

# Lighting Codes



**NYC BUILDINGS** NEW YORK CITY DEPARTMENT OF BUILDINGS

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(FORMERLY MODEL CODE PROGRAM)

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- Electrical Code Revisions
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**NEW NYC CONSTRUCTION CODES**  
ELECTRICAL CODE REVISIONS

**Information on the Electrical Code**  
In 2001, New York City with the 1999 National Electrical Code, under the program established 2005 NEC, with New York 2006.

In 2008, the electrical code revision and interpretation and clarification of the Electrical Code, under the program established 2005 NEC, with New York 2006.

Additionally, E.C.R.I.C. interpretations and clarification of the Electrical Code, under the program established 2005 NEC, with New York 2006.

**BIS WEB QUERY**  
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**MANUAL FOR QUALITY, ENERGY EFFICIENT LIGHTING**

Advanced Energy Design Guide for Small Office Buildings

NEW YORK CITY DEPARTMENT OF BUILDINGS



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**The Plan**

Focusing on the five key dimensions of environment — land, air, water, energy, and transportation — we have developed a plan that can become a model for other cities in the world.

**Energy Initiatives**

Click on the initiatives below for more details

- 1: Establish a New York City Energy Planning Board**  
Work with the State and utilities to centralize planning for the city's supply and demand initiatives
- 2: Reduce energy consumption by City government**  
Commit 10% of the City's annual energy bill to fund energy-saving investments in City operations
- 3: Strengthen energy codes in New York City**



**THE IESNA LIGHTING HANDBOOK**

REFERENCE & APPLICATION

ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA

MARK S. REA, Ph.D., FIES, FOSTER, Ph.D., FIES



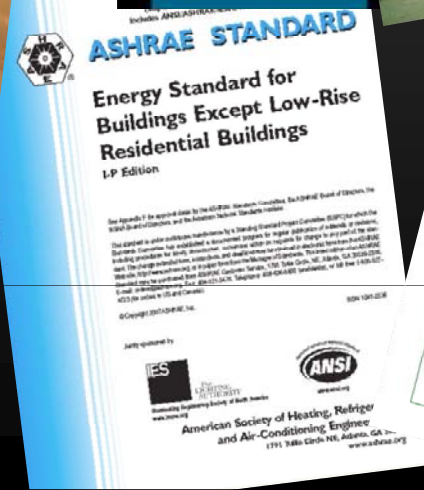
**Office Lighting**

American National Standards Institute



**Energy Conservation Construction Code of New York State**

2007



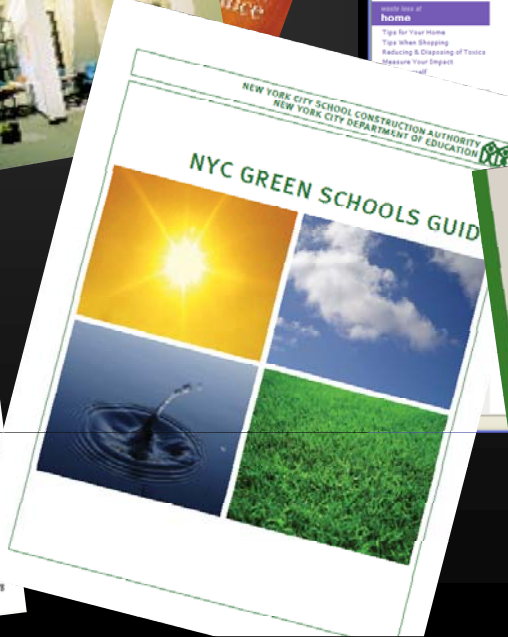
**ASHRAE STANDARD**

**Energy Standard for Buildings Except Low-Rise Residential Buildings**

1-P Edition

Jointly sponsored by IESNA and ASHRAE

American Society of Heating, Refrigeration and Air-Conditioning Engineers



**NYC GREEN SCHOOLS GUIDE**

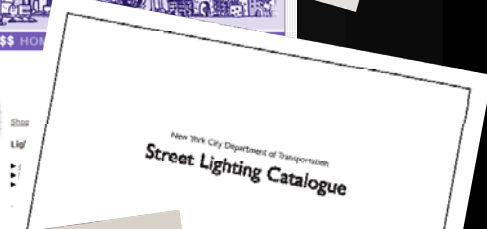
NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY  
NEW YORK CITY DEPARTMENT OF EDUCATION



**Street Design Manual**

New York City Department of Transportation

2009



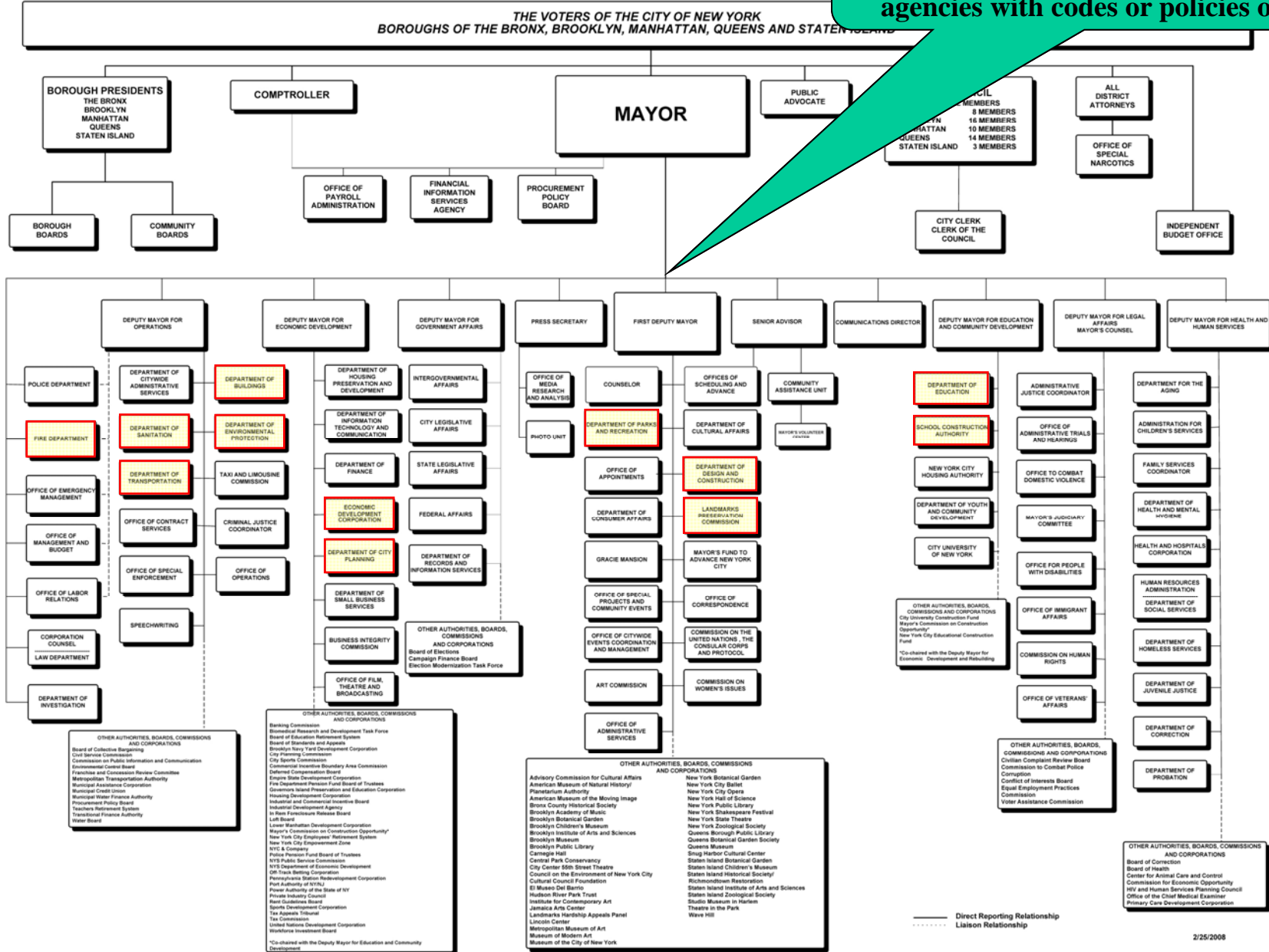
**Street Lighting Catalogue**

New York City Department of Transportation



# NYC Organization Chart

... highlighting city departments and agencies with codes or policies on lighting



# Lighting Codes

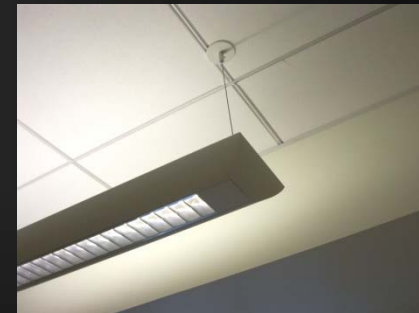
**Codes (aka Rules and Laws) that regulate the use of lighting are found in a variety of Federal, State, and City regulations.....**

- Fixture Construction /Fabrication: **Fire Codes**
- Illuminance (light levels):
  - Emergency Egress: **Fire or Local Building Codes**
  - General Illumination:
    - Interior: **Building Codes** (*very minimal requirements*)
    - Exterior: **Department of Transportation** (*roads and public plazas*)
- Placement or Location on the Wall: **Federal American Disability Act**
- Energy (power) for Lighting: **Energy Codes**

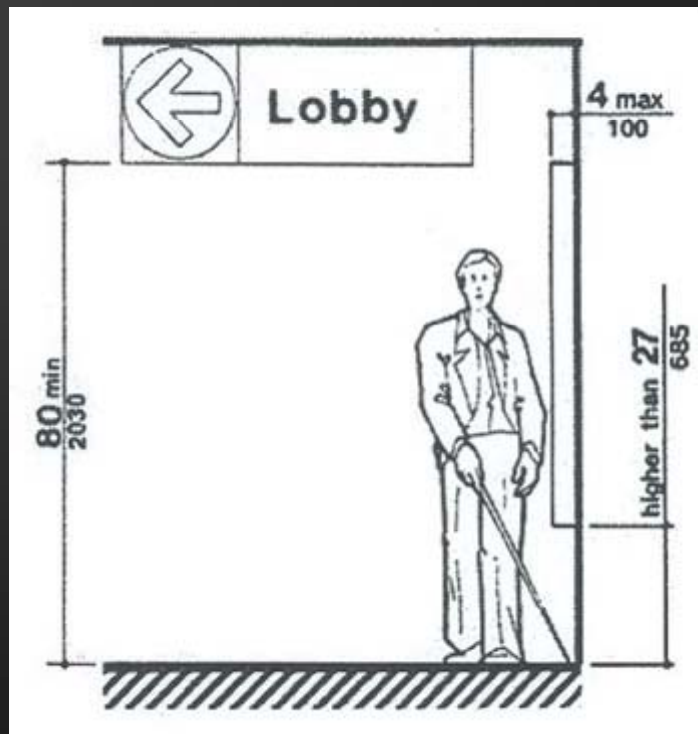
# Emergency Egress Lighting

Area	Average Horizontal	Average Vertical
Road side sidewalk	Footcandles	Footcandles
Commercial area	0.9	2.0
Intermediate area	0.6	1.0
Residential area	0.2	0.5
<b>Distant roadway sidewalk</b>	Footcandles	Footcandles
Walkway/bikeway/stairway	0.5	0.5
Pedestrian tunnels	4.0	5.0

**Source:** Illuminating Engineering Society of North America

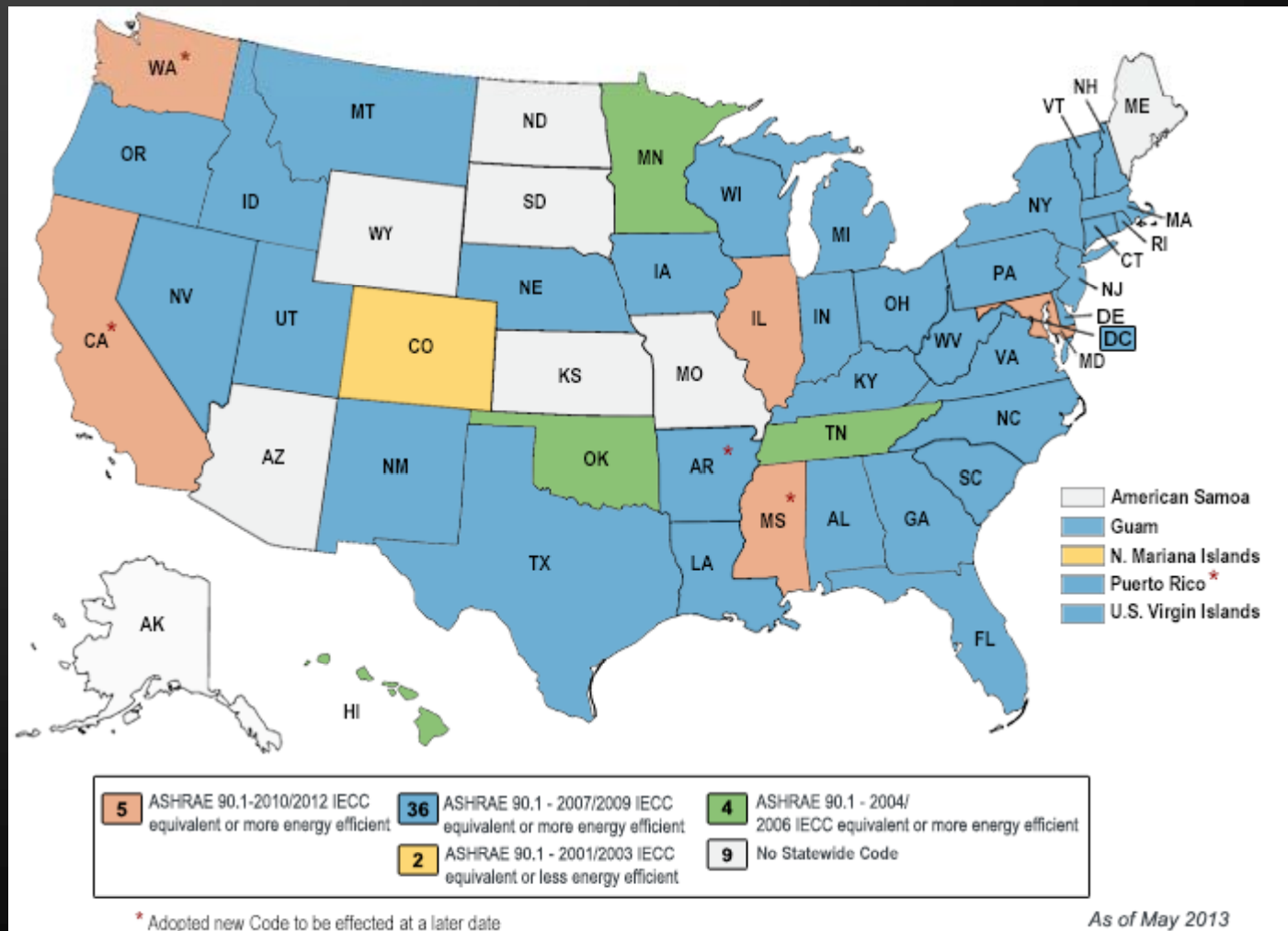


# American Disability Act

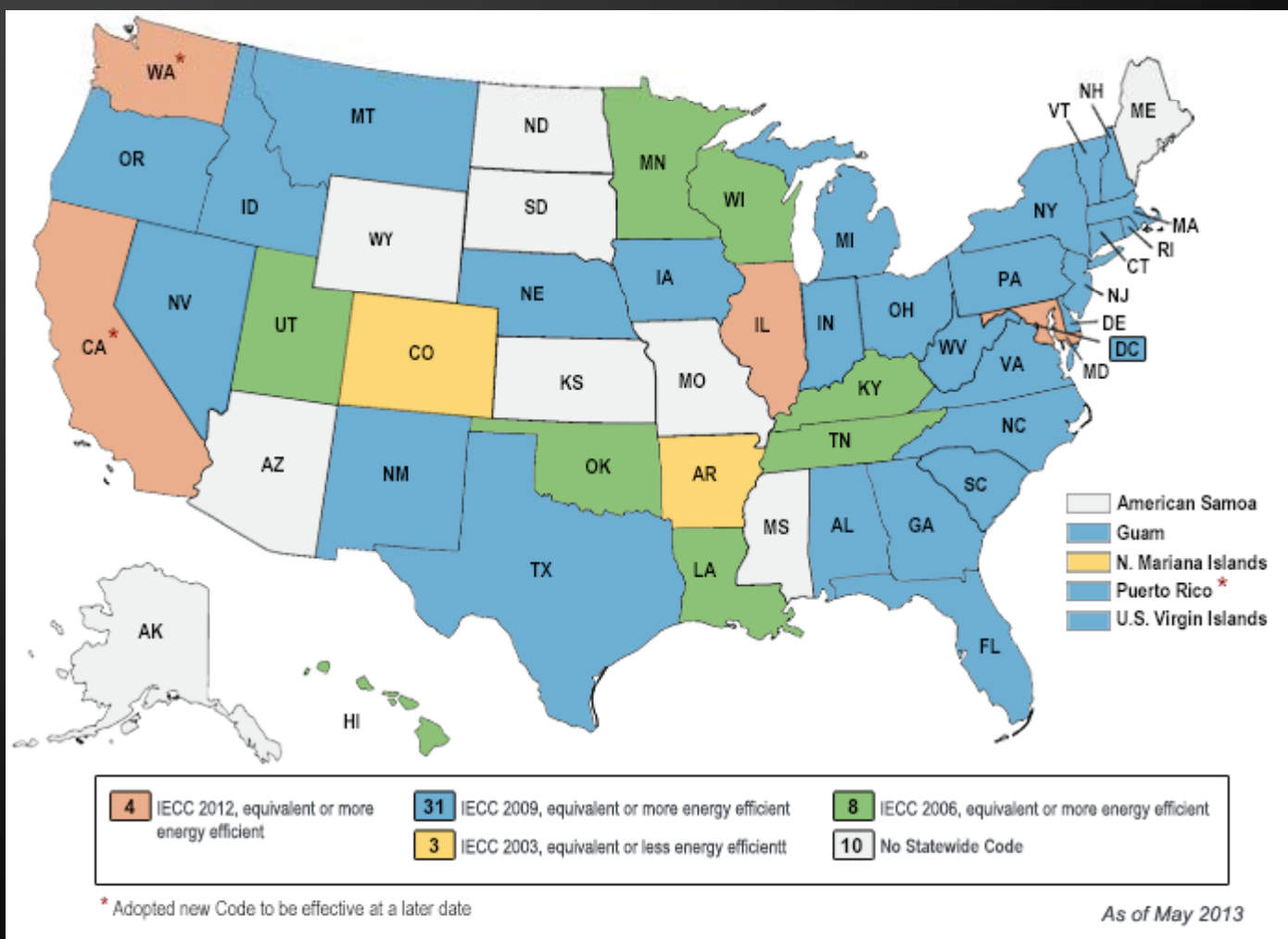


*Maximum 4-inch projection below 80-inches AFF*

# Status of State Energy Code Adoption: Commercial



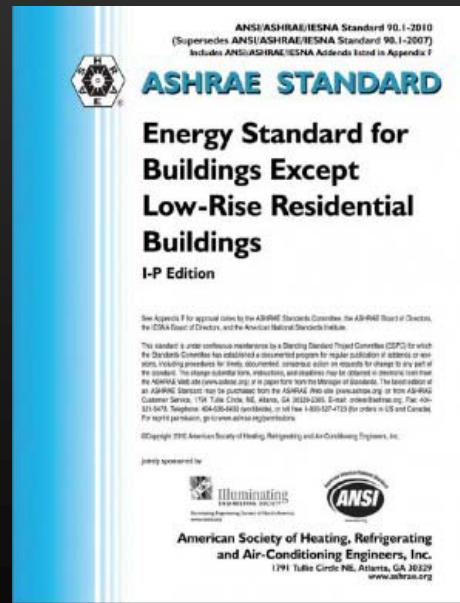
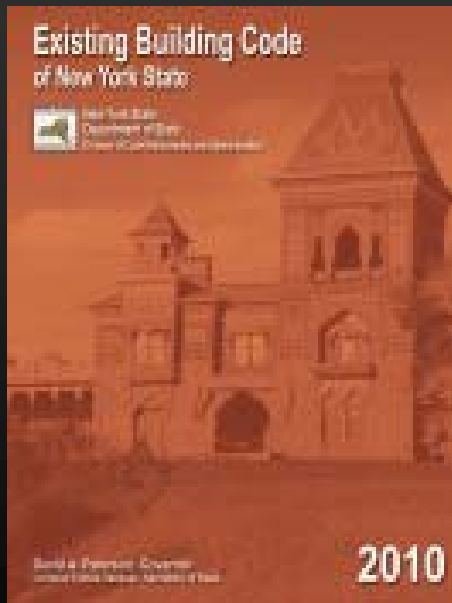
# Status of State Energy Code Adoption: Residential



# Power for Lighting Regulation: NY State/City Energy Codes

**Lighting Power Densities**  
**Maximum Allowable**  
**Lighting Load**  
**Per Square Foot (W/sqft)**

**Lighting Controls**  
**Auto Shut Off**







# Energy Codes and Lighting Guide for New York State and New York City

- Applies to projects filed after Dec 2010

The purpose of this guide is assist designers and owners with an overview of the various Energy Code paths affecting lighting and control requirements.

Not Included in this guide are Fire Code, Life Safety, LEED Incentives, or Building Department compliance documentation requirements. To learn more, visit [Lighting311.org](http://Lighting311.org)



## New York State Energy Conservation Construction Code

- All Buildings and Projects must comply with 2010 Energy Conservation Construction Code of New York State (ECCC-NYS)
- Compliance requirements as stated in code

The International Energy Conservation Code (IECC) is not enforced in New York State. The 2010 ECCC-NYS is based on 2009 IECC with Amendments.

## New York City Energy Conservation Code / Local Law 1 of 2011

- All Buildings and Projects in NYC must comply with 2010 Energy Conservation Construction Code of New York State, with NYC Amendments, Rules, and Local Laws

## NYC Lighting Local Laws, Rules, and Bulletins:

- NYC Local Law 84 of year:** Benchmarking
  - Summary
  - Due Date: May 1, 2011
- NYC Local Law 87 of year:** Audits and Retro-Commissioning
  - Summary
- NYC Local Law 88 of year:** Lighting Upgrades and Sub-metering
  - Summary
- NYC Local Law 89 of year:** Capital Improvements
  - Defines types of NYC projects requiring LEED<sub>em</sub>
- NYC Rule 5000-1:**
  - Defines energy code submission procedure requirements
- NYC Rule 101-07:**
  - Defines qualifications requirements for progress inspectors
- NYC Local Law 48 of 2011:** Occupancy Sensors
  - Amends ECCC-NYS, Chapter 5, and ASHRAE 90.1, Chapter 9 - definitions of sensor, usage, and requirements
- NYC Local Law 47 of 2010:** Egress Lighting
  - Defines egress illumination levels
  - Allows shut-off sensors with provisions
- NYC Local Law 51 of 2011:** Sidewalk Shed Lighting
  - Defines lighting standards in relation to lighting of temporary walkways, foot bridges and sidewalk sheds at construction sites
- NYC Local Law 52 of year:** Apartment Corridor Lighting
  - Summary
- Buildings Bulletin 2010-032:**
  - Clarifies compliance for additions, alterations, renovations, or repairs

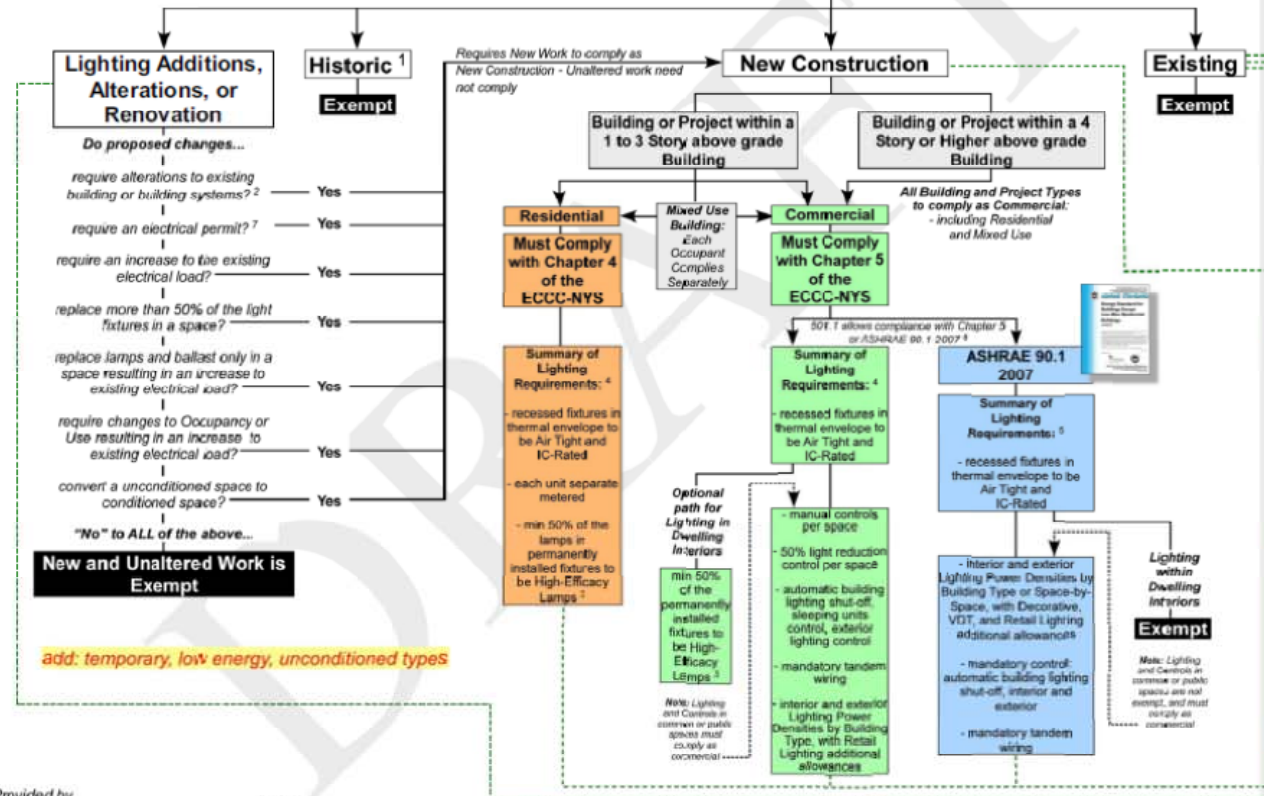
## Reference Books:

Info at [www.iccsafe.org/Store](http://www.iccsafe.org/Store)



Info at [www.ashrae.org](http://www.ashrae.org)

## Select Project Type



<sup>1</sup> In or on a National or State Registered Historic District, or within or adjacent to State Registered Historic District, or determined eligible Historic Building or District in the US State Commissions of Parks, Recreation and Historic Preservation or by the US Secretary of the Interior.  
<sup>2</sup> Building as defined in ECCC-NYS, including associated equipment, utility, electrical, or control systems.  
<sup>3</sup> High-Efficacy lamps are compact fluorescent, T5 or T8 (linear/curved), or CFL with minimum efficacy of 80 lm/W for lamps over 40 watts, 50 lm/W for lamps between 15 and 40 watts, and 40 lm/W for lamps under 15 watts.  
<sup>4</sup> Based on ECCC-NYS, Chapter 5, Sections 505.2.1.1, 505.2.1.2, and 505.2.1.3.  
<sup>5</sup> ECCC-NYS requires additional documentation requirements for lighting systems.  
<sup>6</sup> ECCC-NYS requires additional documentation requirements for lighting systems.  
<sup>7</sup> NYC Building Code requires additional permits for lighting systems.



ANSI/ASHRAE/IESNA Standard 90.1-2010  
 (Supersedes ANSI/ASHRAE/IESNA Standard 90.1-2007)  
 Includes ANSI/ASHRAE/IESNA Addenda listed in Appendix F

## ASHRAE STANDARD

# Energy Standard for Buildings Except Low-Rise Residential Buildings

I-P Edition

See Appendix F for approval codes by the ASHRAE Standards Committee, the ASHRAE Board of Directors, the IESNA Board of Directors, and the American National Standards Institute.

This standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular submission of addenda or new ASHRAE, including procedures for timely, documented, consensus action on requests for change to any part of the standard. This change procedure covers additions, deletions, and amendments that are obtained in America from the ASHRAE Web site ([www.ashrae.org](http://www.ashrae.org)) or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE Web site ([www.ashrae.org](http://www.ashrae.org)) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2401. E-mail: [orders@ashrae.org](mailto:orders@ashrae.org); Fax: 404-351-5678; Telephone: 404-351-4400 (toll-free, or toll-free 1-800-527-4773 for orders in US and Canada). For more information, go to [www.ashrae.org/standards](http://www.ashrae.org/standards).

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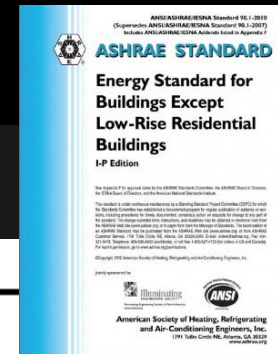
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# ASHREA: Exterior Lighting



**TABLE 9.4.5 Lighting Power Densities for Building Exteriors**

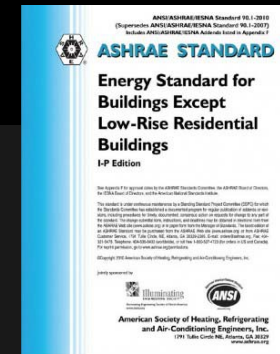
	<b>Uncovered parking areas</b>		
		Parking lots and drives	0.15 W/ft <sup>2</sup>
	<b>Building grounds</b>		
		Walkways less than 10 ft wide	1.0 W/linear foot
		Walkways 10 ft wide or greater	
		Plaza areas	0.2 W/ft <sup>2</sup>
		Special feature areas	
		Stairways	1.0 W/ft <sup>2</sup>
	<b>Tradable Surfaces</b> (LPDs for uncovered parking areas, building grounds, building entrances and exits, canopies and overhangs, and outdoor sales areas may be traded.)		
	<b>Building entrances and exits</b>		
		Main entries	30 W/linear foot of door width
		Other doors	20 W/linear foot of door width
	<b>Canopies and overhangs</b>		
		Canopies (free standing and attached and overhangs)	1.25 W/ft <sup>2</sup>
	<b>Outdoor sales</b>		
		Open areas (including vehicle sales lots)	0.5 W/ft <sup>2</sup>
		Street frontage for vehicle sales lots in addition to "open area" allowance	20 W/linear foot
	<b>Nontradable Surfaces</b> (LPD calculations for the following applications can be used only for the specific application and cannot be traded between surfaces or with other exterior lighting. The following allowances are in addition to any allowance otherwise permitted in the "Tradable Surfaces" section of this table.)		
	<b>Building facades</b>		0.2 W/ft <sup>2</sup> for each illuminated wall or surface or 5.0 W/linear foot for each illuminated wall or surface length
	<b>Automated teller machines and night depositories</b>		270 W per location plus 90 W per additional ATM per location
	<b>Entrances and gatehouse inspection stations at guarded facilities</b>		1.25 W/ft <sup>2</sup> of uncovered area (covered areas are included in the "Canopies and Overhangs" section of "Tradable Surfaces")
	<b>Loading areas for law enforcement, fire, ambulance, and other emergency service vehicles</b>		0.5 W/ft <sup>2</sup> of uncovered area (covered areas are included in the "Canopies and Overhangs" section of "Tradable Surfaces")
	<b>Drive-through windows at fast food restaurants</b>		400 W per drive-through
	<b>Parking near 24-hour retail entrances</b>		800 W per main entry

# ASHREA: Building Method (non-tradable)

Base Lighting Power Density =  
Maximum Allowable Lighting Load  
Per Square Foot (W/sqft)

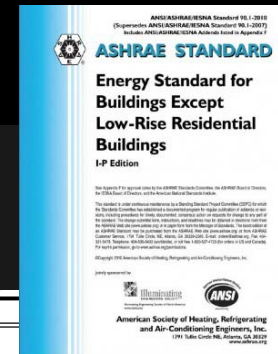
Building Area Type <sup>a</sup>	LPD (W/ft <sup>2</sup> )
Automotive facility	0.9
Convention center	1.2
Courthouse	1.2
Dining: bar lounge/leisure	1.3
Dining: cafeteria/fast food	1.4
Dining: family	1.6
Dormitory	1.0
Exercise center	1.0
Gymnasium	1.1
Health-care clinic	1.0
Hospital	1.2
Hotel	1.0
Library	1.3
Manufacturing facility	1.3
Motel	1.0
Motion picture theater	1.2
Multifamily	0.7
Museum	1.1
Office	1.0
Parking garage	0.3
Penitentiary	1.0
Performing arts theater	1.6
Police/fire station	1.0
Post office	1.1
Religious building	1.3
Retail	1.5
School/university	1.2
Sports arena	1.1
Town hall	1.1
Transportation	1.0
Warehouse	0.8
Workshop	1.4

<sup>a</sup>In cases where both a general building area type and a specific building area type are listed, the specific building area type shall apply.



# ASHREA: Space By Space (tradable)

Base Lighting Power Density =  
Maximum Allowable Lighting Load  
Per Square Foot (W/sqft)



Common Space Types <sup>a</sup>	LPD, W/ft <sup>2</sup>	Building-Specific Space Types	LPD, W/ft <sup>2</sup>
Office—Enclosed	1.1	Gymnasium/Exercise Center	
Office—Open Plan	1.1	Playing Area	1.4
Conference/Meeting/Multipurpose	1.3	Exercise Area	0.9
Classroom/Lecture/Training	1.4	Courthouse/Police Station/Penitentiary	
For Penitentiary	1.3	Courtroom	1.9
Lobby	1.3	Confinement Cells	0.9
For Hotel	1.1	Judges' Chambers	1.3
For Performing Arts Theater	3.3	Fire Stations	
For Motion Picture Theater	1.1	Engine Room	0.8
Audience/Seating Area	0.9	Sleeping Quarters	0.3
For Gymnasium	0.4	Post Office—Sorting Area	1.2
For Exercise Center	0.3	Convention Center—Exhibit Space	1.3
For Convention Center	0.7	Library	
For Penitentiary	0.7	Card File and Cataloging	1.1
For Religious Buildings	1.7	Stacks	1.7
For Sports Arena	0.4	Reading Area	1.2
For Performing Arts Theater	2.6	Hospital	
For Motion Picture Theater	1.2	Emergency	2.7
For Transportation	0.5	Recovery	0.8
Atrium—First Three Floors	0.6	Nurses' Station	1.0
Atrium—Each Additional Floor	0.2	Exam/Treatment	1.5
Lounge/Recreation	1.2	Pharmacy	1.2
For Hospital	0.8	Patient Room	0.7
Dining Area	0.9	Operating Room	2.2
For Penitentiary	1.3	Nursery	0.6
For Hotel	1.3	Medical Supply	1.4
For Motel	1.2	Physical Therapy	0.9
For Bar Lounge/Leisure Dining	1.4	Radiology	0.4
For Family Dining	2.1	Laundry—Washing	0.6
Food Preparation	1.2	Automotive—Service/Repair	0.7
Laboratory	1.4	Manufacturing	
Restrooms	0.9	Low Bay (<25 ft Floor to Ceiling Height)	1.2
Dressing/Locker/Fitting Room	0.6	High Bay (≥25 ft Floor to Ceiling Height)	1.7
Corridor/Transition	0.5	Detailed Manufacturing	2.1
For Hospital	1.0	Equipment Room	1.2
For Manufacturing Facility	0.5	Control Room	0.5
Stairs—Active	0.6	Hotel/Motel Guest Rooms	1.1
Active Storage	0.8	Dormitory—Living Quarters	1.1
For Hospital	0.9	Museum	
Inactive Storage	0.3	General Exhibition	1.0
For Museum	0.8	Restoration	1.7
Electrical/Mechanical	1.5	Bank/Office—Banking Activity Area	1.5

Common Space Types <sup>a</sup>	LPD, W/ft <sup>2</sup>	Building-Specific Space Types	LPD, W/ft <sup>2</sup>
Workshop	1.9	Religious Buildings	
Sales Area [for accent lighting, see Section 9.6.2(b)]	1.7	Worship Pulpit, Choir	2.4
		Fellowship Hall	0.9
		Retail	
		Sales Area [for accent lighting, see Section 9.6.3(c)]	1.7
		Mall Concourse	1.7
		Sports Arena	
		Ring Sports Area	2.7
		Court Sports Area	2.3
		Indoor Playing Field Area	1.4
		Warehouse	
		Fine Material Storage	1.4
		Medium/Bulky Material Storage	0.9
		Parking Garage—Garage Area	0.2
		Transportation	
		Airport—Concourse	0.6
		Air/Train/Bus—Baggage Area	1.0
		Terminal—Ticket Counter	1.5

<sup>a</sup>In cases where both a common space type and a building-specific type are listed, the building specific space type shall apply.

Plus Additional Allowances =  
Decorative Fixtures

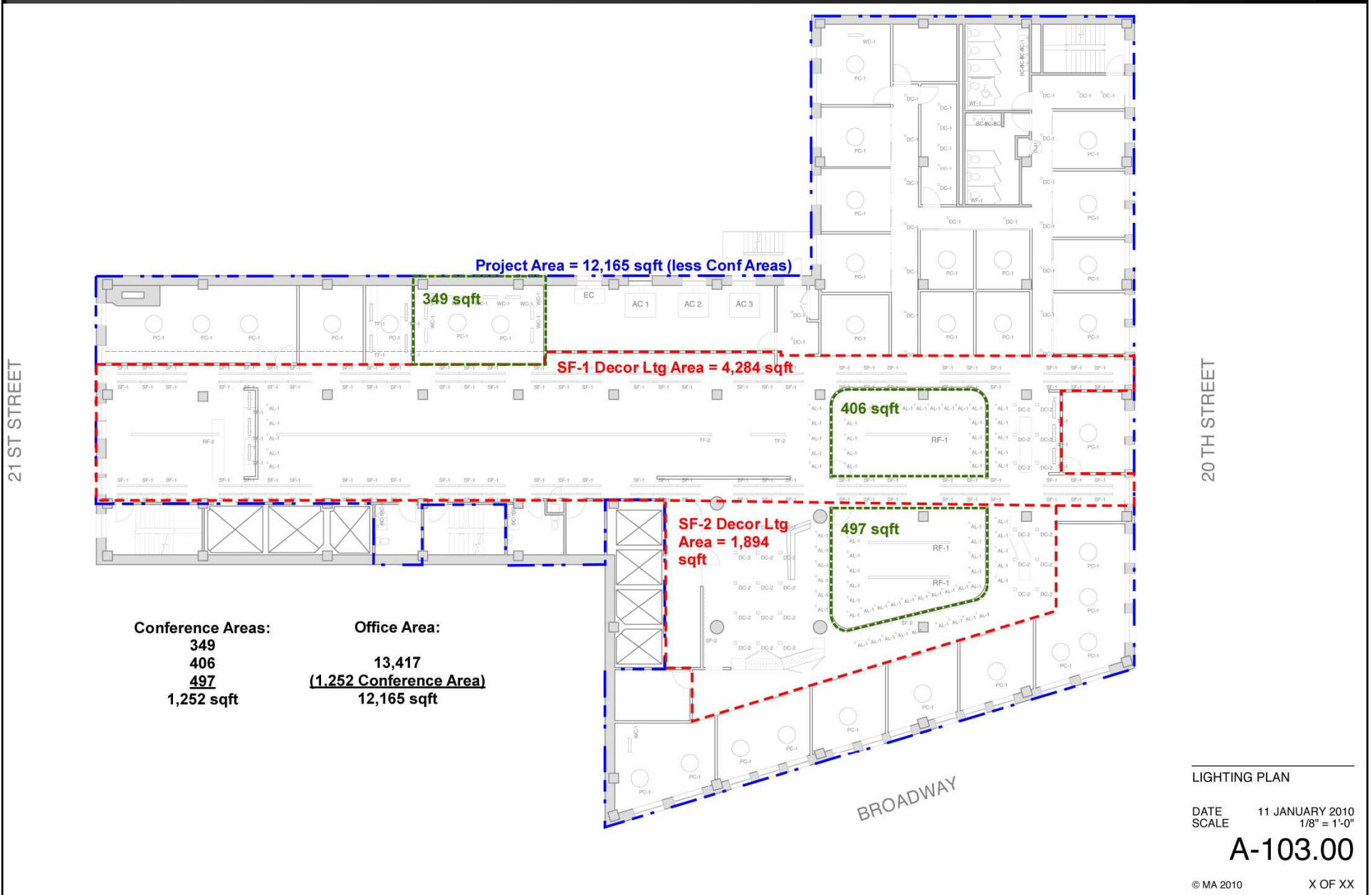
An increase in the *interior lighting power allowance* is permitted in the following cases:

- For spaces in which lighting is specified to be installed in addition to the general lighting for the purpose of decorative appearance, such as chandelier-type luminaries or sconces or for highlighting art or exhibits, provided that the additional lighting power shall not exceed 1.0 W/ft<sup>2</sup> of such spaces.

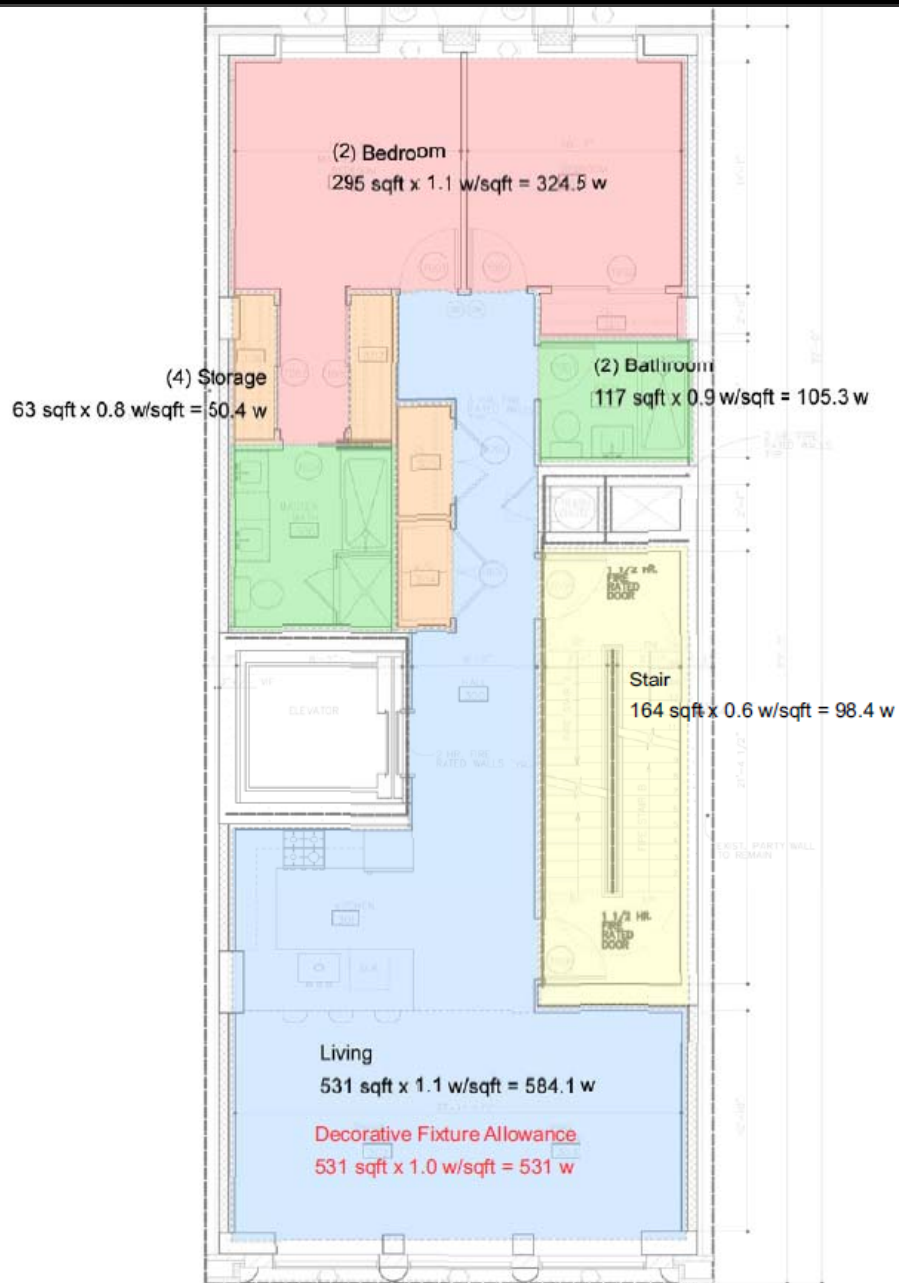
Retail Lighting Load

Products sold in sales area	Classification	Additional Lighting Power Allowance = 1000W + ...
All products not listed below	Retail Sales Area 1	(Floor Area × 1.0W/sq.ft.)
Vehicles, sporting goods, small electronics	Retail Sales Area 2	(Floor Area × 1.7W/sq.ft.)
Furniture, clothing, cosmetics, artwork	Retail Sales Area 3	(Floor Area × 2.6W/sq.ft.)
Jewelry, crystal, china	Retail Sales Area 4	(Floor Area × 4.2W/sq.ft.)

# Space By Space Example



# Space By Space Example



## Space-by-Space Method:

Square Footage = 1170 sqft  
Allowed Load = 1162.7 watts  
 $LPD = (1162.7 \text{ w}) / 1170 \text{ sqft} = 0.99 \text{ w/sqft}$

**Additional Decorative Fixture Allowance\* = 531 watts**

\* Living Area

$LPD = (1162.7 \text{ w} + 531 \text{ watts}) / 1170 \text{ sqft} = 1.45 \text{ w/sqft}$

therefore, we are allowed 1693.7 watts

# Space By Space Example

## 16-16 Whitestone

Quick Lighting Load Energy Summary by Area

<b>Area: First Floor / Public Corridor and Lobby</b>			
<b>Sqft: 495</b>			
Type	Qty	Load (w)	Extended
DC-1	8	36 watts	288 watts
FC-1	20	8 watts per lin ft	160 watts
<b>Proposed Design Load:</b>			<b>448 watts</b>
<b>Proposed Design LPD:</b>			<b>0.9 watts/sqft</b>
<b>ASHRAE Base LPD w/Decorative*:</b>			<b>2.3 watts/sqft</b>
<b>ASHRAE Load Allowance:</b>			<b>1,139 watts</b>
<b>% Delta between Design and ASHRAE:</b>			<b>39.4%</b>

\* Additional Decorative Fixture Allowance 1.0 watt/sqft

<b>Area: First Floor / Egress Stair</b>			
<b>Sqft: 462</b>			
Type	Qty	Load (w)	Extended
BF-2	5	71 watts	355 watts
			1-lamp sensed
<b>Proposed Design Load:</b>			<b>355 watts</b>
<b>Proposed Design LPD:</b>			<b>0.8 watts/sqft</b>
<b>ASHRAE Base LPD:</b>			<b>0.6 watts/sqft</b>
<b>ASHRAE Load Allowance:</b>			<b>277 watts</b>
<b>% Delta between Design and ASHRAE:</b>			<b>128.1%</b>

<b>Area: First Floor / Utility and Storage</b>			
<b>Sqft: 955</b>			
Type	Qty	Load (w)	Extended
CF-2	14	32 watts	448 watts
<b>Proposed Design Load:</b>			<b>448 watts</b>
<b>Proposed Design LPD:</b>			<b>0.5 watts/sqft</b>
<b>ASHRAE Base LPD:</b>			<b>0.8 watts/sqft</b>
<b>ASHRAE Load Allowance:</b>			<b>764 watts</b>
<b>% Delta between Design and ASHRAE:</b>			<b>58.6%</b>



# Space By Space Example

## 16-16 Whitestone

*Quick Lighting Load Energy Summary by Area*

	ASHREA Allowance (Base)	Designed
First Floor / Public Corridor and Lobby	1,139 watts	448 watts
First Floor / Egress Stair	277 watts	355 watts
First Floor / Utility and Storage	764 watts	448 watts
Second Floor / Office Area	10,120 watts	4,480 watts
Second Floor / Public Corridor and Lobby	2,893 watts	1,692 watts
Second Floor / Restrooms	884 watts	552 watts
Second Floor / Egress Stair	239 watts	284 watts
Second Floor / Utility and Storage	106 watts	96 watts
Third Floor / Event Space	14,832 watts	10,077 watts
Third Floor / Public Corridor and Lobby	8,386 watts	4,689 watts
Third Floor / North Office (open, enclosed, and conference)	6,130 watts	3,467 watts
Third Floor / North Office BOH	508 watts	234 watts
Third Floor / Egress Stair	239 watts	284 watts
Third Floor / Restrooms	1,047 watts	660 watts
Third Floor / Utility and Storage	106 watts	96 watts
Fourth Floor / Public Corridor	1,474 watts	592 watts
Fourth Floor / Restrooms	868 watts	588 watts
Fourth Floor / Egress Stair	918 watts	284 watts
Fourth Floor / Utility and Storage	106 watts	96 watts
Fifth Floor / Public Corridor	1,909 watts	844 watts
Fifth Floor / North Office BOH	499 watts	351 watts
Fifth Floor / North Office (open, enclosed, conference)	8,348 watts	3,997 watts
Fifth Floor / Restrooms	868 watts	588 watts
Fifth Floor / Egress Stair	239 watts	284 watts
Fifth Floor / Utility and Storage	106 watts	96 watts
Sixth Floor / Office (open, enclosed, conference)	13,119 watts	10,325 watts
Sixth Floor / Restrooms	868 watts	588 watts
Sixth Floor / Utility and Storage	106 watts	96 watts
Sixth Floor / Egress Stair	239 watts	284 watts

Total: 77,336 watts 46,875 watts

% Under ASHRAE (the base): 39.4%

# Dept of Energy: ComCheck Software



COMcheck Software Version 3.9.2  
**Interior Lighting and Power  
 Compliance Certificate**

**2010 New York Energy Conservation Construction Code  
 (by application of 90.1 (2007) Standard)**

**Section 1: Project Information**

Project Type: **New Construction**

Project Title :

Construction Site:

Owner/Agent:

Designer/Contractor:

**Section 2: Interior Lighting and Power Calculation**

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Ground Lobby (Common Space Types:Lobby)	247	1.3	321
Allowance: Decorative Appearance / Fix. ID: PA-3	247(a)	1	247(b)
Total Allowed Watts =			568

(a) Area claimed must not exceed the illuminated area permitted for this allowance type.

(b) Allowance is (B x C) or the actual wattage of the fixtures given in Section 2, whichever is less.

(c) Additional controls/switching allowances are based on number of fixtures or wattage controlled, not floor area of allowance.

**Section 3: Interior Lighting Fixture Schedule**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Ground Lobby ( Common Space Types:Lobby 247 sq.ft.)				
Linear Fluorescent 1: SF-4: Cove Strip: 48" T8 32W: Electronic:	1	7	32	224
Linear Fluorescent 2: SF-3: Cove Strip: 36" T8 25W: Electronic:	1	2	28	56
Incandescent 1: PA-3: Entry Pendant: Incandescent 250W:	1	1	250	250
Total Proposed Watts =				530

**Interior Lighting PASSES: Design 7% better than code.**

**Section 4: Compliance Statement**

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2010 New York Energy Conservation Construction Code (by application of 90.1 (2007) Standard) requirements in COMcheck Version 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title

Signature

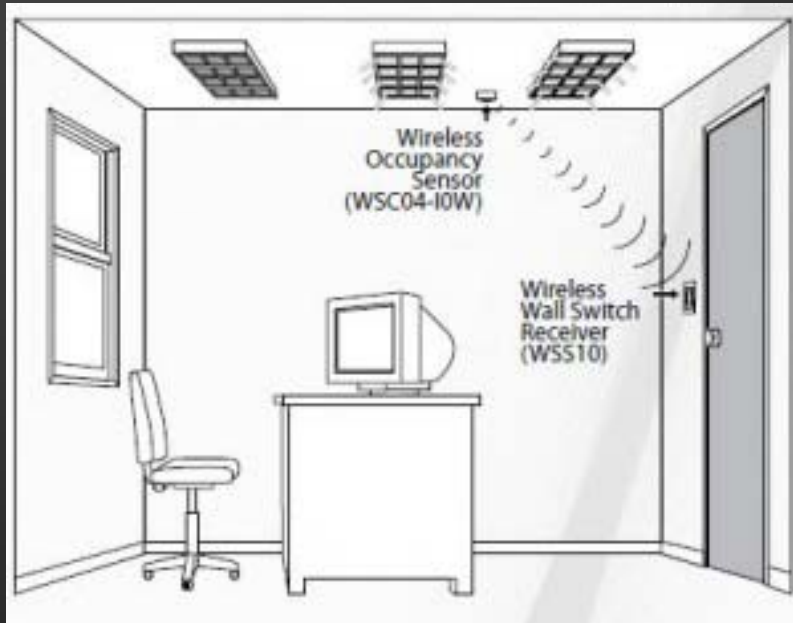
Date

**Section 5: Post Construction Compliance Statement**

**Record Drawings and Operating and Maintenance Manuals:**

1. Construction documents with record drawings and operating and maintenance manuals provided to the owner.

# Occupancy / Vacancy Sensors





## USGBC LEED-CS Pilot Pre-Certification Review



Project Name: The Conservatory at Celebration Place

LEED-CS Pre-Certification Level: Platinum

Date: December 11, 2006

49		1 Points Achieved		(Original Pilot) Possible Points: 66		61 Possible Points (Project Specific)	
				65 Possible (60 base) Points		61 Possible (56 base) points	
				Certified 24 to 29 points		Certified 23 to 27 points	
				Silver 30 to 35 points		Silver 28 to 33 points	
				Gold 36 to 47 points		Gold 34 to 44 points	
				Platinum 48 or more points		Platinum 45 or more points	
11		Sustainable Sites		Possible Points: 15		15	
Y				Prereq 1	Erosion & Sedimentation Control		
				Project has provided material showing erosion and sedimentation control measures. LEED-CS references the 2003 EPA Construction General Permit, or local standards and codes, whichever is more stringent. Recommend that project clarify more stringent standard.			
not pursuing				Credit 1	1	1	Site Selection
not pursuing				Credit 2	1	1	Development Density
not pursuing				Credit 3	1	1	Brownfield Redevelopment
1				Credit 4.1	1	1	Alternative Transportation, Public Transportation Access
1				Credit 4.2	1	1	Alternative Transportation, Bicycle Storage & Changing Rooms
				Gross building square footage is 161,146. Based on the default occupancy count of 150 sf/occupant, the total building occupancy is 649. Building is using 650 sf/occupant, which is correct. Storage for 20 bicycles and 4 showers are provided.			
1				Credit 4.3	1	1	Alternative Transportation, Low Emitting/Fuel Efficient Vehicles
1				Credit 4.4	1	1	Alternative Transportation, Parking Capacity
not pursuing				Credit 5.1	1	1	Reduced Site Disturbance, Protect or Restore Open Space
1				Credit 5.2	1	1	Reduced Site Disturbance, Development Footprint
1				Credit 6.1	1	1	Stormwater Management, Rate and Quantity
1				Credit 6.2	1	1	Stormwater Management, Quality
1				Credit 7.1	1	1	Heat Island Effect, Non-Roof
1				Credit 7.2	1	1	Heat Island Effect, Roof
1				Credit 8	1	1	Light Pollution Reduction
1				Credit 9	1	1	Tenant Design and Construction Guidelines
5		Water Efficiency		Possible Points: 5		5	
1				Credit 1.1	1	1	Water Efficient Landscaping, Reduce by 50%
1				Credit 1.2	1	1	Water Efficient Landscaping, No Potable Use or No Irrigation
1				Credit 2	1	1	Innovative Wastewater Technologies
1				Credit 3.1	1	1	Water Use Reduction, 20% Reduction
1				Credit 3.2	1	1	Water Use Reduction, 30% Reduction
14		Energy & Atmosphere		Possible Points: 16		14	
Y				Prereq 1	Fundamental Building Systems Commissioning		
Y				Prereq 2	Minimum Energy Performance		
Y				Prereq 3	Refrigerant Management		

**49      1      Points Achieved      (Original Pilot) Possible Points: 66      61      Possible Points (Project Specific)**

65 Possible (60 base) Points  
 Certified 24 to 29 points  
 Silver 30 to 35 points  
 Gold 36 to 47 points  
 Platinum 48 or more points

61 Possible (56 base) points  
 Certified 23 to 27 points  
 Silver 28 to 33 points  
 Gold 34 to 44 points  
 Platinum 45 or more points

Anticipated	Pending	Rejected					
8			Credit 1	<b>Optimize Energy Performance</b>	10	8	The points for this credit were revised to 8 points to reflect the projects current goal. Please be aware that the credit documentation will be more intensely scrutinized during the certification review. Some areas that should be looked into include the lighting power densities. If the lighting is not installed it should be modeled the same in the proposed and the baseline. Also, the annual energy cost for this building seems low. The annual energy costs should include all of the energy using systems that will be installed in the building.
1			Credit 2.1	<b>On-Site Renewable Energy, 1%</b>	1	1	
not attempting			Credit 2.2	<b>Renewable Energy, 5%</b>	1	deleted	
1			Credit 3	<b>Enhanced Commissioning</b>	1	1	
1			Credit 4	<b>Enhanced Refrigerant Management</b>	1	1	
1			Credit 5.1	<b>Measurement &amp; Verification</b>	1	1	
1			Credit 5.2	<b>Measurement &amp; Verification - Tenant Submetering</b>		1	
1			Credit 6	<b>Green Power</b>	1	1	

**6      Materials & Resources      Possible Points: 12      11**

Y							
			Prereq 1	<b>Storage &amp; Collection of Recyclables</b>			
not pursuing			Credit 1.1	<b>Building Reuse, Maintain 25% of Existing Walls, Floors &amp; Roof</b>	1	1	
not pursuing			Credit 1.2	<b>Building Reuse, Maintain 50% of Existing Walls, Floors &amp; Roof</b>	1	1	
not pursuing			Credit 1.2	<b>Building Reuse, Maintain 75% of Existing Walls, Floors &amp; Roof</b>	1	1	
1			Credit 2.1	<b>Construction Waste Management, Divert 50%</b>	1	1	
1			Credit 2.2	<b>Construction Waste Management, Divert 75%</b>	1	1	
not pursuing			Credit 3.1	<b>Materials Reuse, Specify 1%</b>	1	1	The use of recycled waste crushed concrete is not a salvaged construction material which is reused in another building and does not apply to this credit. This material may be applicable to other MR credits.
1			Credit 4.1	<b>Recycled Content, 10% (post-consumer + 1/2 pre-consumer)</b>	1	1	Project has provided additional information. Because this is a pre certification review for project intent, not a final certification review, the 10% recycled content credit will be awarded. However, the glass information will not be accepted for a final certification review. Pre-consumer material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it. The Viracon information provided indicates that the recycled material does not meet this definition.
not pursuing			Credit 4.2	<b>Recycled Content, 20% (post-consumer + 1/2 pre-consumer)</b>	1	1	
1			Credit 5.1	<b>Local/Regional Materials, 10% Extracted, Processed &amp; Manuf Regionally</b>	1	1	
1			Credit 5.2	<b>Local/Regional Materials, 20% Extracted, Processed &amp; Manuf Regionally</b>	1	1	Project should be attentive to the material extraction location.
not pursuing			Credit 6	<b>Rapidly Renewable Materials</b>	1	deleted	
1			Credit 7	<b>Certified Wood</b>	1	1	



**49**      **1 Points Achieved**      **(Original Pilot) Possible Points: 66**      **61 Possible Points (Project Specific)**

Anticipated Pending Rejected	65 Possible (60 base) Points		61 Possible (56 base) points	
		Certified 24 to 29 points		Certified 23 to 27 points
		Silver 30 to 35 points		Silver 28 to 33 points
		Gold 36 to 47 points		Gold 34 to 44 points
		Platinum 48 or more points		Platinum 45 or more points

**10**      **Indoor Environmental Quality**      **Possible Points: 13**      **11**

Y					
Y		Prereq 1	Minimum IAQ Performance		
Y		Prereq 2	Environmental Tobacco Smoke (ETS) Control		
1		Credit 1	Outdoor Air Delivery Monitoring	1	1
not pursuing		Credit 2	Increase Ventilation	1	1
1		Credit 3	Construction IAQ Management Plan, During Construction	1	1
1		Credit 4.1	Low-Emitting Materials, Adhesives & Sealants      1 point for 2	1	1
1		Credit 4.2	Low-Emitting Materials, Paints      2 points for 3	1	1
1		Credit 4.3	Low-Emitting Materials, Carpet      3 points for 4	1	1
Y		Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products		
1		Credit 5	Indoor Chemical & Pollutant Source Control	1	1
1		Credit 6.1	Controllability of Systems, Thermal Comfort	1	1
not pursuing		Credit 6.2	Controllability of Systems, Non-Perimeter	1	deleted
1		Credit 7.1	Thermal Comfort, Design	1	1
not pursuing		Credit 7.2	Thermal Comfort, Permanent Monitoring System	1	deleted
1		Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1	1
1		Credit 8.2	Daylight & Views, Views for 90% of Spaces	1	1

**3**      **1**      **Innovation & Design Process**      **Possible Points: 5**      **5**

not pursuing		Credit 1.1	Innovation in Design: Bid/ask for Construction Equipment & Vehicles	1	1
1		Credit 1.2	Innovation in Design: Community Education	1	1
					This point is allowed for pre-certification based on the concept and intent. Project should consult two sources for certification accomplishment; the requirements as stated in a LEED-NC CIR for an "educational building" and the draft of LEED for Schools for direction regarding the development, <u>and adoption</u> , of a green building and environmental curriculum.
		Credit 1.3	Innovation in Design: Integrated Pest Management	1	1
					An integrated pest management plan is valuable, however LEED-EB has established criteria for meeting a overall site and building exterior management. A pest management strategy of one of the strategies and in itself is not sufficient for an innovation credit.
1		Credit 1.4	Innovation in Design:	1	1
					An innovation point can be met with green housekeeping and maintenance practices. Project will need to demonstrate maintenance plan, products and methods used, and that these methods will be used in 100% of the building interior, including all of the tenant spaces. A contract of operational plan will be needed for certification review.
1		Credit 2	LEED® Accredited Professional	1	1

# Diagram of Project Criteria and Requirements for Local Law 86 of 2005

yellow = project criteria  
green = project requirements

## Prerequisite project criteria:

**Primary occupancy:** per 1968 building code, primary occupancy must be one of the following: B-1, B-2, C, E, F-1a, F-1b, F-3, F-4, G, H-1 or H-2, i.e. all occupancies except R-1, R-2, R-3 (residential), D-1 or D-2 (industrial), F-2 (outdoor assembly structures and equipment), and stand-alone parking garages.

**City funding:** project must use City funding in an amount >\$10M or, for projects receiving <\$10M of city funding, in an amount >50% of the project cost, where such cost, regardless of funding source, is comprised of capitably eligible cost (per NYC Comptroller's Directive 10) for design, construction\*, site preparation, and site acquisition. Note also that project cost covers work on all portions of a project, including portions that may not be subject to LL86 requirements.

**City payment:** first payment must be made from City Treasury to any vendor after January 1, 2007, or, for projects managed by DDC, after January 1, 2006.

**Design approval:** project must receive design approval, as evidenced by OMB approved CP for Construction or CP for Design and Construction, after January 1, 2007.

## Project scope criteria:

either project scope involves a new building, an addition to an existing building, fit-out of space in a new building or addition, and/or substantial reconstruction in an existing building (defined as construction involving two of the following three existing mechanical systems, HVAC, electric, and/or domestic plumbing, in addition to construction affecting >50% of existing building floor area), and has a combined construction cost for such work >\$2M,

or project scope does *not* involve a new building, an addition to an existing building, a fit-out of tenant space in a new building/ addition, and/or substantial reconstruction of an existing building with a combined construction cost >\$2M.

Construction cost\* of scope above: >\$2M and <\$12M.

Construction cost\* of scope above: >\$12M and <\$30M

Construction cost\* of scope above: >\$30M.

Construction cost\* of boiler work: >\$2M

Construction cost\* of lighting work: >\$1M

Construction\* cost\* of HVAC comfort control work: >\$2M

Primary occupancy: G or H-2

Primary occupancy: not G or H-2

Primary occupancy: H-2

Primary occupancy: not G or H-2

Primary occupancy: G

Primary occupancy: H-2

Primary occupancy: not G or H-2

LEED rating: Certified\*\*

LEED rating: Silver

LEED rating: Certified

LEED rating: Silver

LEED rating: Certified\*\*

LEED rating: Certified

LEED rating: Silver

Project energy cost reduction: 20% -25% minimum, depending on payback of Energy Efficiency Measures (EEM's)

Project energy cost reduction: 20% -30% minimum, depending on payback of EEM's

Project energy cost reduction: 25% -30% minimum, depending on payback of EEM's

Boiler energy cost reduction: 10% minimum.

Lighting energy cost reduction: 10% minimum.

HVAC comfort controls energy cost reduction: 5% minimum.

Construction cost\* of domestic plumbing that includes fixtures: >\$500K

Potable water use reduction: 20-30% minimum, depending on DOB approval of waterless urinals

\*Construction cost is based on actual or anticipated estimates in the OMB approved CP for construction or CP for design and construction, and shall include all contractor mark-ups, all contingencies, furniture, fittings, and equipment, as well as construction management fees.

\*\*SCA may achieve approved Green Schools rating