof Technology**

The program is part of the NJ Environmental Infrastructure Financing Program administered by DEP and the NJEIT. The program encompasses the CWSRF which provides loan financing to local government units (municipalities, counties, etc.) for a wide variety of wastewater, stormwater and other water quality improvements, including green roofs.<sup>59</sup>

**4. Green Acres Program**

This program, available for municipalities and non-profits, provides financing for the preservation of open space and has incorporated language into their rules and application guide to reflect a preference for green building design. The program awards one bonus point if a building is constructed to LEED standards on the Green Acres project application.<sup>60</sup>

**N.J. Housing and Mortgage Finance Agency (HMFA) Programs**

**1. Multifamily Solar Funding PILOT Program**

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<sup>57</sup> [www.nj.gov/dep/srp/brownfields/bda/bda\\_application\\_guide.htm](http://www.nj.gov/dep/srp/brownfields/bda/bda_application_guide.htm)

<sup>58</sup> [www.nj.gov/dep](http://www.nj.gov/dep)

<sup>59</sup> [www.njeit.org/](http://www.njeit.org/)

<sup>60</sup> [www.nj.gov/dep/greenacres/index.html](http://www.nj.gov/dep/greenacres/index.html)

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the installation of solar photovoltaic (PV) renewable energy systems of at least 20 kW in size.<sup>61</sup>

**2. *Qualified Allocation Plan for Low Income Housing Tax Credit (LIHTC)***

For New Jersey, HMFA administers the federal Low Income Housing Tax Credit program that includes a minimum threshold requirement of Energy Star Certification. The LIHTC program offers tax credits to developers of affordable housing as an incentive to construct such housing. The credit, a dollar for dollar reduction in federal tax liability, is available through a competitive process. As part of the program additional points are now available for completing the HMFA Green Future program, Solar PV, LEED, and Microload discussed below.<sup>62</sup>

**3. *Single Family CHOICE Program***

HMFA's Choices in Home Ownership Incentive Created for Everyone (CHOICE) Program provides subsidies to create viable homeownership in municipalities currently lacking a sustainable new construction housing market (both newly constructed and substantially rehabilitated). Not only is there loan financing for potential homebuyers, but developers can apply for "below market interest rate construction loans and construction subsidy funding."<sup>63</sup> For developers to receive the financial incentives under the CHOICE program, units developed must be certified under the Energy Star program.<sup>64</sup> The agency established this requirement to ensure that the operation and maintenance costs of the units are reduced by increasing their energy efficiency and consequently reducing monthly utility bills for residents.

**4. *Balanced Housing and Home Express Green Requirements***

The purpose of the Neighborhood Preservation Balanced Housing Program is to provide municipalities, for-profit and non-profit developers with financial assistance for the development of affordable housing in New Jersey. The Balanced Housing subsidy provides a needed solution to bridge the "gap" between end financing and available funds.<sup>65</sup>

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<sup>61</sup> [www.state.nj.us/dca/hmfa/gho/dprograms/multifamily/](http://www.state.nj.us/dca/hmfa/gho/dprograms/multifamily/)

<sup>63</sup> [www.state.nj.us/dca/hmfa/biz/devel/choice/](http://www.state.nj.us/dca/hmfa/biz/devel/choice/)

<sup>64</sup> New Jersey Green Homes Office, 2011 Green Requirements for Single Family CHOICE Projects (2011), [http://www.njgreen.gov/dca/hmfa/gho/dprograms/pdf/20110520\\_CHOICE%20Green%20Requirements.pdf](http://www.njgreen.gov/dca/hmfa/gho/dprograms/pdf/20110520_CHOICE%20Green%20Requirements.pdf)

<sup>65</sup> [www.njgreen.gov/dca/hmfa/gho/dprograms/homeexpress/](http://www.njgreen.gov/dca/hmfa/gho/dprograms/homeexpress/); [liberty.state.nj.us/dca/divisions/dhcr/offices/docs/bh/bhrulesfinal121107.pdf](http://liberty.state.nj.us/dca/divisions/dhcr/offices/docs/bh/bhrulesfinal121107.pdf)

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In order to attain this benefit, the project must conform to the Balanced Housing Green Building Requirements pursuant to Appendix M of N.J.A.C. 5:43. Requirements under the program include:

- Siting new construction to optimize passive solar strategies, including orienting the building with respect to the sun's relationship to the site;
- Including passive shading such as suitable overhangs, awnings and/or deciduous trees;
- Utilizing products that produce low volatile organic compound low paints, sealants, and adhesives in all interior applications; and
- Requiring that all units adhere to the current New Jersey Energy Star Certification requirements.<sup>66</sup>

#### ***5. Special Needs Housing Trust Fund Sustainability Guidelines (SNHTF)***

SNHTF provides capital financing to create permanent supportive housing and community residences for individuals with special needs. The SNHTF Guidelines identify a set of priority considerations for projects seeking funding. One of these priorities is that projects demonstrate good and appropriate design. The guidelines prioritize funding projects "that are accepted by the community, have reduced operating and maintenance costs and provide for a healthier environment for residents."

There are three categories for the design criteria, one of which is Sustainability. The Green Future program sustainability guidelines include many of the elements highlighted above under the CHOICE and Balanced Housing programs.<sup>67</sup>

### **Miscellaneous Programs**

#### ***1. New Jersey Property Assessed Clean Energy Municipal Financing Program***

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<sup>66</sup> New Jersey Green Housing Office, Green Requirements for Balanced Housing/Home Express Projects (2011), [http://www.njgreen.gov/dca/hmfa/gho/dprograms/pdf/20110304\\_BH\\_HE%20Green%20Requirements.pdf](http://www.njgreen.gov/dca/hmfa/gho/dprograms/pdf/20110304_BH_HE%20Green%20Requirements.pdf)

<sup>67</sup> NJ Housing and Mortgage Finance Agency, Green Future Guidelines 2011, [http://www.njgreen.gov/dca/hmfa/gho/resources/pdf/20110520\\_Green%20Future%20Guidelines.pdf](http://www.njgreen.gov/dca/hmfa/gho/resources/pdf/20110520_Green%20Future%20Guidelines.pdf)

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Federal Housing Financing Agency until further clarification is offered.<sup>68</sup> This last sentence is unclear. We should indicate if Jersey City offers this financing.

**2. Residential and Multi-Family Residential Efficiency Programs**

Eligible homeowners and tenants of single and multi-family residences can receive an in-home energy audit, air leakage testing, and a report of recommended improvements. 0% financing is available over 60 months for these suggested improvements, and there exists a potential for incentives to cover a percentage of costs depending on where the customer ranks on the federal poverty level. This program is offered by Public Service Enterprise Group (PSE&G).<sup>69</sup>

**Federal Government Initiatives**

**Federal Programs for Industry**

**1. § 45 Income Tax Credit for Renewable Energy Production**

**Summary:** The Federal Internal Revenue Code provides a business income tax credit in the amount of \$0.021 (2009) or \$0.022 (2010) per kilowatt hour (KWH) of electricity produced from qualifying renewable resources within a ten-year period.

**Sources:** IRC § 45; Notice 98-27, 1998-18 IRB 14; Notice 97-30, 1997-1 CB 416; Notice 96-25, 1996-1 CB 375; Rev. Proc. 2007-65; Announcement 2009-69; INFO 2010-0025; INFO 2010-0037; Notice 2010-37; Notice 2011-40.

**Eligible Taxpayers:** Taxpayers producing electricity from qualifying renewable resources and selling the electricity produced to an unrelated person.

**Qualifying Activity:** Qualifying energy resources are wind, closed-loop biomass, open-loop biomass, geothermal energy, solar energy, small irrigation power, municipal solid waste, hydropower, and marine and hydrokinetic renewables. The sources of tax law and guidance contain detailed definitions for each qualifying renewable energy type.

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<sup>68</sup> [www.njleg.state.nj.us/2010/Bills/PL11/187\\_.PDF](http://www.njleg.state.nj.us/2010/Bills/PL11/187_.PDF)

<sup>69</sup> [pseg.com/home/save/index.jsp](http://pseg.com/home/save/index.jsp).

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**Incentive Amounts:** The tax credit amount is \$0.022 (2010) per KWH of electricity produced and sold to an unrelated person. The credit is reduced by the lesser of 50% or the ratio of government subsidies received for the tax year to the aggregate additions to the capital account attributable to the project for the tax year and all earlier years. Government subsidies include: (1) governmental grants received for the project; (2) proceeds from tax-exempt state or local government bonds used to finance the project; (3) directly and indirectly provided subsidized energy financing under a federal, state, or local program in connection with the project; and (4) any other credit allowable with respect to any property that is part of the project.

**Limits:** The tax credit amount is reduced by an amount determined by dividing the excess of the reference price for the calendar year of sale over \$0.08 (2010) per KWH by \$0.03. Reference price is the annual average contract price per KWH of electricity generated from the same qualifying energy resource and sold in the U.S. in the previous year. The tax credit is not available if the national average price of electricity from the resource is more than \$0.11 per KWH (2010).

**Timeframe:** The credit is available for a ten-year period beginning on the placed-in-service date of the qualifying facility. Expiration dates for tax credits for specific qualifying resources are as follows:

- Closed-loop biomass: December 31, 2013
- Open-loop biomass: December 31, 2013
- Wind facilities: December 31, 2012
- Landfill gas: December 31, 2013
- Geothermal: December 31, 2013
- Solar: December 31, 2005
- Small irrigation: October 2, 2008
  
- Marine and hydrokinetic: December 31, 2013



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**Federal Programs for Investors**

***§ 48 Income Tax Credit for Investment in Energy Property***

**Summary:** The Federal Internal Revenue Code provides a business income tax credit in the amount of 10% or 30% of the basis of qualifying energy property investments.

**Sources:** IRC § 48; Treas. Reg § 1.48-1 through -9; Rev. Rul 70-236; Rev. Rul 79-183; Notice 2008-68, 2008-34 IRB 418; PLR 200947027; PLR 201043023; PLR 201121005; CCA 2011222017

**Eligible Taxpayers:** The credit is available to taxpayer owners placing qualifying energy property in service.

**Qualifying Activity:** The taxpayer must put qualifying energy property in service. Qualifying energy property includes: fuel cell property, solar energy property, small wind energy property, geothermal property, geothermal heat pump systems property, microturbine property, and combined heat and power system property. The property must meet performance and quality standards prescribed by regulations in effect at the time the property is acquired. The cited sources provide detailed definitions for each qualifying property type, including specifications, design, and output.

**Incentive Amounts:** The tax credit amount is 30% of the cost of fuel cell property, solar energy property used to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat, solar energy property used to illuminate the inside of a structure using fiber-optic distributed sunlight, and small wind energy property. The tax credit amount is 10% the cost of geothermal property used to produce, distribute, or use energy, geothermal heat pump systems property used to heat or cool a structure, qualifying microturbine property, and qualifying combined heat and power system property. Qualifying costs include property financed with nonqualifying nonrecourse financing, subsidized financing, or tax-exempt private activity bonds.

**Limits:** The maximum annual tax credit amount is \$1,500 for each 0.5 kilowatt of capacity for qualifying fuel cell property and \$200 for each kilowatt of capacity for qualifying microturbine property.

**Timeframe:** Expiration dates for tax credits for specific qualifying properties are as follows:

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- Fuel cell: December 31, 2016
- Solar energy: December 31, 2016
- Small wind property: December 31, 2012
- Combined heat and power system: December 31, 2016
- Microturbine: December 31, 2016

Unused tax credit may be carried back one year and carried forward 20 years.

**Notes:**

*Recapture.* The credit may be “recaptured” if the energy property is disposed of or otherwise ceases to be energy property before the end of the five-year period after the property is placed in service. There is a 20% recapture of credit for each full year the property ceases to be qualifying energy property. Recapture is not triggered if a disposition or cessation occurs more than five years after the date the property is placed in service.

*Grant Alternative.* Taxpayers may elect to take grants instead of the tax credit for certain property placed in service or whose construction began before 2011. These applications must be submitted before October 1, 2012. The grant amount is the same as the tax credit the property could qualify for.

***§ 48C Income Tax Credit for Investment in Advanced Energy Property***

**Sources:** IRC § 48C; Notice 2009-72, 2009-36 IRB; CCA 201052005

**Eligible Taxpayers:** The credit is available to taxpayers investing in qualifying advanced energy manufacturing projects.

**Qualifying Activity:** The taxpayer must invest in qualifying advanced energy manufacturing property. Qualifying property includes projects that reequip, expand, or establish a manufacturing facility for the production of:

- property used to produce energy from the sun, wind, geothermal deposits, or other renewable resources

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- fuel cells, microturbines, or an energy storage system for vehicles
- electric grids for storage or transmission of renewable energy
- property designed to sequester carbon dioxide emissions
- property designed to refine or blend renewable fuels other than fossil fuels
- electric-drive motor vehicles and associated property, or
- other property designed to reduce greenhouse gas emissions

A qualifying project must be certified by the IRS, in consultation with the U.S. Department of Energy, through the specified application process. The IRS will only consider projects where there is a reasonable expectation of economic viability. Other considerations include:

- domestic job creation
- net impact on air pollutants and greenhouse gases
- technological innovation and commercial deployment
- the levelized cost of the energy
- the time needed for project completion

**Incentive Amounts:** The tax credit amount is 30% of the qualifying investment. The qualifying investment amount is the basis of eligible property placed in service during the taxable year. Eligible property is property (a) that is necessary for the production of specified energy property, (b) that is tangible personal property, or other tangible property, if such property is used as an integral part of the facility, and (c) with respect to which depreciation (or amortization) is allowable. Eligible property does not include a building or its structural components.

**Limits:** The nationwide maximum cumulative tax credit amount is \$2.3 billion.

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**Timeframe:** The initial allocation round for 2009-10 has ended, but the IRS accepts and rejects applications on an annual basis. The taxpayer will have one year from the date the IRS accepts the application during which to provide evidence that the requirements of the certification have been met. A taxpayer receiving a certification has three years from the date of issuance of the certification to place the project in service.

**Federal Programs for Builders**

***§ 45L Income Tax Credit for New Energy Efficient Homes***

**Summary:** The Federal Internal Revenue Code provides a business income tax credit in the amount of \$2,000 (or \$1,000) for each qualifying new energy efficient home (or manufactured home) that is constructed by an eligible contractor and acquired by a person from the eligible contractor for a residence.

**Sources:** IRC § 45L; Notice 2008-35, 2008-12 IRB

**Eligible Taxpayers:** The tax credit is available to taxpayer contractors constructing qualifying new energy efficient homes. An eligible contractor is the person who constructed a qualifying new energy efficient home (or manufactured home) during its construction (or production). A taxpayer that hires a third party contractor is the eligible contractor and the third party contractor is not an eligible contractor.

**Qualifying Activity:** The taxpayer must construct a qualifying new energy efficient home that is acquired by a person for use as a residence. A qualifying new energy efficient home is a new home that has a projected level of annual heating and cooling costs that is 50% (or 30%) less than a comparable dwelling constructed in accordance with the standards of chapter 4 of the 2003 International Energy Conservation Code.

**Incentive Amounts:** The tax credit amount is \$2,000 for a 50% home or a 50% manufactured home and \$1,000 for certain manufactured homes.

**Timeframe:** The tax credit expired December 31, 2011, but there has been discussion of extending it further.

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**Federal Programs for Property Owners**

***§ 179D Deduction for Energy Efficient Commercial Buildings***

**Summary:** The Federal Internal Revenue Code provides an income tax deduction in the amount of 100% of the cost of energy efficient commercial building property placed in service.

**Sources:** IRC § 179D; Notice 2006-52, 2006-1 CB 1175; Notice 2008-40, 2008-14 IRB 725; AM2010-007; Rev. Proc. 2011-14

**Eligible Taxpayers:** The tax deduction is available to taxpayer owners placing energy efficient commercial building property in service. The taxpayer may be the person primarily responsible for designing the property if qualifying property is installed on or in property owned by a federal, state, or local government, or a subdivision thereof.

**Designer:** The deduction may be allocated by the owner of the property to the taxpayer designer. The taxpayer designer is a person who creates the technical specifications for installation. A designer may include an architect, engineer, contractor, environmental consultant, or energy services provider who creates the technical specifications for a new building or an addition to an existing building that incorporates energy efficient commercial building property. The taxpayer designer is not a person who merely installs, repairs, or maintains the property. The owner of the building shall determine which designer is primarily responsible and allocate the full deduction to that taxpayer, or at the owner's discretion, allocate the deduction among several designers. The cited sources provide detailed guidance for allocation of the deduction among partners or shareholders.

**Qualifying Activity:** The taxpayer must place energy efficient commercial building property in service. Energy efficient commercial building property is:

- depreciable property installed on or in a building located in the U.S.
- installed as part of the interior lighting systems; the heating, cooling, ventilation, and hot water systems; or the building envelope and
- certified as being installed as part of a plan designed to reduce the total annual energy and power costs of the building by 50% or more
- where the reduction in costs is calculated by comparison to a reference building that meets the minimum requirements of ASHRAE Standard 90.1-2001

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- wholly or partially enclosed within exterior walls, or within exterior and party walls, and a roof, affording shelter

Qualifying property does not include single-family homes, multi-family structures of three stories or fewer, manufactured homes, or modular homes. Cited sources contain detailed descriptions of qualifying systems, the allocation of reductions among systems, and how reductions are calculated according to the ASHARE standard.

**Incentive Amounts:** The tax deduction amount is 100% of the cost of energy efficient commercial building property.

**Limits:** The maximum tax deduction amount is the product of \$1.80 and the square footage of the qualifying building. The maximum tax deduction amount for partially qualifying property is the product of \$0.60 or \$1.20 and the square footage of the qualifying building.

**Timeframe:** The deduction expires December 31, 2013.

***§ 168(e)(3) Deduction for Certain Energy Property***

**Sources:** IRC § 168(e)(3)

**Eligible Taxpayers:** The tax deduction is available to taxpayer owners placing in service energy property subject to cost recovery.

**Qualifying Activity:** The taxpayer must place energy property in service. Energy property is any property that is:

- equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat, excepting property used to generate energy for the purposes of heating a swimming pool;
- equipment that uses solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight, but only with respect to periods ending before January 1, 2017;

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- equipment used to produce, distribute, or use energy derived from a geothermal deposit, but only, in the case of electricity generated by geothermal power, up to (but not including) the electrical transmission stage;
- qualifying fuel cell property or qualifying microturbine property;
- combined heat and power system property;
- qualifying small wind energy property; or
- equipment which uses the ground water as a thermal energy source to heat a structure or as a thermal energy sink to cool a structure.

**Incentive Amounts:** The tax deduction amount is the amount MACRS specifically provides for IRC § 48 energy property in the five-year class. The depreciation method for property in the five-year class is usually 200% declining balance, with a switch to straight-line to maximize the deduction (the 200% declining balance method). The five-year class consists of property with an ADR midpoint of more than four years and less than 10 years.

**Timeframe:** The tax deduction expires December 31, 2016.

***§ 25D Credit for Residential Energy Efficient Property***

**Summary:** The Federal Internal Revenue Code provides a personal income tax credit in the amount of 30% the cost of residential energy efficient property, including qualifying solar electric property, qualifying solar water heating property, qualifying fuel cell property, qualifying small wind energy property, and qualifying geothermal heat pump property.

**Sources:** IRC § 25D; IRS Notice 2009-41; INFO 2009-0240; CONEX – 152472-09; INFO 2010-0036; PLR 201035003; INFO 2010-0085; INFO 2010-0111; INFO 2010-0133; INFO 2010-0232

**Qualifying Activity:** The taxpayer must install residential energy efficient property. Residential energy efficient property includes solar electric, solar hot water, fuel cell, small wind energy, and geothermal heat pump. Qualifying solar electric property uses solar energy to generate electricity for use in a dwelling unit. Qualifying solar water heating property heats water for use in a dwelling unit, if at least half of the energy used

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by the property for that purpose is derived from the sun. Qualifying fuel cell property is an integrated system comprised of a fuel cell stack assembly and associated balance of plant components that converts a fuel into electricity using electrochemical means, has an electricity-only generation efficiency of greater than 30%, and generates at least 0.5 kw of electricity. Qualifying small wind energy property uses a wind turbine to generate electricity. Qualifying geothermal heat pump property uses the ground or water as a thermal energy source to heat the dwelling unit or as a thermal energy sink to cool the dwelling unit, and meets the Energy Star program requirements in effect when the expenditure is made. Qualifying solar property includes solar panel or other property installed as a rood (or portion of a roof) even if it is a structural component of the structure on which it is installed. Qualifying solar water heating property must be certified for performance by the Solar Rating Certification Corporation or a comparable entity endorsed by the government of the state in which the property is installed. Qualifying solar water heating property does not include expenditures properly allocable to a swimming pool, hot tub, or any other energy-storage medium that has another function other than energy storage.

**Incentive Amounts:** The tax credit amount is 30% of the qualifying property costs. Qualifying property costs include labor costs properly allocable to the onsite preparation, assembly, or original installation of qualifying property, and expenditures for piping or wiring to interconnect qualifying property to the dwelling unit. Qualifying property costs include expenditures that are made from subsidized energy financing. Subsidized energy financing is financing provided under a federal, state, or local program, a principal purpose of which is to provide subsidized financing for projects designed to conserve or produce energy. Qualifying property costs include only the portion of the cost for nonbusiness purposes if less than 80% of the use of an item is for nonbusiness purposes. Qualifying property costs does not include any expenditures financed with an energy conservation subsidy that a public utility provides too a customer to buy or install an energy conservation measure, which is excluded from income. Qualifying property costs include the amount of any Renewable Energy Credits payments from public utilities.

**Limits:** The maximum annual tax credit amount is \$500.

**Timeframe:** The tax credit expires December 31, 2016. Qualifying property costs are made when the original installation is completed. Qualifying property costs related to the construction or reconstruction of a structure are made when a taxpayer begins using the structure.



## **SUSTAINABLE DEVELOPMENT STRATEGIES**

The following strategies are intended for use as the framework for a certification program or as the basis for discussions with developers regarding incorporating sustainability into the project design. The strategies have a preference for performance measures over prescriptive measures, where appropriate, since they offer enhanced flexibility to the developer and they more easily remain relevant in the face changing technology.

### **Goal 1: Excellence in Context Sensitivity**

**Ensure that strategies are sensitive to the context of the City's redevelopment areas, including but not limited to, affordable housing components, historic fabric, neighborhood character and density.**

#### **1.0 Context Sensitivity Assessment**

- 1.1** Complete a **Context Sensitivity Assessment (CSA)**, made scaled comparisons between that and the proposed plan, and applied the lessons learned. The CSA should examine affordability, density, existing architecture, historic features, environmental features, and other elements of neighborhood character.

#### **2.0 Neighborhood Character**

- 2.1** Complement **existing architecture** in the surrounding area. Projects should be sensitive to the surrounding environment and community, with regard to architecture, scale, and mass.
- 2.2** Incorporate **local art** into outdoor areas (e.g., sculpture garden, mural / relief, artistic site furnishings, etc.) at a rate of one application per building per or specified number of residential units.

#### **3.0 Natural Environment**

- 3.2** Create **indoor/outdoor transitions for outdoor living** (i.e. courtyards, porches, canopies, etc.) for a specified percentage of residential units and a percentage of first floor commercial floor area.

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3.3 Incorporate **native and adaptive plantings** into a portion of exterior vegetated areas. Native species shall consist of those identified by The Native Plant Society of New Jersey

3.4 Incorporate only **native or adaptive trees** into site and infrastructure designs. Native species shall consist of those identified by The Native Plant Society of New Jersey

*Reference Example:* The American Society of Landscape Architects, Sustainable Sites Initiative requires at least 50% of the vegetated area to consist of native plants.

3.5 Exclude **invasive species** from exterior planting areas. Invasive species shall consist of those identified by the NJ Department of Environmental Protection Invasive Species Council

3.6 In accordance with the LEED Regional Priority Credits applicable to Jersey City, meet the requirements of LEED-NC Sustainable Sites, Credit 5.1, *Site Development—Protect or Restore Habitat* by: **limiting site disturbance** beyond proposed improvements.

**4.0 Density**

4.1 Build project to a **residential density and/or non-residential intensity** beyond the minimum required in the redevelopment plan, where applicable.

*Annotation:* If creating JC Green certification program, scale point awards in increments based upon level of density provided.

**5.0 Historic Character<sup>70</sup>**

5.1 Maintain all existing **historic sites and structures** located within the project boundaries.

5.2 **Restore/rehabilitate** one or more historic buildings in compliance with local or federal standards.

*Annotation:* If creating JC Green certification program, scale point awards in increments based upon number of buildings rehabilitated.

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- 5.3 Meet local **historic design standards** and the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- 5.4 Consult with **Jersey City's Historic Preservation Commission** when contemplating removal, demolition, or significant alteration to interior or exterior historic materials for advice on preservation, reuse, and salvage of historic building materials and the alterations or improvements to such structures.

**6.o Affordable Housing**

- 6.1 Provide the **required percentage of affordable housing** (low and moderate) as set forth in the redevelopment plan.

*Annotation:* If creating JC Green certification program, scale point awards based upon percentage of affordable units provided.

*Reference Example:* The NJ Council on Affordable Housing (COAH) commonly relies on a 20% affordable housing set-aside for sale projects and a 15% affordable housing set-aside for rental projects. COAH defines affordable housing based on the gross median income for households of the same size within the housing region in which the household is located, based upon the U.S. Department of Housing and Urban Development's (HUD's) Section 8 Income Limits (uncapped) averaged across counties for the housing region; moderate income housing has a sale or rental price affordable to households with incomes less than 80% of the specified gross median income and low income housing has as a sale or rental price affordable to households with incomes less than 50% of the specified gross median income.

- 6.2 Submit a specific plan **to preserve long-term affordability** of units for at least 30 years.

*Reference Example:* The NJ Uniform Housing Affordability Control (UHAC) (N.J.A.C. 5:80-26.1 et seq.) sample mandatory deed restrictions set 30 year affordability controls.

- 6.3 Locate residential development with a certain percent set-aside of **affordable housing (inclusionary housing) within a ½ mile of transit**.

*Add-on:* Transit shall be defined as the PATH Train, Hudson-Bergen Light Rail, NY Waterway Ferry, or 2 or more bus stops.

## **Goal 2: Excellence in Energy Efficiency**

### **Increase the energy efficiency of buildings.**

#### **1.0 Performance Standard**

- 1.1** Design new residential buildings of 4 or fewer stories (above grade) to **exceed the minimum/baseline energy efficiency** requirements of the State energy code by a certain percent.

*Add-on:* And verify compliance by submitting an energy model signed by a licensed engineer.

*Annotation:* Specify energy modeling software and formats.

*Add-on:* Or meet the EnergyStar Home Energy Rating System (HERS) Index Target, as calculated using any Residential Energy Services Network (RESNET)-accredited software program (depending on remodel/addition type and amount of total conditioned area).

*Annotation:* Alternatively, specify a range of HERS ratings instead of specifying the target (e.g., *achieve a HERS rating of between 75 and 85*)

*Add-on:* And verify compliance by submitting a HERS rating performed by a RESNET accredited rater.

*Add-on:* Or meet the requirements to earn a minimum number of points under the LEED for Homes rating system, Energy and Atmosphere Credit 1.2 (Exceptional Energy Performance) by achieving a specified HERS rating.

*Add-on:* And verify compliance by submitting a HERS rating performed by a RESNET accredited rater or by submitting proof of LEED certification.

- 1.2** Design new construction or renovation of residential and commercial buildings of 5 or more stories (above grade) to **exceed the minimum/baseline energy efficiency** requirements of the State energy code.

*Add-on:* Such percentage of improvement must be:

- A certain high percentage over baseline for new construction projects

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- A certain moderate percentage over baseline for existing buildings
- A certain low percentage over baseline for historic buildings

*Reference Example:* The Department of Energy Better Buildings Challenge has set a goal to make American commercial and industrial buildings at least 20% more energy efficient by 2020.

*Add-on:* Or, meet the performance-based compliance requirements of Chapter 6 of the 2012 International Green Construction Code (IgCC), with the equivalent provisions of ASHRAE 189.1-2011 as a compliance option.

*Annotation:* If creating JC Green certification program, scale point awards based upon percentage achieved above baseline standard.

*Add-on:* And verify compliance by submitting an energy model signed by a licensed engineer.

*Annotation:* Specify energy modeling software and formats.

**2.0 Prescriptive Additions**

- 2.1** Submit **documentation** to the JCRA indicating measures to be implemented in the proposed development that relate to the goal of **increasing building energy efficiency**, including:
- A.** A list of Energy Star products being used.
  - B.** The details of building envelope efficiency (such as insulation beyond code requirements, air sealing, and advanced framing techniques).
  - C.** The details of roofing materials designed to reduce heat island effect (such as rooftop gardens and light-colored roofing materials).
  - D.** A list of approaches to be employed that use passive design practices (as opposed to additive green energy technologies) to reduce energy demand, such as: landscaping techniques and materials to shade dwelling units and reduce energy consumption; landscaping on the south and west sides of buildings; windows located for natural light and cross

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ventilation; external shading devices for unwanted heat gain; and a design that takes maximum advantage of passive and natural sources of heat, cooling, ventilation and light. [*Also see strategies in Goal 3 related to Passive Energy.*]

E. A list of any on-site renewable energy systems.

- 2.2 Install at least a minimum number of **EPA EnergyStar products** such as: appliances, fixtures, building products, heating and cooling appliances, and plumbing.

**3.0 Monitoring Systems**

- 3.1 Design new construction or renovation of residential and commercial buildings of 5 or more stories (above grade) to **meet the requirements of IgCC Section 603** (Energy Metering Monitoring, and Reporting).
- 3.2 Install and use **building dashboard systems** to track, compare, and incentivize occupant behavior change.
- 3.3 Install **energy management systems** that can be automatically accessed for demand response calls with the local utility.
- 3.4 Have the project architect or engineer **monitor building energy performance** and assist staff in optimizing building energy use during the first year.

**4.0 Commissioning**

- 4.1 Meet the requirements of **IgCC Section 611 (Energy Systems Commissioning and Completion)**, excluding Section 611.3.5 (Post-Occupancy Recommissioning), by: developing a Commissioning Plan, adjusting and balancing systems, performing functional performance testing, and including commissioning specifications in construction documents, among other things.
- 4.2 Engage a **commissioning authority** with documented commissioning experience on at least two other building projects to develop and carry out a Commissioning Plan.
- 4.3 Submit preliminary and final **commissioning reports**.

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**5.0 Training**

- 5.1** Offer and/or encourage participation in **training** programs in the region on energy management systems in order for occupants and building managers to better understand the installed energy management systems and build awareness of demand-reduction strategies.

**Goal 3: Excellence in Renewable Energy**

**Increase the use of renewable energy**

**1.0 Renewable Energy Readiness**

- 1.1** Incorporate measures that support **future installation** of renewable energy facilities and can only be provided at the time of land development or initial construction. For example:
- A.** Provide the rough-in for future installation of solar (photovoltaic) or wind turbine system.
  - B.** Pre-plumb for a later solar thermal installation.

**2.0 Passive Energy**

- 2.1** Provide a certain percentage reduction in anticipated annual energy consumption through **site and building design features**.

*Reference Example:* LEED-NC 2009 (EA Credit 1) requires: energy reductions of at least 12% for new buildings or 8% for existing building renovations.

- 2.2** Design the building with **passive solar heating elements** such as south-facing glazing, appropriate thermal mass, building overhangs; window “awnings” and windows that enable indirect lighting of interior spaces.
- 2.3** **Shade the south and west sides** of building by structural overhangs, trees or other landscaping techniques.

- A.** Use passive energy design strategies that orient building and interior spaces for seasonal benefits (reduce energy load and maximize comfort).

*In accordance with the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines, 2011 Green Requirements for Single Family CHOICE*

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*Projects, and Balanced Housing/Home Express Projects:* Orient buildings in a manner that provides for optimal passive solar, ventilation, and shading.

**3.0 Off-Site Renewables**

- 3.1** Enter into a contract for a minimum term for the **purchase of renewable energy power** for a certain percentage of the project's annual energy consumption.

*Reference Example:* LEED-NC 2009 (EA Credit 6) requires a two year contract to provide at least 35% of the building's electricity.

**4.0 On-Site Renewables (non-passive)**

- 4.1** Develop **on-site renewable energy sources** sufficient to meet a percent of the anticipated yearly energy demand of all total calculated energy uses for the building or a greater percent of annual estimated hot water energy (by means of solar hot water heating).

*Annotation:* If creating JC Green certification program, scale point awards in increments for every 1,200 watts the system can produce.

*Reference Example:* Green Globes NC Criteria, Renewable Sources of Energy credit requires that renewable energy supply at least 5% of building demand.

In accordance with the LEED Regional Priority Credits applicable to Jersey City, meet the requirements of LEED-NC Energy and Atmosphere Credit 2, On-site Renewable Energy by: installing sufficient on-site renewable energy systems to account for at least 1% of the building's annual energy cost.

- 4.2** Design new construction or renovation of residential and commercial buildings of 5 or more stories (above grade) to meet **Section 610 (Building Renewable Energy Systems)** of the following sections of the 2012 IgCC.
- 4.3** Use a **solar thermal domestic hot water system** sized to provide a certain percentage of the project's annual domestic hot water load.
- 4.4** For site lighting fixtures: Use **solar electric generation for pedestrian scale lighting** systems and/or projects.



**Goal 4: Excellence in Water Efficiency**

**Reduce the rate of water consumption.**

**1.0 Water-Efficient Fixtures**

- 1.1 Reduce building potable water use** and exceed by a certain percent the water efficiency baseline calculated for the building after meeting the Energy Policy Act of 1992, exclusive of irrigation.
  - A.** *Reference Example:* LEED-NC 2009 (WE Prerequisite 1): reduce potable water use by 20% below baseline.
- 1.2 In accordance with the LEED Regional Priority Credits applicable to Jersey City, meet the requirements of LEED-NC Water Efficiency Credit 2, Innovative Wastewater Technologies, compliance option 1** by: reducing potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (such as low-flow shower heads, toilets, and urinals, dual-flush toilets, etc.) or non-potable water (e.g., captured rainwater, recycled greywater, on-site or municipally treated wastewater).
  - A.** *Annotation:* This item meets the standards of the New Jersey Department of Environmental Protection's Creating Sustainable Communities Guide, as well as the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines, 2011 Green Requirements for Single Family CHOICE Projects, and Balanced Housing/Home Express Projects.
- 1.3 Install low flow building equipment and fixtures.** Equipment and fixtures must be certified under the U.S. Environmental Protection Agency's (EPA) WaterSense Program (including toilets, bathroom faucets, showerheads, flushing urinals) or EnergyStar (including dishwashers and clothes washers), or equivalent.
- 1.4 Submit a list of appliances, fixtures, and construction techniques used that meet the WaterSense Program specifications and are labeled as such.**
- 1.5 Install dry fixtures** such as waterless urinals and composting toilets.

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- 1.6 Install an **efficient hot water delivery system** (i.e. tankless, recirculating, centrally located of water heater).
  - A. *Reference Example:* EPA WaterSense Home Requirement: An efficient hot water delivery system that stores no more than .5 gallons of water between the source of hot water (the water heater or a recirculation loop) and the furthest fixture in the home. Recirculation systems must be demand initiated (push button or motion sensor activated).
- 1.7 **Install occupant sensors** on all commercial bathroom sinks.
- 1.8 Provide for **sub-metering** of individual residential units and commercial tenants and common areas.
- 2.0 **Non-Potable Water Use**
  - 2.1 Use **rainwater harvesting elements** (such as collection of stormwater in a cistern that is pumped into a building) **or greywater systems** (which reuse waste water from such locations as bathroom sinks, showers, bathtubs and laundry rooms) **to supply a portion of the water demand** of toilets, urinals and/or landscape irrigation, except for the first two years to establish plantings.
  - 2.2 Use **rainwater harvesting elements** (such as collection of stormwater in a cistern that is pumped into a building) **for on-site water features**, such as fountains.
  - 2.3 **Avoid the use of potable water for once-through cooling or single-pass cooling operations**, except in ice making equipment, walk-in refrigeration units and ice making machines that make less than a minimum amount (lbs) of ice per day and that meet other conditions.
- 3.0 **Landscape Water Efficiency**
  - A. *Reference Example:* LEED NC 2009 (WE Credit 1 Water Efficient Landscaping) requires a 50% reduction.
  - B. *Reference Example:* ASLA Sustainable Sites Program 2009 (Prerequisite 3.1) requires a 50% reduction.
  - 3.2 **Provide (or convert site to) water-efficient landscaping** (such as drought tolerant vegetation, xeric plants grouped by water needs, reduced turf

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areas, wood chip mulching, and zoned irrigation systems) to reduce the use of potable water use in the landscape by a certain percentage, and limit irrigation to only a portion of the landscaped area.

- A. Add-on:* The following plants shall be exempted: those used for food or other commercial production and those in the establishment phase (defined a three years for trees, two years for shrubs, and one year for herbaceous cover.)
- B. Add-on:* Baseline landscape water requirement may utilize the formula developed for the ASLA Sustainable Sites Initiative 2009, which is adapted from the EPA WaterSense Water Budget Too.
- C. Annotation:* This item meets the standards of the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines, 2011 Green Requirements for Single Family CHOICE Projects, and Balanced Housing/Home Express Projects.

- 3.3 **Install irrigation controllers** that are EPA WaterSense certified.
- 3.4 **Install rainfall shutoff devices** on irrigation controllers.
- 3.5 **Install drip landscape irrigation** in lieu of spray systems or install soil water sensors to conserve irrigation water use.
- 3.6 Provide a **list of native and well-adapted species** to be used in landscaping (to eliminate the need for over-watering) and include details regarding the use of water efficient landscaping.
- 3.7 **Shade planted areas** with existing mature trees or planting shade trees to reduce surface evaporation on irrigated landscapes.

**Goal 5: Excellence in Stormwater Management**

**Reduce the rate of stormwater runoff and combined sewer overflow events.**

**1.0 Stormwater Management Planning & Verification**

- 1.1 Design stormwater management systems **to decrease the stormwater runoff rate and quantity** by a certain percentage beyond that which is required by the Jersey City Stormwater Control Ordinance.

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- A. *Annotation:* If creating JCG Certification program, scale point awards based upon percentage of decrease in rate and quantity of stormwater.
- 1.2 *In accordance with the LEED Regional Priority Credits applicable to Jersey City,* meet the requirements of **LEED-NC Sustainable Sites Credit 6.2, compliance option 1** by: implementing a SMP that results in a 25% decrease in the volume of stormwater runoff from the two-year 24-hour design storm on sites with existing imperviousness greater than 50% or, on sites with existing imperviousness of 50% or less, either (a) prevents the post development peak discharge rate and quantity from exceeding the predevelopment peak discharge rate and quantity for the 1- and 2-year 24- hour design storms, or (b) protects receiving stream channels from excessive erosion.
- 1.3 **Individually meter** each potable and reclaimed source of water, and each onsite non-potable water source, in accordance with the metering requirement of the International Green Construction Code (IgCC).
- 1.4 For projects which do not meet the definition of “major development” in the NJ Stormwater Management rules (NJAC 7:8), meet the **Stormwater Management requirements for Major Development** pursuant to the Jersey City Stormwater Management Ordinance.
- 2.0 **Green Infrastructure**
  - 2.1 **Restore natural drainage systems.**
  - 2.2 Employ innovative and progressive stormwater **best management practices** that embrace ecosystem-based, natural and sustainable means of treating stormwater (such as bioswales, raingardens, constructed wetlands, bioretention basins, infiltration trenches, vegetated/weep walls, greywater systems, retention and detention facilities, continuous trenching, and permeable surfaces including parks and other open space).

*Add-on:* Plants used for these purposes should be native and non-invasive.
  - 2.3 Design **public right-of-ways** (excluding the cartway) such that a portion consists of plantings (street trees, planters, rain gardens, curb extensions, etc.).
  - 2.4 Design surface **parking lots** such that a portion consists of impervious planted areas (trees, landscape median, swales, etc).

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- 2.5 Design site **hardscape and structures** (driveways, roads, sidewalks, courtyards, etc.) to include a minimum area of impervious cover.
- 2.6 Install a **green roof** (as defined in Jersey City's Land Development Code) over a minimum percentage of the roof of the buildings.
- 2.7 Install a **green roof** (as defined in Jersey City's Land Development Code) on parking structures.
- 2.8 *In accordance with the LEED Regional Priority Credits applicable to Jersey City*, meet the requirements of **LEED-NC Sustainable Sites Credit 6.2, compliance option 2** by: managing onsite the runoff from the developed site in a manner best replicating natural site hydrology processes using Low Impact Development and green infrastructure.

**3.0 Permeability**

- 3.1 Exceed the minimum required **pervious cover** (including green roof areas).  
*Annotation:* If creating JCG Certification program, scale point awards based upon percentage of pervious area maintained.
- 3.2 Exceed the required **open space** standard.
- 3.3 Construct a portion of **hardscape areas and vehicle circulation areas** with a minimum amount of pervious surfaces using permeable paving materials such as concrete pavers, grass pavers, or porous pavement.
- 3.4 Use porous pavement for sidewalks and trails.

**4.0 On-Site Treatment**

- 4.1 Manage a minimum percentage of stormwater (from average annual rainfall) and building **water discharge** onsite.  
*Annotation:* If creating JCG Certification program, scale point awards based upon percentage of stormwater and building water discharge managed onsite.
- 4.2 **Capture and reuse** stormwater on-site from a certain percentage of the average annual rainfall.
- 4.3 Exceed the required removal of **total suspended solids** (as specified by Jersey City's stormwater ordinance) by treating stormwater on-site.
- 4.4 *In accordance with the LEED Regional Priority Credits applicable to Jersey City*, meet the requirements of **LEED-NC Water Efficiency Credit**

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- 2, **Innovative Wastewater Technologies**, compliance option 2 by: treating 50% of wastewater on-site to tertiary standards. Treated water must be infiltrated or used on-site.
- 4.5 *In accordance with the LEED Regional Priority Credits applicable to Jersey City*, meet the requirements of **LEED-ND Green Infrastructure & Buildings Credit 8, Stormwater Management** by: implementing a comprehensive SMP that retains on-site, through infiltration, evapotranspiration, and/or reuse, specified rainfall volumes based on the project's development footprint, any other areas that have been graded so as to be effectively impervious, and any pollution generating pervious surfaces, such as landscaping, that will receive treatments of fertilizers or pesticides.

**Goal 6: Excellence in Construction Waste Management**

**Reduce the rate of consumption of construction materials and the generation of construction waste.**

**1.0 Waste Management Planning & Verification**

- 1.1 Submit a **Waste Management Plan (WMP)** indicating, at a minimum, the estimated volume and weight of demolition, deconstruction, and construction debris (including concrete, asphalt, and land clearing waste) by material type: to be generated on the project site, to be diverted, and to be landfilled.
- 1.2 **Divert a minimum percentage** of all nonhazardous demolition, deconstruction, and construction debris (including concrete, asphalt, and land clearing waste) generated by the project from the landfill through efficient usage, recycling, reuse, manufacturer's reclamation, or salvage for future use, donation, or sale. Calculations may be based on weight or volume but must be consistent throughout.

*Add-on:* Provide a letter from each receiving facility verifying compliance with the WMP.

*Annotation:* If creating JC Green certification program, scale point awards based upon percentage of material diverted.

*Annotation:* This item meets the standards of the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines, 2011 Green Requirements for Single Family

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CHOICE Projects, and Balanced Housing/Home Express Projects.

*Reference Example:* LEED-NC 2009 (MR Credit 1.1) and ASLA Sustainable Sites Initiative 2009 (Credit 7.4) require at least 50% of materials be recycled or salvaged.

- 1.3 Deconstruct existing structures** in lieu of demolition.

*Annotation:* If creating JC Green certification program, scale point awards in increments based upon the square feet of floor area deconstructed.

- 1.4 Make available reusable materials** to local non-profit building supply companies or other community groups where they can be used to build or improve housing stock.

**Goal 7: Excellence in Building & Site Reuse**

**Encourage the reuse of previously developed sites and structures.**

**1.0 Existing Structures**

- 1.1 Maintain** a certain percentage of the existing **primary building structures(s)** and exterior shell in remodel and addition projects.

*Annotation:* If creating JC Green certification program, scale point awards in increments based upon the square feet of floor area reused.

*Reference Example:* ASLA Sustainable Sites 2009 (Credit 5.2) requires at least 55% of existing building, hardscape, and landscape amenities to be retained.

- 1.2 Adaptively reuse accessory structure(s)** within the project site.

*Annotation:* If creating JC Green certification program, scale point awards in increments based upon the number of structures adaptively reused.

- 1.3** *In accordance with the LEED Regional Priority Credits applicable to Jersey City,* meet the requirements of **LEED-NC Materials & Resources Credit 1.1, Building Reuse—Maintain Existing Walls, Floors, and Roof** by: maintaining at least 75% of the existing building structure (including structural floor and roof decking) and envelope (the exterior

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skin and framing, excluding window assemblies and non-structural roofing material). Hazardous materials that are remediated as a part of the project must be excluded from the calculation of the percentage maintained.

- 1.4 Maintain** a certain percentage of the **existing hardscape and landscape amenities**.

*Reference Example:* ASLA Sustainable Sites 2009 (Credit 5.2) requires at least 55% of existing building, hardscape, and landscape amenities to be retained.

*Reference Example:* Green Globes requires at least 50% of the surface area of existing structure (other than shell) to be reused.

**2.0 Brownfield Sites**

- 2.1 Remediate and redevelop** a brownfield site on the New Jersey Known Contaminated Sites List or in a designated Brownfields Development Area (BDA).

*Add-on:* Perform engineering controls and/or remediation in addition to only intuitional controls (such as deed restrictions).

- 2.2** *In accordance with the LEED Regional Priority Credits applicable to Jersey City*, meet the requirements of **LEED-ND Smart Location & Linkage Credit 2, Brownfields Redevelopment option 1** by: locating the project on a site, part or all of which is documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program), or on a site defined as a brownfield by a local, state, or federal government agency; and remediating site contamination such that the controlling public authority approves the protective measures and/or cleanup as effective, safe, and appropriate for the future use of the site.
- 2.3** *In accordance with the LEED Regional Priority Credits applicable to Jersey City*, meet the requirements of **LEED-ND Smart Location & Linkage Credit 2, Brownfields Redevelopment option 2** by: achieving the requirements in option 1 (above) *and* locating the project in a high-priority redevelopment area.
- 2.4** Perform **cleanup at a cost that exceeds** a specified percentage of total construction costs.



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*Annotation:* If creating JC Green certification program, scale point awards based upon the amount spent to remediate the site.

**Goal 8: Excellence in Mixed-Use Development**

***Encourage a mix of uses and housing types when appropriate.***

**1.0 Non-Residential Development**

- 1.1** *In accordance with the LEED Regional Priority Credits applicable to Jersey City, meet the requirements of LEED-ND Smart Location & Linkage Credit 5, Housing and Jobs Proximity option 3 by:* including a non-residential component equaling at least 30% of the project's total building square footage (exclusive of parking structures), and locate on an infill site whose geographic center (or boundary, if the project exceeds 500 acres) is within a ½-mile walk distance of an existing rail transit, ferry, or tram stop and within a ½-mile walk distance of existing dwelling units whose number is equal to or greater than 50% of the number of new FTE jobs created as part of the project.

**2.0 Housing Proximity to Jobs**

- 2.1** Locate project within a certain **distance (miles) to services and employment centers.**
- 2.2** *In accordance with the LEED Regional Priority Credits applicable to Jersey City, meet the requirements of LEED-ND Smart Location & Linkage Credit 5, Housing and Jobs Proximity option 2 by:* including a residential component equaling at least 30% of the project's total building square footage (exclusive of parking structures), and locate and/or design the project such that the geographic center (or boundary if, the project exceeds 500 acres) is within a ½-mile walk distance of existing FTE jobs whose number is equal to or greater than the number of dwelling units in the project.

**3.0 Mix of Uses**

- 3.1** **Include a residential component** and ensure that no more than a minimum percentage of total interior square footage within the project site constitutes a single use type.
- 3.2** Provide for **more than one housing unit type** (such as apartments, townhomes, and single family residences) within the project site.

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- 3.3 *In accordance with the LEED Regional Priority Credits applicable to Jersey City, meet the requirements of **LEED-ND Neighborhood Pattern & Design Credit 4, Mixed-Income Diverse Communities option 1** by: including a mix of housing types within the project site such that the total variety of planned and existing housing within a ¼-mile radius of the project's geographic center achieves a score greater than 0.5 on the Simpson Diversity index.*
- 3.4 **Locate mixed-use** developments which include residential and nonresidential uses **within a ¼ mile of a public transit stop.**

*Add-on:* Transit shall be defined as the PATH Train, Hudson-Bergen Light Rail, NY Waterway Ferry, or 2 or more bus stops.

**Goal 9: Excellence in Access to Amenities**

**Encourage access to on-site and off-site community amenities.**

**1.0 Proximity to Existing Amenities**

- 1.1 Locate project within ¼ mile of one or more existing or planned **community amenities** (such as publicly accessible community-based open space, community center, library, school, house of worship, community garden, etc.).
- 1.2 Provide a list showing (from final plans) the **walk distances to neighborhood centers and community amenities** (such as publicly accessible community-based open space, community center, library, school, house of worship, community garden, etc.) within a ½ mile of the outer boundary

**2.0 Provision of Open Space (passive and active / recreational)**

- 2.1 Provide a minimum area (square feet) per dwelling unit of **usable passive open space** (such as lawn area, ground-floor plazas, usable green roofs, and courtyards) within the project site.

*Add-on:* That is publicly accessible and maintained for the benefit of the entire community.

*Add-on:* Parking and loading areas, driveways, and services areas do not count as usable open space (except where below-grade or substantially below-grade parking structures with green roofs are made accessible as open space).

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*Annotation:* If creating JC Green certification program, scale point awards based upon the amount of passive open space provided.

- 2.2 Provide a minimum area (square feet) per dwelling unit **of active recreational areas** (such as swimming pools, ball fields, playgrounds, tennis courts, exercise trails) within the project site.. Chosen physical activity features should be appropriate for the population anticipated for the development (i.e. senior, families, etc.).

*Add-on:* That is publicly accessible and maintained for the benefit of the entire community.

*Annotation:* If creating JC Green certification program, scale point awards based upon the amount of active open space provided.

- 2.3 Include in a minimum percentage of usable public open space area: **landscaping enhancements and user amenities**, such as fountains, decorative seasonal plantings, decorative paving, art installations (sculptures, murals, etc.), seating, amphitheater, and barbecue grills. Such enhancements may not include trees, shrubbery, or physical activity features.
- 2.4 Provide a **sidewalk or greenway connection** between residential development and public open space.

## **Goal 10: Excellence in Equitability**

### **Encourage healthy and equitable neighborhoods.**

#### **1.0 Neighborhood Services**

- 1.1 Provide a **supermarket** within ½-mile walk of residential development. Residential development may be existing or part of the project site.
- 1.2 Locate residential projects within a **½-mile walk of one or more existing neighborhood resources** (such as a school, post office, community center, library, public park/trail, fitness center, daycare center, community garden, supermarket, convenience store, pharmacy, or dry cleaners).

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- 1.3 Provide **four or more neighborhood resources** within ½-mile walk of residential development. Residential development may be existing or part of the project site.

2.0 **Community Infrastructure / Shared Facilities**

- 2.1 Include facilities (public or private) that will **be available to community members and organizations**. (Such facilities may include community rooms, outdoor spaces for farmers markets, etc.)

*Annotation:* If creating JC Green certification program, scale point awards based upon the amount of space provided that will be available to community members.

- 2.2 Partner with local organizations to establish **facilities or infrastructure for sharing** (such as tool-lending libraries, seed exchanges, co-ops, and community kitchens).

*Annotation:* If creating JC Green certification program, scale point awards based upon the amount of infrastructure provided for sharing.

- 2.3 Make streets, sidewalks, and public spaces available for public use and **not physically enclosed**.

3.0 **Urban Agriculture / Community Gardens**

- 3.1 Provide **edible landscaping** (such as fruit trees) within the project site.

*Annotation:* If creating JC Green certification program, scale point awards based upon the square footage of edible landscaping provided.

- 3.2 Provide a minimum amount (square feet) per dwelling unit of on-site **agricultural space**.

*Add-on:* Also provide the necessary support structures and infrastructure for a successful community garden, including but not limited to solar access, watering system, storage space and initial planting bed supplies (raised beds, soil).

*Annotation:* If creating JC Green certification program, scale point awards based upon the amount of garden space provided.

*Annotation:* This item is consistent with Jersey City's urban agriculture provisions of the Land Development Ordinance, which permit the incorporation of community gardens, rooftop

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gardens, raised planters, green roofs, and/or commercial agriculture into project in specified zones.

*Reference Example:* LEED-ND (NPD Credit 13) requires minimum garden space based on neighborhood density beginning with 200 square feet of garden space per unit where the project density is 7 to 14 dwelling units an acre; projects with density greater than 60 dwelling units per acre must provide 60 square feet per unit.

- 3.3 Provide a list showing (from final plans) the **availability of land, rooftops, and other spaces to grow food** within the project site, as well as a list of existing farmers' markets within ½-mile of the project site.

**4.0 Community Involvement**

- 4.1 Meet and maintain **communication with community groups**, including one or more public meetings, as identified by the JCRA, from the conceptual design phase through construction.

**5.0 Urban Forestry**

- 5.1 Provide **hardscape shading** (including sidewalks) by preserving existing mature trees onsite or planting shade trees in order to reduce surface evaporation on irrigated landscapes.

*Reference Example:* LEED NC 2009 (SS Credit 7.1 Heat Island Effect – Nonroof) requires minimum 50% shading of site hardscape or otherwise reduce the heat island effect.

*Reference Example* ASLA Sustainable Sites Program 2009 (Prerequisite 4.12) requires minimum 30% of site hardscape to be shaded or otherwise reduce the heat island effect.

**Goal 11: Excellence in Mobility**

**Improve mobility and the use of alternative forms of transportation, including mass transit.**

**1.0 Location / Proximity to Transit**

- 1.1 Locate project within a ½-mile walk of an existing or planned transit stop.

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*Add-on:* Transit shall be defined as the PATH Train, Hudson-Bergen Light Rail, NY Waterway Ferry, or 2 or more bus stops.

*Annotation:* If creating JC Green certification program, scale point awards based upon the proximity to transit.

If creating JC Green, scale points at a higher level for projects near existing transit stops.

- 1.2 For projects located within a ½-mile walk of an existing or planned transit stop, construct **units at or above the average residential density or FAR permitted** by the redevelopment plan on that property. (For example where the site's permitted residential density is between 4 and 8 dwelling units per acre, the site must contain 6 or more units per acre to meet this standard).

*Annotation:* If creating JC Green certification program, scale point awards based upon the density provided within the specified proximity to transit.

**2.0 Transit Facilities**

- 2.1 *In accordance with the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines and 2011 Green Requirements for Single Family CHOICE Projects: Provide safe shelters for commuters.*

- 2.2 For transit stops within the project site, provide a specified number of **pedestrian features** (such as protective shelter with seating, distinguishable architecture, bulletin boards and/or signage with transit schedules and route / service-area map of the transit system).

**3.0 Bike Racks and Facilities**

- 3.1 For residential buildings, provide **covered bicycle storage facilities** for a percentage of dwelling units and within a specified distance (yards) of building entrance.

*Annotation:* This item meets the standards of the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines and 2011 Green Requirements for Single Family CHOICE Projects.

*Reference Example:* LEED-NC 2012 (SS Credit 4.2) requires bicycle facilities for 15% of building occupants.

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*Reference Example:* Green Globes NC requires safe, covered storage areas with fixed mountings.

- 3.2 For non-residential buildings, provide **bicycle-securing areas / racks and shower/changing facilities** for a percentage of building users and within a specified distance (yards) of building entrance.

*Reference Example:* LEED-NC 2012 (SS Credit 4.2) requires bicycle facilities within 200 yards of a building entrance for a minimum of 5% of building users.

*Reference Example:* Green Globes NC requires safe, covered storage areas with fixed mountings to secure bicycles and changing facilities.

- 3.3 Exceed the minimum required number of **bicycle-securing areas / racks**.

*Annotation:* If creating JC Green certification program, scale point awards based upon the percentage provided over the required amount.

- 3.4 Provide on-site space for a **bike sharing** program.

**4.0 Bicycle & Pedestrian Paths / Lanes / Sidewalks**

- 4.1 **Prioritize pedestrian and bicyclist** movement in any project street system design.

- 4.2 Provide bicycle and pedestrian **through-access** where blocks exceed a specified width.

- 4.3 Provide public access to all sidewalks and bike lanes through a **prohibition on gates**. Exceptions may be provided for health, education or other facilities with enhanced security needs.

- 4.4 Provide **continuous sidewalks** with a minimum width as specified in the Jersey City Code, Jersey City Circulation Plan or Redevelopment Plan, as applicable.

*Annotation:* This item meets the standards of the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines and 2011 Green Requirements for Single Family CHOICE Projects.

- 4.5 Provide **bike lanes and paths** as specified in the Jersey City Code, Jersey City Circulation Plan or Redevelopment Plan, as applicable.

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*Annotation:* This item meets the standards of the New Jersey Housing and Mortgage Finance Agency's Green Future Guidelines and 2011 Green Requirements for Single Family CHOICE Projects.

**5.0 Vehicle Parking**

- 5.1 Do not exceed minimum vehicle parking** requirements.
- 5.2** Locate off-street vehicle **parking to the side or rear** of the principal structure(s) and no closer to the street than the leading edge of these structure(s).

**6.0 Car Sharing**

- 6.1** Provide parking spaces for an **on-site car-share program** or locate development near an established car-share program to which residents would have access.
- 6.2** Submit a **parking plan and traffic impact statement** that includes information regarding:
  - A.** Car-share programs (their availability to the development, neighborhood and to the community and whether adequate numbers of vehicles are available to the community).
  - B.** Evidence that transportation alternatives will be offered and affirmatively promoted in the development's marketing strategy.

**7.0 Pedestrian Orientation of Buildings**

- 7.1 Entrances and Front Façades**
  - A.** Provide **well-defined and functional building entries** for each elevation facing a public space, including public right-of-way.
  - B.** Provide first floor **commercial space with direct access** to the public right-of-way or other public space.
  - C.** Locate front façades so that a significant percentage of that **façade is within a maximum specified distance (feet) of the property line.**
- 7.2 Windows**



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- A. For an exclusively residential structure, provide enough **windows, evenly placed, along the primary façade** of a building to cover a minimum percentage of the wall surface.
- B. For buildings with first floor commercial space, design the ground floor so that a minimum percentage of the length of the first floor primary façade incorporates **pedestrian scale windows, doors, and other openings**, and, above the ground floor, provide enough windows, evenly placed, along the primary façade to cover a minimum percentage of the wall surface.
- C. Ensure that all **storefront windows are transparent** or only lightly tinted and do not appear false or applied.

**8.o Street Design**

- 8.1 *Consistent with the City's "Complete Streets" resolution, Circulation Master Plan, and Redevelopment Plan, as applicable:* Design all site-level streets (for example, internal roadway network servicing a larger-scale development) to accommodate travel by pedestrians, bicyclists, public transit, and motorized vehicles.
- 8.2 *In accordance with the LEED Regional Priority Credits applicable to Jersey City,* meet the requirements of **LEED-ND Neighborhood Pattern & Design Credit 6, Street Network** by: designing and/ or locating the project such that a through-street and/or nonmotorized right-of-way intersects or terminates at the project boundary at least every 400 feet or at existing abutting street intervals and intersections, whichever is the shorter distance; and locate and/or design the project such that its internal connectivity and/or the connectivity within a ¼-mile distance of the project boundary includes more than 300 street intersections per square mile.
- 8.3 *In accordance with the LEED Regional Priority Credits applicable to Jersey City,* meet the requirements of **LEED-ND Neighborhood Pattern & Design Credit 8, Transportation Demand Management** by doing at least two of the following:
  - A. Create and implement a comprehensive transportation demand management (TDM) program.

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- B. Provide transit passes to each occupant locating within the project during the first three years of project occupancy (or longer).
- C. Provide year-round, developer-sponsored private transit service (with vans, shuttles, buses) from at least one central point in the project to other major transit facilities, and/or other destinations.
- D. Locate the project such that 50% of the dwelling units and nonresidential building entrances are within a ¼-mile walk distance of at least one vehicle in a vehicle-sharing program.
- E. For 90% of multiunit residential units and/or nonresidential square footage, sell or rent the associated parking spaces separately from the dwelling units and/or nonresidential square footage (i.e., unbundle parking).
- F. *Annotation:* If creating JC Green certification program, scale point awards for each two of the above standards met.

**Applicability of Sustainable Development Strategies to the Redevelopment Areas**

As discussed in the *Analysis of Redevelopment Areas*, the 48 redevelopment areas which were analyzed have been categorized based on their shared characteristics related to configuration, scale and land use type. The applicability of the *Sustainable Development Strategies* is identified for each redevelopment area category to ensure that the sustainable development strategies reflect the opportunities and constraints of each redevelopment area.

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
<b>Goal. 1. Ensure that strategies are sensitive to the context of the City’s redevelopment areas, including but not limited to, affordable housing components, historic fabric, neighborhood character and density</b>								
Complete a Context Sensitivity Assessment (CSA).								
Complement existing architecture in the surrounding area.								
Incorporate local art into outdoor areas.								
Protect existing environmental characteristics.								
Create indoor/outdoor transitions for outdoor living.								
Incorporate native and adaptive plantings.								
Incorporate only native or adaptive trees.								
Exclude invasive species from exterior planting areas.								
Meet LEED-NC Sustainable Sites, Credit 5.1, Site Development—Protect or Restore Habitat by: limiting site disturbance beyond proposed improvements.								
Build project to a residential density and/or non-residential intensity beyond the minimum required in the redevelopment plan, where applicable.								
Maintain all existing historic sites and structures.								
Restore/rehabilitate one or more historic buildings.								
Meet historic design standards.								
Consult with Jersey City’s Historic Preservation Commission.								
Provide the required percentage of affordable housing as set forth in the redevelopment plan.								
Submit a specific plan to preserve long-term affordability of units for at least 30 years.								

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
Locate inclusionary housing within a ½ mile of transit.								
<b><u>Goal 2. Increase energy efficiency of buildings</u></b>								
Design new residential buildings of 4 or fewer stories (above grade) to exceed the minimum/baseline energy efficiency requirements of the State energy code by a certain percent.								
Design new construction or renovation of residential and commercial buildings of 5 or more stories (above grade) to exceed the minimum/baseline energy efficiency requirements of the State energy code.								
Submit documentation to the JCRA indicating measures to be implemented in the proposed development that relate to the goal of increasing building energy efficiency.								
Install at least a minimum number of EPA EnergyStar products.								
Design new construction or renovation of residential and commercial buildings of 4 or more stories (above grade) to meet the requirements of IgCC Section 603 (Energy Metering Monitoring, and Reporting).								
Install and use building dashboard systems to track, compare, and incentivize occupant behavior change.								
Install energy management systems that can be automatically accessed for demand response calls with the local utility.								
Have the project architect or engineer monitor building energy performance and assist staff in optimizing building energy use during the first year.								
Meet the requirements of IgCC Section 611 (Energy Systems Commissioning and Completion).								
Engage a commissioning authority.								
Submit preliminary and final commissioning reports.								
Meet the requirements of IgCC Section 611.3.5 (Post-Occupancy Recommissioning).								
Offer and/or encourage participation in training programs in the region on energy management systems.								

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
<b>Goal 3. Increase the use of renewable energy</b>								
Incorporate measures that support future installation of renewable energy facilities.								
Provide a certain percentage reduction in anticipated annual energy consumption through site and building design features.								
Design the building with passive solar heating elements.								
Shade the south and west sides of building.								
Use intelligent building orientation.								
Enter into a contract for a minimum term for the purchase of power produced from renewable energy sources for a certain percentage of the project's annual energy consumption.								
Develop on-site renewable energy sources sufficient to meet a percent of the anticipated yearly energy demand of all total calculated energy uses for the building or a greater percent of annual estimated hot water energy (by means of solar hot water heating).								
Meet the requirements of LEED-NC Energy and Atmosphere Credit 2, On-site Renewable Energy by: installing sufficient on-site renewable energy systems to account for at least 1% of the building's annual energy cost.								
Design new construction or renovation of residential and commercial buildings of 4 or more stories (above grade) to meet Section 610 (Building Renewable Energy Systems) of the following sections of the 2012 IgCC								
Use a solar thermal domestic hot water system sized to provide a certain percentage of the project's annual domestic hot water load								
For site lighting fixtures: Use solar electric generation for pedestrian scale lighting systems and/or projects.								
<b>Goal 4. Reduce the rate of water consumption</b>								
Reduce building potable water use.								
Meet the requirements of LEED-NC Water Efficiency Credit 2, Innovative Wastewater Technologies, compliance option 1.								

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
Install low flow building equipment and fixtures.								
Provide a list of appliances, fixtures, and construction techniques used that meet the WaterSense Program specifications.								
Install dry fixtures.								
Install an efficient hot water delivery system.								
Install occupant sensors.								
Provide for sub-metering.								
Use rainwater harvesting elements or greywater systems to supply a portion of the water demand.								
Use rainwater harvesting elements (such as collection of stormwater in a cistern that is pumped into a building) for on-site water features.								
Avoid the use of potable water for once-through cooling or single-pass cooling operations.								
Reduce the use of potable water in the landscape.								
Provide (or convert site to) water-efficient landscaping.								
Install irrigation controllers that are EPA WaterSense certified.								
Install rainfall shutoff devices on irrigation controllers.								
Install drip landscape irrigation.								
Provide a list of native and well-adapted species.								
Shade planted areas.								
<u>Goal 5</u> . Reduce stormwater runoff and combined sewer overflow events								
Design stormwater management systems to decrease the stormwater runoff rate and quantity.								

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
Meet the requirements of LEED-NC Sustainable Sites Credit 6.2, compliance option 1.								
Individually meter each potable and reclaimed source of water.								
Meet the Stormwater Management requirements for Major Development.								
Restore natural drainage systems.								
Employ innovative and progressive stormwater best management practices.								
Design public right-of-ways (excluding the cartway) such that a portion consists of plantings.								
Design surface parking lots such that a portion consists of impervious planted areas.								
Design site hardscape and structures (driveways, roads, sidewalks, courtyards, etc.) to include a minimum area of impervious cover.								
Install a green roof (as defined in Jersey City’s Land Development Code) over a minimum percentage of the roof of the buildings.								
Install a green roof (as defined in Jersey City’s Land Development Code) on parking structures.								
Meet the requirements of LEED-NC Sustainable Sites Credit 6.2, compliance option 2.								
Exceed the minimum required pervious cover.								
Exceed the required open space standard.								
Construct a portion of hardscape areas and vehicle circulation areas with a minimum amount of pervious surfaces.								
Use porous pavement for sidewalks and trails.								
Manage a minimum percentage of stormwater (from average annual rainfall) and building water discharge onsite.								
Capture and reuse stormwater on-site from a certain percentage of the average annual rainfall.								
Exceed the required removal of total suspended solids.								

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
Meet the requirements of LEED-NC Water Efficiency Credit 2, Innovative Wastewater Technologies, compliance option 2.								
Meet the requirements of LEED-ND Green Infrastructure & Buildings Credit 8, Stormwater Management.								
<b>Goal 6. Reduce the rate of consumption of construction materials and generation of construction waste</b>								
Submit a Waste Management Plan (WMP).								
Divert a minimum percentage of all nonhazardous demolition, deconstruction, and construction debris (including concrete, asphalt, and land clearing waste) generated by the project from the landfill.								
Deconstruct existing structures in lieu of demolition.								
Make available reusable materials to local non-profit building supply companies or other community groups where they can be used to build or improve housing stock.								
<b>Goal 7. Encourage reuse of previously developed sites and structures</b>								
Maintain a certain percentage of the existing primary building structures(s) and exterior shell in remodel and addition projects								
Adaptively reuse accessory structure(s) within the project site								
Meet the requirements of LEED-NC Materials & Resources Credit 1.1, Building Reuse—Maintain Existing Walls, Floors, and Roof								
Maintain a certain percentage of the existing hardscape and landscape amenities.								
Remediate and redevelop a brownfield site on the New Jersey Known Contaminated Sites List or in a designated Brownfields Development Area (BDA)								
Meet the requirements of LEED-ND Smart Location & Linkage Credit 2, Brownfields Redevelopment option								
Meet the requirements of LEED-ND Smart Location & Linkage Credit 2, Brownfields Redevelopment option 2								



SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
Perform cleanup at a cost that exceeds a specified percentage of total construction costs.								
<b><u>Goal 8. Encourage a mix of uses and housing types when appropriate</u></b>								
Meet the requirements of LEED-ND Smart Location & Linkage Credit 5, Housing and Jobs Proximity option 3.								
Locate project within a certain distance (miles) of services and employment centers.								
Meet the requirements of LEED-ND Smart Location & Linkage Credit 5, Housing and Jobs Proximity option 2.								
Include a residential component and ensure that no more than a minimum percentage of total interior square footage within the project site constitutes a single use type								
Provide for more than one housing unit type (such as apartments, townhomes, and single family residences) within the project site.								
Meet the requirements of LEED-ND Neighborhood Pattern & Design Credit 4, Mixed-Income Diverse Communities option 1.								
Locate mixed-use developments which include residential and nonresidential uses within a ¼ mile of a public transit stop.								
<b><u>Goal 9. Encourage access to on-site and off-site community amenities</u></b>								
Locate project within ¼ mile of one or more existing or planned community amenities.								
Provide a list showing (from final plans) the walk distances to neighborhood centers and community amenities.								
Provide a minimum area (square feet) per dwelling unit of usable passive open space.								
Provide a minimum area (square feet) per dwelling unit of active recreational areas.								
Include in a minimum percentage of usable public open space area.								
Provide connection by sidewalk or greenway between residential development and public open space.								

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Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
<b><u>Goal 10.</u> Encourage healthy and equitable neighborhoods</b>								
Provide a supermarket within ½-mile walk of residential development.								
Locate residential projects within a ½-mile walk of one or more existing neighborhood resources.								
Provide four or more neighborhood resources within ½-mile walk of residential development.								
Include facilities (public or private) that will be available to community members and organizations.								
Partner with local organizations to establish facilities or infrastructure for sharing.								
Provide edible landscaping (such as fruit trees) within the project site.								
Provide a minimum amount (square feet) per dwelling unit of on-site agricultural space.								
Provide a list showing the availability of land to grow food within the project site, as well as a list of existing farmers' markets within ½-mile of the project site.								
Meet and maintain communication with community groups.								
Provide hardscape shading.								
<b><u>Goal 11.</u> Improve mobility and the use of alternative forms of transportation, including mass transit</b>								
Locate project within a ½-mile walk of an existing or planned transit stop.								
For projects located within a ½-mile walk of an existing or planned transit stop, construct units at or above the average residential density or FAR permitted.								
Provide safe shelters for commuters.								
For transit stops within the project site, provide a specified number of pedestrian features								
For residential buildings, provide covered bicycle storage facilities.								
For non-residential buildings, provide bicycle-securing areas / racks and shower/changing facilities.								

**SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE**

Redevelopment Area	Redevelopment Area Configuration			Redevelopment Land Use Scale			Redevelopment Land Use Type	
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Exceed the minimum required number of bicycle-securing areas / racks.								
Provide on-site space for a bike sharing program.								
Prioritize pedestrian and cyclist movement in any project street system design.								
Provide bicycle and pedestrian through access where blocks exceed a specified width.								
Provide public access to all sidewalks and bike lanes through a prohibition on gates.								
Provide continuous sidewalks.								
Provide bike lanes and paths.								
Do not exceed minimum vehicle parking requirements.								
Locate off-street vehicle parking to the side or rear of the principal structure(s).								
Provide parking spaces for an on-site car-share program or locate development near an established car-share program.								
Submit a parking plan and traffic impact that provides information on car share programs and transportation alternatives.								
Provide well-defined and functional building entries for each elevation facing a public space.								
Provide first floor commercial space with direct access to the public right-of-way or other public space.								
Locate front façades so that a significant percentage of that façade is within a maximum specified distance (feet) of the property line.								
For an exclusively residential structure, provide enough windows, evenly placed, along the primary façade of a building.								
For buildings with first floor commercial space, design the ground floor so that a minimum percentage of the length of the first floor primary façade incorporates pedestrian scale features.								
Ensure that all storefront windows are transparent or only lightly tinted.								
Design all site-level streets to reflect Complete Streets policy.								

SUSTAINABLE DEVELOPMENT STRATEGIES SUMMARY TABLE

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	Block	Neighborhood	Corridor	Low-rise	Mid-rise	High-rise	Rehabilitation	New Construction
Meet the requirements of LEED-ND Neighborhood Pattern & Design Credit 6, Street Network.								
Meet the requirements of LEED-ND Neighborhood Pattern & Design Credit 8, Transportation Demand Management.								