



The City of New York  
Mayor's Office of Operations  
Office of Environmental  
Coordination

Local Law 86 of 2005

Fiscal Year 2009 Annual Report



### 02 **Introduction**

Background

Summary of Local Law 86 of 2005 Provisions

Synopsis of Report

### 04 **Projects Subject to LL86 of 2005**

Summary of LL86 Projects

Projects Subject to LEED® Rating Provisions Only

Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions

Projects Subject to System Specific Energy Cost Reduction Provisions

Projects Subject to Potable Water Use Reduction Provisions

Completed Projects

Exempted Projects

### 18 **Benefits and Costs of LL86 of 2005**

Projected Benefits and Costs of LEED® Rating, Water Use Reduction,  
and Energy Cost Reduction Provisions

### 28 **Conclusions**



**McCarren Park Pool Reconstruction**  
**Rogers Marvel Architects, PLLC**

## Background

Mayor Michael R. Bloomberg signed Intro 324 into law on October 3, 2005. Known as Local Law 86 of 2005 (LL86) and developed in conjunction with the New York City Council, it was implemented starting in 2006 at the Department of Design and Construction and took effect on January 1, 2007 for all other city agencies and non-city entities. By requiring the design of more efficient buildings, the law supports the goals of PlaNYC to reduce the annual rate of greenhouse gas emissions 30% by 2017 for municipal operations and 30% by 2030 for the city as a whole, as well as goals to reduce energy costs, decrease the use of potable water, and reduce the amount of stormwater that enters the City's water treatment systems and surface water bodies. LL86 will also produce other significant benefits such as improving both indoor and outdoor air quality, as well as

increasing the amount of waste material recycled in the process of constructing and operating buildings. On November 20, 2006 the Mayor issued Executive Order 97, which authorized the Director of the Mayor's Office of Environmental Coordination (MOEC) to exercise the powers and duties of the Mayor in conjunction with the implementation of LL86.

Rules to implement LL86 were published in draft form for public comment on December 1, 2006 and, following a public comment period and hearing, became effective on April 2, 2007. On June 21, 2009 an amendment to the Rules took effect, also following a public comment period and hearing. This amendment redefines the selected green building rating system as the Version 3 Leadership in Energy and Environmental Design (LEED®) 2009 suite of systems, the most recent version published by the U.S. Green Building Council (USGBC). The rules are found at Title 43 of the Rules of the City of New York, Chapter 10.

In 2007, as allowed by the law, the New York City School Construction Authority (SCA) and Department of Education (DOE) requested that MOEC review the New York City Green Schools Rating System (GSRS) to determine whether it was less stringent than the applicable USGBC LEED® green building rating system. Based on an independent third party analysis, the Director of the Mayor's Office of Environmental Coordination found the GSRS to be no less stringent than LEED® for New Construction Version 2.2.

The texts of LL86, Executive Order 97, the final Rules, the subsequent amendment, and the NYC Green Schools Rating System and Guide may all be viewed on the MOEC website at [www.nyc.gov/oec](http://www.nyc.gov/oec).

## Summary of Local Law 86 of 2005 Provisions

Local Law 86 applies to capital building projects of city agencies and to those of non-city entities that receive capital funding from the city treasury. Most building types encountered in such projects are covered by the law, with the exception of those with residential, high hazard, and industrial uses as primary occupancies, as well as open-air structures. For covered projects, the law's requirements fall into four basic categories. First, they require that capital building projects with over \$2 million in construction costs achieve a rating according to the LEED® green building standard developed by the USGBC or according to an equivalent, approved standard. A LEED® Certified rating is required for health and educational facilities and a LEED® Silver rating is required for all other covered occupancy types. Second, they require that projects with a green building rating requirement and construction costs over \$12 million also reduce energy cost by 20 to 30%. Specifically, non-school projects from \$20-30 million as well as school projects over \$20 million must adopt a combination of energy efficiency measures that provide at least a 20% reduction, regardless of payback, while non-school projects over \$30 million must provide a minimum 25% reduction. In addition all non-school projects must implement additional measures that have a 7 year payback or less until the reduction is at least 5% lower than the required 20%, or 25%, minimum. School projects must implement such additional measures to a level that is at least 10% below the required 20% minimum.

The law also requires the preparation of an annual report for ten years after the law takes effect, commencing in 2008. This is the second annual report. As with the first report, this report provides the information requested in the law and, in some instances, expands upon it.

## Synopsis of Report

The law requires a report of the projects subject to LL86 that completed construction in the prior year. However, due to the relatively recent implementation date of the law and the length of time generally needed for design and construction, a limited number of projects subject to its provisions have completed construction. Nonetheless, this second annual report, like the first, includes all projects that have started design since the law took effect, not only those that have been completed.

For projects that have completed design, this report documents projected benefits as well as estimates of additional costs related to achieving the required LEED® or Green Schools standard. Available agency findings regarding the payback of investments in building energy efficiency are also described.

The conclusions and totals in this report are based on data supplied to the Mayor's Office of Environmental Coordination by the agencies responsible for the expenditure of city funds on covered projects. It is important to note that, as projects proceed toward completion, the estimated costs, completion dates, and project sizes indicated here are subject to change and would be updated in subsequent reports.

## Summary of LL86 Projects

A total of 114 projects subject to LL86 have commenced design since January 2007, or in the case of projects managed by the Department of Design and Construction, since January 2006. Excluding the one LL86 project that was completed prior to FY09, these account for total combined project costs of \$5,386,021,000. Out of total project costs, \$768,898,000 was spent, *i.e.* allocated, in FY09 and \$4,205,530,000 cover construction costs for the portions of projects that are subject to LL86 provisions.

Eighteen projects, each with construction costs from \$2,000,000 to \$12,000,000, are subject to the LEED® provisions only. These have a combined construction value of \$ 115,282,760 and a FY09 allocation of \$42,932,000. An additional 57 projects, each with construction costs over \$12,000,000, are subject to both the LEED® rating provisions and the 20–30% energy cost reduction requirement. These have a construction value of \$3,902,564,267 and a FY09 allocation of \$657,657,000. The combined floor area of all projects subject to the LEED® provisions in the law totals about 5,378,000 square feet (s.f.).

There are also 37 projects with aggregate construction costs of \$156,752,000 for work subject to the system specific energy cost reduction provisions that have a FY09 allocation of \$64,150,600.

Of the 57 LEED® projects with construction costs over \$12,000,000, all but nine are also subject to the water use reduction provisions and one additional project is subject to the water use reduction provisions only.

Table 1: “Summary of Costs and Floor Area for All Projects Subject to LL86 Provisions” presents the above findings by client agency. Following Table 1 are four sections that describe projects subject to the four basic LL86 provisions described previously. The first section provides the names and key attributes of those projects that are subject only to the LEED® rating or Green Schools requirement and the second describes such projects that are also subject to the 20–30% energy cost reduction requirement. The third includes projects subject to energy cost reduction requirements for work that involves specific systems, and the fourth describes projects subject to only the potable water use reduction provision. Following these four sections is a brief discussion of projects that have been completed, as well as those that received whole or partial exemptions before the end of FY 09.

Each section provides the following information for each project by agency: the name and type of project, total project cost, construction cost, the year of expected completion and, where applicable, the project floor area subject to the LEED® provisions.

**Table 1: Summary of Costs and Floor Area by Agency for All Projects Subject to LL86 Provisions**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Costs (\$) <sup>4</sup>	Construction Costs of Work Subject to LL86 Provisions (\$) <sup>5</sup>	Floor Area Subject to LEED® Provisions (s.f.) <sup>7</sup>	FY09 Capital Allocation (\$) <sup>6</sup>
<b>Criminal Justice Coordinator</b>	DDC	37,586,000	32,253,000	168,500	637,594
1 project					
<b>Department of Citywide Administrative Services</b>	DCAS	111,763,310	65,875,950	63,000	13,920,000
3 projects					
<b>Department of Cultural Affairs</b>	DDC	204,986,000	140,372,000	211,500	28,743,800
14 projects					
<b>Department of Environmental Protection</b>	DDC	14,293,198	13,000,000	105,000	60,000
1 project					
<b>Department of Homeless Services</b>	DDC	66,342,000	54,638,084	77,000	9,550,974
1 project					
<b>Department of Education</b>	SCA	2,289,209,000	970,391,000	2,798,009	624,551,000
70 projects					
<b>Department of Correction</b>	DDC	420,000,000	300,000,000	175,000	0
1 project					
<b>Department of Health &amp; Mental Hygiene</b>	DDC	73,595,000	60,761,274	101,780	24,571,000
4 projects					
<b>Department of Parks and Recreation</b>	EDC, DPR	273,466,000	190,187,000	240,475	51,294,000
8 projects					
<b>New York City Economic Development Corporation</b>	EDC	210,626,000	44,615,000	118,000	8,000,000
2 projects					
<b>New York City Health and Hospitals Corporation</b>	HHC	14,700,000	12,127,000	16,014	0
2 projects					
<b>New York City Police Department</b>	DDC	858,981,683	702,302,000	748,800	2,100,000
2 projects					
<b>New York City Police Department, New York City Fire Department, Department of Information Technology &amp; Telecommunications</b>	DDC	746,736,000	678,213,000	500,000	285,000
1 project					
<b>New York Public Library</b>	DDC	10,500,000	7,500,000	10,000	200,000
1 project					
<b>Queens Borough Public Library</b>	DDC	53,237,000	33,294,365	44,735	4,984,619
2 projects					
<b>TOTAL</b>		5,386,021,000	4,205,530,000	5,378,000	768,897,987

**Notes for Table 1 and Key to Agency Acronyms:** See Page 26

## Projects Subject to LEED® Rating Provisions Only

Table 2 (*page 7*) lists those projects that have started design and that are subject only to the LEED® or Green Schools requirement, *i.e.* city-funded new buildings, building additions or reconstructions in covered occupancy groups that agencies anticipate will have construction costs from \$2,000,000 to \$12,000,000.



**Table 2: Projects Subject to LEED® Rating Provisions Only  
(New Buildings, Additions, and/or Reconstruction Projects  
with Construction Costs from \$2M to \$12M)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Floor Area Subject to LEED® Provisions (s.f.) <sup>7</sup>	Year of Completion
DCLA	DDC	<b>Snug Harbor Cultural Center</b>	4,874,000	2,000,000	30,000	2011
		Reconstruction				
	DDC	<b>Afrikan Poetry Theatre</b>	4,000,000	3,408,000	6,500	2011
		Reconstruction				
	DDC	<b>Mind-Builders Creative Arts Center</b>	4,706,000	3,600,000	13,424	2011
		Reconstruction				
	DDC	<b>The 52nd Street Project</b>	15,579,812	9,915,690	15,463	2009
		New Building				
DCC	<b>Downtown Art &amp; Alpha Omega</b>	3,289,000	2,659,000	5,395	2012	
	Reconstruction					
DDC	<b>Bronx River Art Center Building</b>	7,693,000	6,880,000	4,540	2012	
	Reconstruction					
DDC	<b>NYBG Snuff Mill</b>	11,000,000	8,486,000	8,900	2010	
	Reconstruction					
DDC	<b>NYBG McQuillan Facility</b>	7,300,000	2,018,070	3,200	2011	
	New Building					
DOE	SCA	<b>PS 188-K</b>	7,555,106	7,228,726	6,550	On Hold
		New Building				
DOHMH	DDC	<b>Chelsea Health Center</b>	10,550,000	9,600,000	28,400	2013
		Reconstruction				
DDC	DDC	<b>Staten Island Health Center</b>	2,445,000	2,200,000	5,200	2012
		Reconstruction				
DPR	EDC	<b>Steeplechase Plaza</b>	30,810,000	7,260,000	8,000	2010
		New Building				
	DPR	<b>BRG River House</b>	6,300,000	6,076,000	6,901	2011
DPR	DPR	<b>Marine Park Community Center</b>	11,413,000	9,000,000	9,800	2010
		New Building				
EDC	EDC	<b>East River Waterfront Esplanade</b>	147,680,000	8,000,000	8,000	2010
		Reconstruction				
HHC	HHC	<b>Queens Hospital Center</b>	8,700,000	8,200,000	16,014	2011
		Addition				
NYPL	DDC	<b>Mariners Harbor Branch Library</b>	10,500,000	7,500,000	10,000	2010
		New Building				
QBPL	DDC	<b>Glen Oaks Branch Library</b>	13,411,000	11,251,274	18,000	2011
		New Building				
<b>TOTAL</b>			<b>307,805,918</b>	<b>115,282,760</b>	<b>204,287</b>	

**Notes for Table 2 and Key to Agency Acronyms:** See Page 26

## Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions

In Table 3 (*page 9*) projects are described that have started design and that are subject to both the LEED® or Green Schools requirement as well as to the 20–30% energy cost reduction requirement, *i.e.* city-funded new buildings, building additions or substantial reconstruction of existing buildings in covered occupancy groups with construction costs over \$12,000,000.

**Table 3: Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions (New Buildings, Additions, and/or Reconstruction Projects with Construction Costs over \$12M)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Floor Area Subject to LEED® Provisions (s.f.) <sup>7</sup>	Year of Completion
CJC	DDC	<b>Kings County Criminal Court</b>	37,586,000	32,253,000	168,500	2011
		Reconstruction				
DCLA	DDC	<b>Museum of the City of New York</b>	24,163,150	19,942,000	54,640	2009
		Reconstruction				
	DDC	<b>122 Community Center</b>	24,219,000	15,054,926	38,080	2012
		Reconstruction				
	DDC	<b>Brooklyn Museum</b>	21,392,000	15,054,926	15,000	2009
		Addition				
DDC	<b>Staten Island Institute of Arts and Sciences Bldg A</b>	20,000,000	17,000,000	16,376	2012	
	Reconstruction					
DCAS	DDC	<b>City Hall</b>	84,896,954	64,772,344	63,000	2012
		Reconstruction				
DEP	DDC	<b>DEP Shaft Maintenance Building</b>	14,293,198	13,000,000	105,000	2012
		Reconstruction				
DHS	DDC	<b>Bronx Family Intake Center</b>	66,342,000	54,638,084	77,000	2010
		New Building				
DOE	SCA	<b>Young Women's Business HS-M</b>	42,185,928	36,775,872	114,983	2009
		Reconstruction				
	SCA	<b>All City Leadership School-K</b>	39,082,140	34,051,293	52,170	2011
		New Building				
	SCA	<b>PS/IS 276-M</b>	106,765,712	91,516,320	127,700	2010
		New Building				
	SCA	<b>Community Health Academy-M (CLOTH)</b>	65,559,410	52,298,688	82,548	2012
		New Building				
	SCA	<b>ECC 361-X</b>	46,419,303	40,269,320	52,766	2010
		New Building				
SCA	<b>HS 585-Q</b>	113,612,439	89,811,592	149,938	2012	
	New Building					
SCA	<b>IS 230-Q</b>	33,949,013	29,573,616	35,721	On hold	
	Addition					
SCA	<b>IS 259-K</b>	52,838,545	45,853,444	51,228	2010	
	Addition					
SCA	<b>PS 42-Q</b>	59,325,505	51,505,740	52,499	2012	
	Addition					

**Notes for Table 3 and Key to Agency Acronyms:** See Page 26

**Table 3 (cont'd): Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions (New Buildings, Additions, and/or Reconstruction Projects with Construction Costs over \$12M)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Floor Area Subject to LEED® Provisions (s.f.) <sup>7</sup>	Year of Completion
DOE	SCA	<b>IS/HS 404-Q</b> New Building	114,964,442	101,925,480	140,000	2012
	SCA	<b>PS 310-K</b> New Building	30,733,272	24,411,855	49,000	2012
	SCA	<b>PS 331-K</b> New Building	41,536,020	36,825,115	94,691	2013
	SCA	<b>PS 8-K</b> Addition	28,686,071	25,391,080	17,858	2011
	SCA	<b>PS 51-M</b> New Building	44,335,435	39,307,028	102,800	2013
	SCA	<b>PS 29-Q</b> Addition	18,798,514	16,646,758	25,107	2012
	SCA	<b>PS @ Barnes Avenue-X</b> New Building	50,708,285	41,860,000	56,401	2013
	SCA	<b>PS/IS 177-X</b> New Building	35,309,268	24,607,059	94,000	2013
	SCA	<b>PS/IS 281-M</b> New Building	81,627,563	42,859,766	100,000	2013
	SCA	<b>IS 230-Q</b> New Building	71,792,281	62,273,571	97,265	On Hold
	SCA	<b>IS 230-Q</b> Reconstruction	33,949,013	29,573,616	35,721	On Hold
	SCA	<b>PS 196-Q</b> Addition	41,079,865	35,640,800	35,526	2011
	SCA	<b>PS 133-K</b> New Building	91,440,119	79,203,904	75,426	2012
	SCA	<b>Settlement Housing PS/IS-X</b> New Building	53,481,824	42,123,144	148,393	2011
	SCA	<b>PS 89-K</b> New Building	50,192,702	43,746,024	56,087	2010
	SCA	<b>PS 95-X</b> Addition	66,982,573	58,154,304	60,201	2010
	SCA	<b>PS 971-K</b> New Building	41,334,981	30,492,020	43,338	2010
	SCA	<b>PS/IS 665 @ PS 163-K</b> New Building	82,469,009	71,561,464	101,560	2010

**Notes for Table 3 and Key to Agency Acronyms:** See Page 26

**Table 3 (cont'd): Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions (New Buildings, Additions, and/or Reconstruction Projects with Construction Costs over \$12M)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Floor Area Subject to LEED® Provisions (s.f.) <sup>7</sup>	Year of Completion
DOE	SCA	<b>PS/IS 264-K</b>	62,771,395	47,618,624	73,000	2012
		New Building				
	SCA	<b>PS 277-Q</b>	77,268,611	56,331,600	96,747	2012
		New Building				
	SCA	<b>PS/IS 312-Q</b>	73,027,556	63,339,526	97,265	2012
		New Building				
	SCA	<b>PS/IS 48-Q</b>	72,398,717	62,776,844	94,023	2010
		New Building				
SCA	<b>PS/IS 79-X</b>	67,863,387	58,910,176	65,141	2010	
	Addition					
SCA	<b>IS/HS @ Spring Creek-X</b>	100,523,686	87,308,000	154,530	2012	
	New Building					
SCA	<b>IS @ Highbridge Gardens-X</b>	44,380,478	39,337,935	55,026	2013	
	New Building					
SCA	<b>26 Broadway HS-M</b>	23,665,766	20,981,658	102,800	2011	
	New Building					
DOC	DDC	<b>Brooklyn Detention Center</b>	420,000,000	300,000,000	175,000	2014
		Addition & Reconstruction				
DOHMH	DDC	<b>Richmond Health Center</b>	28,000,000	23,000,000	29,639	2012
		Reconstruction				
	DDC	<b>Riverside Health Center Renovation</b>	32,599,526	25,961,274	38,544	2011
		Reconstruction				
DPR	EDC	<b>Building J</b>	16,360,494	12,346,386	28,248	2009
		Reconstruction				
	DPR	<b>McCarren Pool &amp; Bathhouse</b>	50,000,000	41,500,000	22,000	2011
		Reconstruction				
	DPR	<b>Multi-Purpose Indoor Athletic Facility in Ocean Breeze Park</b>	69,998,000	46,000,000	134,000	2010
		New Building				
DPR	<b>District HQ and Comfort Station</b>	24,584,220	21,205,000	15,527	2011	
	New Building					
DDC	<b>Coney Island Center Bandshell</b>	64,000,000	46,800,000	16,000	2012	
	New Building					
EDC	EDC	<b>Sephardic Community Center</b>	62,946,000	36,615,000	110,000	2008
		Addition (Exempted Project)				

**Notes for Table 3 and Key to Agency Acronyms:** See Page 26

**Table 3 (cont'd): Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions (New Buildings, Additions, and/or Reconstruction Projects with Construction Costs over \$12M)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Floor Area Subject to LEED® Provisions (s.f.) <sup>7</sup>	Year of Completion
NYPD	DDC	<b>121 Police Precinct</b>	58,981,683	46,302,000	48,800	2012
		New Building				
NYPD	DDC	<b>Police Academy</b>	800,000,000	656,000,000	700,000	2013
		New Building				
NYPD, FDNY, DoITT	DDC	<b>PSAC II</b>	746,736,000	678,213,000	500,000	2012
		New Building				
QBPL	DDC	<b>Children's and Central Library</b>	39,826,000	22,043,091	26,735	2010
		Reconstruction				
		<b>TOTAL</b>	4,767,983,053	3,902,564,944	5,173,548	

**Notes for Table 3 and Key to Agency Acronyms:** See Page 26



**Glen Oaks Library, Queens**  
**Marble Fairbanks Architects**

## Projects Subject to System Specific Energy Cost Reduction Provisions

Table 4 (*page 15*) lists projects in covered occupancy groups that are subject to the various system specific energy cost reduction requirements. These include projects that involve the installation or replacement of boilers or HVAC comfort controls with construction costs over \$2,000,000 and lighting systems with such costs over \$1,000,000.



**Table 4: Projects Subject to System Specific Energy Cost Reduction Provisions**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Year of Completion
DCLA	DDC	<b>NY Public Theatre</b>	9,000,000	1,000,000	2011
		Lighting Renovation			
DCLA	DDC	<b>American Museum of Natural History</b>	10,184,000	1,100,000	2010
		Lighting Renovation			
DCAS	DCAS	<b>60 Centre Street</b>	25,300,000	3,606,094	2015
		HVAC Comfort Controls			
		<b>1 Centre Street</b>	1,568,360	1,568,360	2010
HHC	HHC	<b>Coler-Goldwater Specialty Hospital and Nursing Facility</b>	6,000,000	3,927,000	2012
		Low Pressure Steam Boiler Plant			
DOE	SCA	<b>Gompers Vocational HS-X</b>	8,123,042	5,246,064	2009
		Boiler Conversion			
	SCA	<b>PS 246-X</b>	6,827,209	4,762,800	2009
		Boiler Conversion			
	SCA	<b>PS 178-Q</b>	6,232,380	3,748,800	2009
		Boiler Upgrade			
	SCA	<b>JHS 10-Q</b>	8,176,853	6,596,080	2010
		Boiler Replacement			
	SCA	<b>PS 57-M</b>	3,483,243	3,142,776	2008
		Boiler Replacement			
	SCA	<b>PS 36-M</b>	6,015,590	3,537,600	2010
		Boiler Conversion			
	SCA	<b>John Jay HS-K</b>	6,823,972	6,156,967	2011
		Boiler Upgrade			
	SCA	<b>PS 377-K</b>	8,397,008	5,197,200	2009
		Boiler Conversion			
SCA	<b>PS 120-K</b>	5,418,600	3,838,800	2010	
	Boiler Conversion				
SCA	<b>PS 52-K</b>	4,968,880	3,048,576	2008	
	Boiler Upgrade				
SCA	<b>JHS 45-M</b>	7,510,457	3,570,336	2009	
	Boiler Upgrade				
SCA	<b>PS 56-K</b>	5,719,000	3,720,000	2010	
	Boiler Conversion				
SCA	<b>PS 81-K</b>	5,750,215	3,820,000	2010	
	Boiler Conversion				
SCA	<b>WEB DuBois HS-K</b>	7,022,400	5,299,920	2009	
	Boiler Upgrade				

Notes for Table 4 and Key to Agency Acronyms: See Page 26

**Table 4 (cont'd): Projects Subject to System Specific Energy Cost Reduction Provisions**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Project Cost (\$) <sup>4</sup>	Construction Cost of Portion of Project Subject to LEED® Provisions (\$) <sup>5</sup>	Year of Completion	
DOE	SCA	<b>PS 194-M</b> Boiler Conversion	6,752,038	5,053,644	2011	
	SCA	<b>PS 188-Q</b> Boiler Upgrade	10,554,915	3,947,580	2009	
	SCA	<b>PS 32-X</b> Boiler Conversion	11,732,086	2,733,986	2013	
	SCA	<b>PS 108-X</b> Boiler Conversion	5,971,700	4,310,400	2010	
	SCA	<b>IS 115-X</b> Boiler Conversion	6,974,520	4,971,312	2010	
	SCA	<b>PS 122-X</b> Boiler Upgrade	6,348,090	4,304,916	2008	
	SCA	<b>Taft HS-X</b> Boiler Conversion	13,531,420	8,301,984	2010	
	SCA	<b>IS 383-K</b> Boiler Conversion	5,801,286	4,586,728	2011	
	SCA	<b>IS 216-X</b> Boiler Conversion	6,262,543	4,906,480	2011	
	SCA	<b>PS 50-M</b> Boiler Conversion	6,163,537	4,848,691	2011	
	SCA	<b>IS 113-X</b> Boiler Upgrade	4,641,502	4,187,821	2010	
	SCA	<b>PS 253-K</b> Boiler Upgrade	4,836,562	3,305,290	2011	
	SCA	<b>PS 121-Q</b> Boiler Upgrade	4,320,412	3,152,898	2010	
	SCA	<b>Jamaica HS-Q</b> Boiler Upgrade	6,092,174	3,188,858	2011	
	SCA	<b>PS 111-M</b> Boiler Upgrade	5,726,620	4,546,850	2010	
	SCA	<b>PS 12-X</b> Boiler Upgrade	5,003,578	3,582,296	2010	
	SCA	<b>PS 76-M</b> Boiler Upgrade	5,963,720	4,548,805	2010	
	SCA	<b>Murrow HS-K</b> Boiler Upgrade	10,402,445	9,385,664	2009	
			<b>TOTAL</b>	269,600,357	156,751,576	

**Notes for Table 4 and Key to Agency Acronyms:** See Page 26

## Projects Subject to Potable Water Use Reduction Provisions

Projects involving work on domestic plumbing systems with a construction cost of \$500,000 or more are required to reduce potable water usage by a minimum of 20–30%. Most of the projects in Table 3 “Projects Subject to both LEED® Rating and Energy Cost Reduction Provisions” are also subject to the system specific potable water use reduction requirement for domestic plumbing. Note that the cost of the portion of work related to domestic plumbing is included in both the construction and project costs indicated in Table 3.

One project, the DOE PS 335 Student Toilet Room Upgrade project, with a total project cost of \$3,947,292, is not listed in the project tables, Tables 2, 3 or 4, since it was subject to the potable water use reduction provision only. The portion of this DOE project subject to this provision has a construction cost of \$700,000. The FY09 allocation to the overall project was \$2,408,882 and the year of completion is estimated to be 2010.

None of the projects with construction costs from \$2,000,000 to \$12,000,000 that are subject only to the LEED® rating provisions are also subject to the potable water use reduction provisions.

## Completed Projects

Due to the relatively recent effective date of the law and the time needed for design and construction, only four of the projects described in the project tables, Tables 2, 3 and 4, finished construction in FY09. These are the DOE boiler upgrade projects at W.E.B. Dubois High School in Brooklyn, PS 122-X in the Bronx, PS 52-K in Brooklyn, and PS 57-M in Manhattan. One DOE project, The Manhattan Eye, Ear, and Throat Hospital Reconstruction/Addition with a project cost of \$47,246,000, finished construction in Fiscal Year 2008 (FY08).

## Exempted Projects

City funds were not allocated in FY09 to the one project, the Sephardic Community Center, that received a full exemption in FY08. Though the project received city funds after January 1, 2007, the effective date of the law, it had completed design and started construction using private funds in 2005, thus making compliance impractical. Further information regarding this project and reasons for its exemption may be found in Table 3 of this report and in the “Exempted Projects” section of the FY08 report.

## Projected Benefits and Costs of LEED® Rating, Water Use Reduction, and Energy Cost Reduction Provisions

The following tables represent the projected cost and benefit data reported for most projects listed in the project tables, Tables 2, 3, and 4, that have finished design. Benefits quantified in the following tables include energy cost savings<sup>1</sup>, greenhouse gas<sup>2</sup> and peak electric demand<sup>1</sup> reductions, as well as reductions in both stormwater runoff and potable water use<sup>3</sup>. Table 5 (*page 19*) is based on the data reported for those projects that are utilizing one of the selected LEED® rating systems and are valued at under \$12M in construction cost. The second table, Table 6 (*page 20*) covers such projects that are valued at over \$12M and are, therefore, also subject to the 20-30% energy cost reduction provisions. Table 7 (*page 21*) covers school projects with construction costs over \$12 million that are utilizing the GSRS and Table 8 (*page 24*) shows the benefits reported for work subject to the system specific energy cost reduction requirements. Note that the costs indicated in the “Construction Cost” column of the Cost and Benefit tables represent the construction cost of work subject to the provisions of LL86, not the incremental construction costs associated with meeting the applicable LL86 energy cost reduction requirements. Also note that the energy related benefits for DOE projects involving steam boiler upgrades may also include benefits related to steam trap replacement work that was implemented, with prior approval of the MOEC, to meet the boiler upgrade energy cost requirements in the most cost effective manner.

### Footnotes:

1. The calculations for energy cost savings are based on approximated 2009 energy rates used by the City’s energy providers for electricity, and natural gas. In accordance with the LL86 Rules, energy cost and peak load reductions are relative to a baseline of the New York State Energy Conservation Code.
2. Coefficients for greenhouse gas reduction calculations were provided by the Mayor’s Office of Long Term Planning and Sustainability.
3. In accordance with the LL86 Rules, estimated reductions in potable water and stormwater runoff are calculated relative to the baselines defined in the applicable sections of the LEED® NC-2.1 or 2.2 rating systems.

**Table 5: Costs and Benefits for Projects Subject to LEED® Rating Provisions Only (New Buildings, Additions, and/or Reconstruction Projects with Construction Costs from \$2M to \$12M)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Construction Cost of Work Subject to LEED® Provisions (\$) <sup>5</sup>	Annual Energy Cost Reduction (\$/yr)	Peak Load Reduction (kw)	Annual Greenhouse Gas Reduction (metric tons /yr)	Annual Stormwater Runoff Reduction (gals/yr)	Annual Potable Water Use Reduction (gals/yr)	Commissioning and LEED Related Fees(\$)	LEED® Rating Target
DCLA	DDC	Mind-Builders Arts Center	3,600,000	11,252	0	32	0	32,171	144,455	Silver
		Reconstruction								
	DDC	NYBG McQuillan Facility New Building	2,018,070	5,758	5	15	1,016,462	34,584	75,000	Silver
QBPL	DDC	NYBG Snuff Mill	8,486,000	11,219	33	22	200,900	84,622	75,000	Silver
		Reconstruction								
	DDC	Glen Oaks Branch New Building	11,643,680	17,262	54	30	0	50,752	145,317	Certified
		<b>TOTAL</b>	<b>25,747,750</b>	<b>45,520</b>	<b>92</b>	<b>99</b>	<b>1,217,362</b>	<b>202,129</b>	<b>440,755</b>	

**Notes for Table 5 and Key to Agency Acronyms:** See Page 26

Table 6: Costs and Benefits for Projects that Utilize a LEED® Rating System and that are Subject to Energy Cost Reduction Provisions (New Buildings, Additions and Reconstruction Projects with Construction Costs over \$12M)												
Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Construction Cost of Work Subject to LEED® Provisions (\$) <sup>5</sup>	Annual Energy Cost Reduction (\$/yr)	Peak Load Reduction (kw)	Annual Greenhouse Gas Reduction (metric tons /yr)	Incremental Construction Cost of Energy Efficiency Measures (\$) <sup>9</sup>	Simple Payback for Energy Efficiency Measures (yrs) <sup>8</sup>	Annual Stormwater Runoff Reduction (gals/yr)	Annual Potable Water Use Reduction (gals/yr)	Commissioning and LEED Related Fees(\$)	LEED® Rating Target
DCLA	DDC	Brooklyn Museum MPIV Stage 4A	16,115,863	9,771	23	17	140,000	14	0	0	200,000	Silver
		Addition										
DPR	EDC	Building J	12,000,000	15,159	34	40	55,590	4	14,344	80,580	89,700	Silver
		Reconstruction										
QBPL	DDC	Children's and Central Library	22,043,091	44,855	57	124	282,290	6	0	67,086	267,728	Certified
		Reconstruction										
DHS	DDC	New Family Intake Center	54,638,084	53,152	54	147	352,380	7	278,256	662,728	269,715	Silver
		New Construction										
<b>TOTAL</b>			<b>104,797,038</b>	<b>122,938</b>	<b>168</b>	<b>328</b>	<b>830,260</b>	<b>7</b>	<b>292,600</b>	<b>810,394</b>	<b>827,143</b>	

Notes for Table 6 and Key to Agency Acronyms: See Page 26

**Table 7: Projected Costs and Benefits for Projects Utilizing the Green Schools Rating System (New Buildings, Additions, and/or Reconstruction Projects)**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Construction Cost of Work Subject to LEED® Provisions (\$) <sup>5</sup>	Annual Energy Cost Reduction (\$/yr)	Peak Load Reduction (kw)	Annual Greenhouse Gas Reduction (metric tons /yr)	Incremental Construction Cost of Energy Efficiency Measures (\$) <sup>9</sup>	Simple Payback for Energy Efficiency Measures (yrs) <sup>8</sup>	Annual Potable Water Use Reduction (gals/yr)	GSRs Incremental Cost (Not Including Incremental Construction Cost for Energy Efficiency Measures) (\$) <sup>10</sup>
DOE	SCA	All City Leadership HS-K New Building	34,051,298	22,583	81	47	371,349	16	219,472	256,992
	SCA	PS 133-K New Building	79,203,904	37,632	115	67	526,790	14	220,821	285,412
	SCA	PS 8-K New Building	25,391,080	8,918	27	16	124,724	14	78,556	132,804
	SCA	PS/IS 276-M New Building	91,516,320	63,702	194	114	891,881	14	461,655	434,704
	SCA	Young Women's Business HS-M Reconstruction	36,775,872	57,362	175	102	803,063	14	461,303	398,385
	SCA	PS/IS 79-X Addition	58,910,176	32,504	99	58	454,957	14	461,655	299,092
	SCA	PS 95-X Addition	58,154,304	30,032	92	54	420,455	14	219,245	219,719
	SCA	PS 89-Q New Building	43,746,024	18,230	54	27	391,722	21	219,405	267,250
	SCA	CLOTH-M New Building	52,298,688	41,171	125	74	576,531	14	465,566	360,310
	SCA	PS/IS 48-Q New Building	62,776,844	46,899	143	84	656,675	14	259,892	338,524
	SCA	IS 259-K Addition	45,853,444	25,563	78	46	357,786	14	245,052	250,162

Notes for Table 7 and Key to Agency Acronyms: See Page 26

Table 7 (cont'd): Projected Costs and Benefits for Projects Utilizing the Green Schools Rating System (New Buildings, Additions, and/or Reconstruction Projects)											
Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Construction Cost of Work Subject to LEED® Provisions (\$) <sup>5</sup>	Annual Energy Cost Reduction (\$/yr)	Peak Load Reduction (kw)	Annual Greenhouse Gas Reduction (metric tons /yr)	Incremental Construction Cost of Energy Efficiency Measures (\$) <sup>9</sup>	Simple Payback for Energy Efficiency Measures (yrs) <sup>8</sup>	Annual Potable Water Use Reduction (gals/yr)	GSRs Incremental Cost (Not Including Incremental Construction Cost for Energy Efficiency Measures) (\$) <sup>10</sup>	
DOE	SCA	PS/IS 665-K New Building	71,561,464	50,651	154	90	709,314	14	387,202	360,050	
	SCA	PS 971-K New Building	30,492,020	21,610	66	39	302,681	14	235,278	193,771	
	SCA	PS 42-Q Addition	51,505,740	26,181	80	47	366,663	14	284,531	254,632	
	SCA	Masbeth HS-Q New Building	84,019,000	74,786	228	134	1,047,196	14	667,109	356,167	
	SCA	PS 196-Q Addition	35,640,800	11,525	34	17	248,120	22	379,011	194,940	
	SCA	PS 277-Q New Building	56,331,600	48,268	147	86	675,699	14	404,873	346,304	
	SCA	PS/IS 264-K New Building	47,618,624	36,420	111	65	509,846	14	258,195	278,484	
	SCA	ECC 361-X New Building	40,269,320	26,332	80	47	368,528	14	296,921	255,571	
			<b>TOTAL</b>	1,006,116,517	680,368	2,083	1,213	9,803,980	14	6,225,742	5,483,273

Notes for Table 7 and Key to Agency Acronyms: See Page 26





**NYPD Academy, College Point, Queens**  
**Perkins + Will with Michael Fieldman Architect**

**Table 8: Costs and Benefits for Projects Subject to System Specific Energy Cost Reduction Provisions**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Construction Cost of Work Subject to System Specific Energy Cost Reduction Provisions (\$) <sup>5</sup>	Annual Energy Cost Reduction (\$/yr)	Annual Greenhouse Gas Reduction (metric tons /yr)
DCLA	DDC	American Museum of Natural History	1,100,000	6,051	11
		Lighting Upgrade			
DCAS	DCAS	1 Centre Street	1,568,360	112,897	145
		Lighting Upgrade			
DOE	SCA	PS 120-K	3,838,800	1,649	5
		Boiler Upgrade			
	SCA	JHS 45-M	3,570,336	5,659	18
		Boiler Upgrade			
	SCA	JHS 10-Q	6,596,080	3,118	10
		Boiler Upgrade			
	SCA	PS 377-K	5,197,200	3,524	11
		Boiler Upgrade			
	SCA	WEB Dubois HS	5,299,920	1,581	5
		Boiler Upgrade			
	SCA	PS 194-M	5,053,644	2,504	8
		Boiler Upgrade			
	SCA	PS 188-Q	3,947,580	1,982	6
		Boiler Upgrade			
	SCA	PS 178-Q	3,748,800	1,940	6
		Boiler Upgrade			
	SCA	PS 108-X	4,310,400	1,224	4
		Boiler Upgrade			
SCA	Gompers Vocational HS	5,246,064	5,350	17	
	Boiler Upgrade				
SCA	Taft HS	8,301,984	9,019	28	
	Boiler Upgrade				
SCA	IS 115-X	4,971,312	3,516	11	
	Boiler Upgrade				
SCA	PS 122	4,304,916	2,372	7	
	Boiler Upgrade				
SCA	PS 52	3,048,576	3,075	10	
	Boiler Upgrade				
SCA	PS 57-M	3,142,776	4,219	13	
	Boiler Upgrade				
SCA	John Jay HS	6,156,967	8,804	28	
	Boiler Upgrade				

**Notes for Table 8 and Key to Agency Acronyms:** See Page 26

**Table 8 (cont'd): Costs and Benefits for Projects Subject to System Specific Energy Cost Reduction Provisions**

Client Agency(s) <sup>1</sup>	Reporting Agency(s) <sup>2</sup>	Project Name and Type <sup>3</sup>	Construction Cost of Work Subject to System Specific Energy Cost Reduction Provisions (\$) <sup>5</sup>	Annual Energy Cost Reduction (\$/yr)	Annual Greenhouse Gas Reduction (metric tons /yr)
DOE	SCA	PS 36-M	3,427,224	2,411	8
		Boiler Upgrade			
	SCA	PS 120-K	3,838,800	1,649	5
		Boiler Upgrade			
	SCA	PS 81-K	3,820,000	3,638	11
		Boiler Upgrade			
	SCA	PS 56-K	3,720,000	2,836	9
		Boiler Upgrade			
	SCA	PS 246-X	4,762,800	1,960	6
		Boiler Upgrade			
		<b>TOTAL</b>	98,972,539	190,977	381

**Notes for Table 8 and Key to Agency Acronyms:** See Page 26

## Table Notes:

### Key to agency acronyms:

<b>CJC</b>	Criminal Justice Coordinator
<b>DCAS</b>	Department of Citywide Administrative Services
<b>DCLA</b>	Department of Cultural Affairs
<b>DEP</b>	Department of Environmental Protection
<b>DOC</b>	Department of Corrections
<b>DOE</b>	Department of Education
<b>DOHMH</b>	Department of Health and Mental Hygiene
<b>DoITT</b>	Department of Information Technology and Telecommunications
<b>DHS</b>	Department of Homeless Services
<b>DPR</b>	Department of Parks and Recreation
<b>EDC</b>	New York City Economic Development Corporation
<b>FDNY</b>	New York City Fire Department
<b>HHC</b>	Health and Hospitals Corporation
<b>NYBG</b>	New York Botanical Garden
<b>NYPD</b>	New York City Police Department
<b>NYPL</b>	New York Public Library
<b>QBPL</b>	Queens Borough Public Library
<b>SCA</b>	New York City School Construction Authority

### Notes for tables:

1. The client agency is the budgeting agency that either will occupy the project or will sponsor another occupant.
2. The reporting agencies are the funding management agencies that have provided data for this report and that manage the expenditure of city funds on the project indicated. Note that, in some cases, the reporting agency may also be the client agency.
3. The projects in this report are limited to those that have started design, where the start of design is defined as the date a project receives its first approved Certificate to Proceed from the Office of Management and Budget (OMB). Note that, while there are a number of city-funded projects currently underway or completed that targeted or achieved a LEED® rating before the law took effect, the projects included in this report are limited to those that received funds from the city treasury after January 1, 2007, or, in the case of projects managed by DDC, after January 1, 2006.
4. Project cost is the sum of all costs associated with an entire capital project regardless of funding source. It includes all capitally eligible costs as described in the NYC Comptroller's Directive 10, such as costs related to site acquisition, site preparation, furniture, fittings and equipment, as well as to design and construction costs. Note that project cost also covers capital investments on portions of the project that may not be subject to the provisions of LL86, such as minor alterations and ordinary repairs, or portions of a project that do not involve buildings.
5. Construction costs indicated are only for the portion of the project that is subject to the relevant LL86 provisions. For example, for a project that has a large landscaping component as well as a building component over \$2,000,000, the construction cost reflects only the building portion of the project that is subject to the LEED® related provisions of the law. Alternatively, for a project subject to a system specific energy cost reduction requirement, the construction cost reflects only the portion of the project subject to such requirement. Construction costs include all construction related costs, such as mark-ups related to general conditions, contractor overhead and profit, contingencies and construction management fees. Also note that construction cost covers all such cost associated with the portion of the project subject to LL86, in contrast to incremental construction cost which is discussed in notes 9 and 10 below.
6. Since projects typically take several years to complete and the city budget process runs on an annual cycle, each project spends, *i.e.* allocates, a portion of the total project funds over several of the City's annual fiscal years until a project is complete and total project funds are expended. The FY09 allocations indicated here represent the amounts allocated during the most recent fiscal year that ended June 30, 2009 and represent an annual allocation toward the total project cost, not only to the construction cost of the portion of the project that is subject to the provisions of LL86.

7. Floor areas indicated refer to the portion of the project that is subject to the LL86 LEED® provisions and includes the area for such projects that utilize either the LEED or Green Schools rating systems. For example, for a project that involves the substantial reconstruction of only a portion of a building, the floor area indicated refers only to that area, not to the area of the entire building.
8. Simple payback means the number of years, rounded to the nearest whole year, that it takes for the projected annual energy cost reduction to equal the incremental cost of the energy conservation measures, as determined by dividing such incremental cost by the annual energy cost reduction.
9. The phrase “Incremental Construction Cost of Energy Efficiency Measures” represents the difference in construction cost between the project design that meets the energy cost reduction requirements in the law and what would have been incurred to satisfy the minimum requirements in the NYS Energy Conservation Code baseline that is cited in the Rules.
10. The phrase “GSRS Incremental Cost” refers to all costs incurred to satisfy the minimum requirements of the GSRS, including professional fees as well as construction cost, relative to the costs that would have been incurred had the project been designed to only satisfy the minimum requirements of the NYC Building Code. As noted, this cost excludes the incremental construction cost of energy efficiency measures defined in note 9 above.

## Conclusions

As the result of Local Law 86 of 2005, many New York City funded new construction projects will meet LEED® green building standards and will exceed the requirements of the NYS Energy Conservation Code. Buildings completed pursuant to the law are the foremost indication of the City's commitment to lead by example with regard to green building and will serve as precedents for future public and private initiatives dedicated to advancing the practice of building green in New York City.

Data presented also indicate that the value of projects subject to the law will be higher than initially anticipated. The preamble to the 2005 law estimated that an average of \$1.2 billion of project value would be subject to LL86 each year for each of the first ten years after it took effect. In the first annual LL86 report, agencies indicated that nearly \$4.8 billion worth of LL86 projects had started design since the law took effect and in FY09 that figure increased to about \$5.4 billion. This latter amount indicates a decrease in the value of projects covered by LL86 starting design in FY09 relative to FY08, even considering adjustments to costs for FY08-reported projects. Nevertheless, this still represents an average annual amount of \$2 billion that is nearly double the average originally projected when the law was written.

With regard to the types of covered projects and the related compliance costs, the lion's share of capital work covered by LL86 to date is subject to the 20-30% energy cost reduction and green building rating provisions, *i.e.* new buildings, additions, and reconstruction projects with construction costs over \$12 million. Incremental cost data show that the average investment to meet both the LEED® rating and energy cost reduction requirements for non-school projects averages 1.5% of construction cost, with roughly half that amount dedicated to the professional services needed to meet the LEED® requirements and with the other half dedicated to the incremental cost of the investment in energy efficiency measures, an investment with an average simple payback of 7 years. For school projects, the added cost to comply with the GSRS requirements is also about 1.5% of construction costs. However, the additional investment in energy efficiency measures is approximately 1% of construction costs, slightly more than the comparable 0.75% investment reported for projects utilizing the LEED® rating system. Relative to the non-school projects, the higher cost of the energy efficiency investment in schools contributes to a longer simple payback of 14 years for such investment. This may be due, in part, to calculation methodologies used by SCA that differ from those used by DDC: while DDC methodology for estimating the incremental cost and energy use reduction are based on specific project designs and construction schedules, SCA projections utilize incremental cost per unit floor area coefficients developed in 2006 on the basis of four prototypical school designs and multiplied by an annual inflation factor of 3% to accommodate different project schedules. It should also be noted that the operating hours of school projects could vary significantly from those for the non-school projects, a factor that may also contribute to the differences in payback.

For those projects with construction costs under \$12 million that utilize one of the selected LEED® rating systems, but that are not subject to the 20-30% energy cost reduction provisions, the added design and commissioning fees amount to approximately 2% of construction cost. While this amount is a relatively

small dollar value, it is clear that these smaller projects spend a significantly larger portion of their project budget to satisfy the LEED® provisions, on average, than do those with construction costs over \$12M.

In conclusion, LL86 continues to be a cost effective means by which the City’s capital program contributes to the advancement of the City’s PlaNYC goal to reduce the City’s greenhouse gas emissions rate by 30% by 2017 for municipal operations and by 30% by 2030 for the City as a whole, as required by Local Law 22 of 2008 – the New York City Climate Protection Act. Extrapolating from data reported to date, it appears that the incremental investment in energy efficiency mandated by LL86 contributes toward both of these greenhouse gas reduction goals at an average reduction rate of approximately 3000 metric tons per year for the estimated average \$2 billion dollars of capital building construction currently covered by the law each year. Further, since most city-funded capital building projects will have to comply with LL86 for the foreseeable future and since the lifespan of such projects can be several decades or more, this contribution to greenhouse gas reduction goals will continue to increase and, additionally, the provisions of LL86 will continue to inform and support initiatives intended to lessen the increasing pressure on the City’s energy and water infrastructure, as well as to improve the health of its citizens well beyond 2030.




**PS 276-M, Battery Park City, Manhattan**  
**DattnerArchitects**



The City of New York  
Michael R. Bloomberg, Mayor

Prepared by:  
Mayor's Office of Operations  
Office of Environmental Coordination

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